The MATC Promise means free tuition for eligible students!

**The MATC Promise for New High School Graduates**

In the 2019-20 school year, MATC will welcome its fourth class of MATC Promise students. First launched in 2015, the MATC Promise was the first program of its kind in Wisconsin, helping to make college an option for students who never thought it was possible. This public-private “last dollar” partnership covers tuition and fees for program courses, after other grants and scholarships are applied, for up to 75 credits. Students may be responsible for other fees and for the cost of books.

**The MATC Promise for Adults**

In 2018, MATC launched the MATC Promise for Adults, one of the first programs of its kind in the U.S. The MATC Promise for Adults supports students who started college but did not finish. Eligible students can qualify for up to 75 credits of free tuition — after other scholarships and grants are applied — to complete an in-demand associate degree. The Promise also provides support to help students stay on track to graduate and connect to a career. Students may be responsible for other fees and for the cost of books.

For details, visit matc.edu/promise.

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**Equal Opportunity and Affirmative Action Commitment**

Milwaukee Area Technical College’s commitment to equal opportunity in admissions, educational programs, and employment policies assures that all individuals are included in the diversity that makes the college an exciting institution. MATC does not discriminate against qualified individuals in employment or access to courses, programs, or extracurricular activities on the basis of race, color, national origin, ancestry, religion, creed, sex, sexual orientation, age, disability, pregnancy, marital status, parental status, or other protected class status. The lack of English skills shall not be a barrier to admission or participation in any MATC program or service.

MATC will comply fully with state and federal Equal Opportunity and Affirmative Action laws, executive orders, and regulations. Direct questions concerning application of this policy to the MATC Affirmative Action Officer, 700 West State Street, Milwaukee, WI 53233-1443.

It is the policy of MATC to provide reasonable accommodations for all students, or applicants for admission, who have disabilities (see Discrimination Against Individuals With Disabilities Policy CQ203). MATC will adhere to all applicable federal and state laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal opportunity and access to programs and services for students with disabilities. Reasonable accommodations will be provided in a timely and cost-effective manner. Access shall not be denied because of the need to make reasonable accommodations for an individual’s disability.

State and federal laws include the concept of “reasonable accommodation” as a key element in providing equal opportunity and access to programs and services for students with disabilities.
START YOUR TRANSFORMATION NOW matc.edu/apply

TRANSFORM YOURSELF

414-297-MATC

MATC Milwaukee Area Technical College
Transforming Lives, Industry & Community
Why do more than 30,000 students choose MATC?

• Hands-on learning led by instructors with industry experience
• Small class sizes
• Daytime, evening and online options
• Accelerated course options
• Active campus life including student groups, athletics and housing opportunities
• Child care available to students

LEARN IN THE HEART OF IT ALL – OR AT A REGIONAL CAMPUS CLOSE TO YOU

Our Downtown Milwaukee Campus sits next to the new arena district and the Brewery redevelopment – or study at a campus close to you in Mequon, Oak Creek or West Allis. We also offer an Education Center in Walker’s Square on the city’s near south side.

ATHLETICS
MATC began offering its first-ever athletic scholarships last year as we debuted NJCAA Division I women’s and men’s tennis teams and moved our men’s and women’s basketball teams to NJCAA Division II. The college also offers men’s baseball, women’s and men’s soccer, women’s softball and women’s volleyball. Students on all of our sports teams learn and practice skills that serve them throughout their lives. For more information, go to matcstormers.com.

TRANSFER PROGRAMS
MATC offers 200 affordable high-quality programs preparing you for careers in as little as one to two years – and a less expensive path to a four-year degree through our more than 35 college and university transfer partners.

Our transfer agreements include guaranteed transfer programs to UW-Madison, UW-Milwaukee, Marquette University and more!
FIND THE PROGRAM THAT’S RIGHT FOR YOU WITHIN THESE AREAS:

Agriculture, Food & Natural Resources
Architecture & Construction
Arts, A/V Technology & Communications
Business, Management & Administration
Education & Training
Finance
Health Sciences
Hospitality & Tourism
Human Services
Information Technology
Law, Public Safety & Security
Manufacturing
Marketing, Sales & Service
Science, Technology, Engineering & Mathematics
Transportation, Distribution & Logistics
Liberal Arts Transfer Programs
Individualized Programs

THE MATC PROMISE MEANS FREE TUITION FOR ELIGIBLE STUDENTS
For all deadlines and eligibility information, visit matc.edu/promise.

FOR NEW HIGH SCHOOL GRADUATES
First launched in 2015, the MATC Promise for New High School Grads was the first program of its kind in Wisconsin, helping make college an option for students who never thought it was possible. This public-private “last-dollar” partnership covers eligible students’ tuition and course fees for program courses, after other grants and scholarships are applied, for up to 75 credits. Students may be responsible for other fees and for the cost of books.

FOR ADULTS
The MATC Promise for Adults provides eligible students up to 75 credits of free tuition – after other scholarships and grants are applied – to complete an in-demand associate degree. (See matc.edu/promise for a list of eligible programs.)

OUR JOBSHOP HELPS GRADUATES CONNECT TO CAREERS
MORE THAN 89% OF OUR TECHNICAL DIPLOMA AND DEGREE GRADUATES ARE EMPLOYED WITHIN SIX MONTHS.

CAREER CRUISING
MATC invites you to access Career Cruising, a self-exploration and planning program that helps people of all ages achieve their potential in school, career and life. To learn more about the tools and services offered, visit tinyurl.com/CareerCruisingMATC.

EDUCATION AT AN AFFORDABLE COST
COST OF COLLEGE (Fall 2018 semester, tuition only)
Based upon 12 credits/one semester, average

- $1,824 - MATC Associate Degree or Technical Diploma Courses
- $2,392 - MATC Four-Year Transfer Courses
- $3,695 - UW System Four-Year Colleges/Universities (minimum)
- $15,090 - Average of Private Colleges/Universities (2017-18)

Data from Emsi, Milwaukee Area Technical College
MATC is accredited by the Higher Learning Commission, Commission on Institutions of Higher Education, the national standard in accrediting colleges and schools for distinction in academics and student services. MATC is an Affirmative Action/Equal Opportunity Institution and complies with all requirements of the Americans With Disabilities Act. REV 3/19

MISSON - As a public, two-year comprehensive technical college, MATC offers exceptional educational and training opportunities and services to our diverse metropolitan area by engaging with partners to advance the quality of life for our students and community.

VISION - MATC is the premier comprehensive technical college that provides excellence in education to enrich, empower and transform lives.

VALUES - Student Success, Accountability, Collaboration, Customer Focus, Diversity, Excellence, Innovation, Integrity

OF TECHNICAL DIPLOMA GRADUATES ARE EMPLOYED WITHIN SIX MONTHS

OF ASSOCIATE DEGREE GRADUATES ARE EMPLOYED WITHIN SIX MONTHS

FOUR-YEAR PARTNERS TO START THE PATH TO A BACHELOR’S DEGREE

START YOUR TRANSFORMATION NOW
matc.edu/apply

MILWAUKEE AREA Technical College
Transforming Lives, Industry & Community

DOWNTOWN MILWAUKEE
700 West State Street

MEQUON
5555 West Highland Road

OAK CREEK
6665 South Howell Avenue

WEST ALLIS
1200 South 71st Street

414-297-MATC
Wisconsin Relay System 711

MATC is accredited by the Higher Learning Commission, Commission on Institutions of Higher Education, the national standard in accrediting colleges and schools for distinction in academics and student services. MATC is an Affirmative Action/Equal Opportunity Institution and complies with all requirements of the Americans With Disabilities Act. REV 3/19
Pathways to Your Career Goals Begin at MATC

I am delighted that you are exploring Milwaukee Area Technical College to meet your education and career goals. Whether you are in high school, want to return to college to finish a degree or want to attain new skills, we can get you on a path to success. We offer high-quality college programs and affordable tuition.

Come and find out why more than 30,000 students choose MATC:
• 200 programs that provide career preparation for jobs that are in high demand by local employers, in as little as one to two years
• A less expensive path to a four-year degree through 35 transfer partners, including guaranteed transfer programs to UW-Madison, UW-Milwaukee, UW-Parkside and Marquette University
• Hands-on learning led by instructors with industry experience
• Personal attention through small class sizes and comprehensive student services
• Daytime, evening, accelerated and online course options
• Active campus life, including student groups, athletics and housing opportunities
• Child care available for students
• Bilingual classes and programs; English as a Second Language courses
• Credit for prior learning and experience, including military and work experience
• GED test services and classes that prepare students for college-level studies
• Employment services to help students find internships, and jobs for MATC students and graduates through our JOBshop
• Resources to support veterans and current military service students

Affordable, high quality, and close to home

MATC offers a last-dollar Promise scholarship program for students who qualify. Tuition may be free for eligible students, and our Financial Aid office can help you determine the best way to pay for your education.

MATC’s tuition per semester is about half the cost of a semester at a four-year public university, and we are accredited by the Higher Learning Commission to ensure quality and transferability.

The college offers the chance to learn in the heart of it all – our Downtown Milwaukee Campus sits next to the new arena district and the Brewery redevelopment – or at a campus close to you in Mequon, Oak Creek or West Allis. We also offer an Education Center in Walker’s Square on the city’s near south side.

Connecting to the Career Pathway that fits you

Our Career Pathways offer new ways to achieve associate degrees, technical diplomas, certificates and apprenticeships. Instead of studying just one program, the Career Pathways model links related academic programs in a sequence. Each program offers direct job preparation and a path to the next higher academic program.

Each program in a pathway prepares students to be job-ready, and the credits earned can be applied to completing additional credentials in the future. We are ready to help find the pathway that fits you!

Our graduates succeed

Within six months of graduation, 89 percent of MATC graduates are employed, and MATC has a 97 percent graduate satisfaction rate. Thank you for considering MATC as a partner to achieve your goals. We invite you to tour our campuses, learn about our academic programs and student services, and see how MATC is committed to your success. We hope to see you at the college!

Vicki J. Martin, Ph.D.
President
Choose MATC for Your Career and Personal Success

MATC has an annual enrollment of more than 30,000 students. The college opened in 1912 and has a rich history of preparing students for a wide range of careers.

MATC’s student services help you reach academic and career goals, and include bilingual services and programs, tutoring, academic advising, career counseling and employment services. You will find information about these services in this catalog and at matc.edu/student_services.

MATC has six academic schools. Here is an overview:

- **School of Business** offers a range of programs, including accounting, cosmetology, culinary arts, information technology, marketing, office technology and supply management.
- **School of Health Sciences** includes programs in nursing, dental hygiene, health information technology and more, including the region’s only funeral service program.
- **School of Liberal Arts and Sciences** students can earn the first two years of a bachelor’s degree at MATC and transfer to four-year colleges and universities. This school also includes programs in early childhood education and human services.
- **School of Media and Creative Arts** students prepare for careers such as computer simulation and gaming, web design, photography and television/video production.
- **School of Pre-College Education** includes GED and HSED, English as a Second Language, Adult Basic Skills and Adult High School programs.
- **School of Technology and Applied Sciences** programs include automotive technology, electronics engineering, machine tool operations, horticulture, welding and more, with an emphasis on hands-on learning.
**Campus Locations**

**Downtown Milwaukee Campus**  
700 West State Street, Milwaukee, WI 53233  
414-297-MATC  
matc.edu/downtown

**Mequon Campus**  
5555 West Highland Road, Mequon, WI 53092  
262-238-2200  
matc.edu/mequon

**Oak Creek Campus**  
6665 South Howell Avenue, Oak Creek, WI 53154  
414-571-4500  
matc.edu/oakcreek

**West Allis Campus**  
1200 South 71st Street, West Allis, WI 53214  
414-456-5500  
matc.edu/westallis

**Education Centers**

**Downtown Milwaukee Campus**  
Health Education Center (HEC)  
1311 North Sixth Street, Milwaukee, WI 53212

**Education Center at Walker’s Square**  
816 West National Avenue, Milwaukee, WI 53204

**Contact Numbers**

- **School of Business**, 414-297-6395
- **School of Health Sciences**, 414-297-6263
- **School of Liberal Arts and Sciences**, 414-297-6584
- **School of Media and Creative Arts**, 414-297-6433
- **School of Pre-College Education**, 414-297-7471
- **School of Technology and Applied Sciences**, 414-297-6315
- **Wisconsin Relay System 711**

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facebook.com/MilwAreaTechCollege  
instagram.com/discovermatc  
linkedin.com/school/milwaukee-area-technical-college/  
twitter.com/discoverMATC  
youtube.com/user/InsideMATC

For a full listing of key college telephone numbers: matc.edu/about/Contact_Us.cfm  
Also see the A to Z Index at matc.edu for college information.
These academic programs are grouped in this catalog by:

- **A** Associate degree programs, pages 31-106
- **T** Technical diploma programs, pages 107-186
- **C** Certificate programs, pages 187-205

Associate degree and technical diploma programs are listed with their program codes in parentheses.

**SCHOOL OF BUSINESS**
- Accounting (10-101-1), A
- Accounting Assistant (31-101-1), T
- Accounting Bookkeeper Trainee, C
- Administrative Professional (10-106-6), A
- Aesthetician (30-502-3), T
- Baking and Pastry Arts (10-314-1), A
- Baking Production (31-314-2), T
- Banking and Financial Services (10-114-3), A
- Barber (31-502-5), T
- Bilingual Office Assistant (31-106-6), T
- Business Analyst (10-102-1), A
- Business Management (10-102-3), A
- Business Management (31-102-3), T
- Business Management Trainee, C
- Cosmetology (31-502-1), T
- Culinary Arts (31-316-1), A
- Culinary Assistant (31-316-1), T
- Digital Marketing and Integrated Communications (30-104-9),
  formerly Marketing Specialist, T
- Entrepreneurship (31-145-2), T
- Entrepreneurship, C
- Environmental Health and Water Quality Technology (10-506-1), A
- Event Management (10-109-6), A
- Fashion Marketing Specialist (30-104-4), T
- Fashion/Retail Marketing (10-104-4), A
- Financial Services (31-114-2), T
- Financial Services Trainee, C
- Food Service Assistant (30-316-1), T
- Foundations of Lodging and Hospitality Management (31-109-5), T
- Hotel/Hospitality Management (10-109-1), A
- Human Resources (10-116-1), A
- Individualized Technical Studies (10-825-1), A
- IT Computer Support Specialist (10-154-3), A
- IT Computer Support Technician (31-154-6), T
- IT Digital Forensics Analyst (31-150-1), T
- IT Help Desk Support Specialist (31-154-7), T
- IT Information Systems Security Specialist (10-151-3), A
- Level 2 — Service Center Technician, C
- IT Microsoft Enterprise Desktop Support Specialist, C
- IT Mobile Application Developer (10-152-8), A
- IT Network Specialist — Online Accelerated (10-150-2), A
- IT Network Specialist (10-150-2), A
- IT Networking and Infrastructure Administration (31-150-2), T
- IT Service Center Technician, C
- IT User Support Technician (30-154-6), T
- IT Web and Software Developer (10-152-7), A
- Marketing (10-104-3), formerly Marketing Management, A
- Marketing — Online Accelerated (10-104-3), formerly Marketing Management — Online Accelerated, A
- Marketing Specialist: See Digital Marketing and Integrated Communications
  Medical Administrative Specialist (10-160-4), A
- Medical Billing (31-160-5), T
- Office Technology Assistant (31-106-1), T
- Paralegal (10-110-1), A
- Paralegal Studies (30-110-2), T
- Property Management, C
- Real Estate (10-194-1), A
- Real Estate Broker Associate (30-194-1), T
- Real Estate Salesperson, C
- Retail Marketing Specialist (30-104-2), T
- Sales and Customer Experience (30-104-7), formerly Sales Specialist, T
- Special Event Management (31-109-2), T
- Supply Chain Management (10-182-1), A
- Supply Management (30-182-1), T
- Transportation — Logistics (30-182-2), T
- Water Technician, C

**SCHOOL OF HEALTH SCIENCES**
- Anesthesia Technology (10-541-1), A
- Cardiovascular Technology: Echocardiography or Invasive (10-521-1), A
- Central Service Technician (30-534-1), T
- Dental Assistant (30-508-2), T
- Dental Hygiene (10-508-1), A
- Dental Technician (30-507-1), T
- Dietary Manager, C
- Dietetic Technician (10-313-1), A
- EKG Technician, C
- Funeral Service (10-528-1), A
- Health Information Technology (10-530-1), A
- Health Unit Coordinator, T
- Healthcare Customer Service, C
- Healthcare Services Management (10-530-3), A
- Individualized Technical Studies (10-825-1), A
- Medical Assistant (31-509-1), T
- Medical Coding Specialist (31-530-2), T
- Medical Interpreter (31-538-1), T
- Medical Laboratory Technician (10-513-1), A
- Nursing Assistant (30-543-1), T
- Occupational Therapy Assistant (10-514-1), A
- Pharmacy Technician (31-536-1), T
- Phlebotomy (30-513-1), T
- Physical Therapist Assistant (10-524-1), A
- Practical Nursing (31-543-1), T
- Practical Nursing LPN-RN Educational Progression (10-543-10), A
- Radiography (10-526-1), A
- Registered Nursing (10-543-1), A
- Renal Dialysis Technician (31-517-1), T
- Respiratory Therapist (10-515-1), A
- Surgical Technology (10-512-1), A

**SCHOOL OF LIBERAL ARTS AND SCIENCES**
- Associate in Arts (20-800-1), A
- Associate in Arts: Online Accelerated (20-800-1), A
- Associate in Arts — Community Engagement: Pre-Major (20-800-1), A
- Associate in Arts — Global Studies: Pre-Major (20-800-1), A
- Associate in Arts — Teacher Education: Pre-Major (20-800-1),
  formerly Educational Foundations, A
- Associate in Science (20-800-2), A
- Associate in Science — Chemical Technology: Pre-Major (20-800-2), A
- Chemical Processing Technician (31-603-1), T
- Chemical Technician (10-603-1), A
OFFERED AT MILWAUKEE AREA TECHNICAL COLLEGE, 2019-20

Child Care Services (31-307-1), T
Early Childhood Education (10-307-1), A
Human Service Associate (10-520-3), A
Individualized Technical Studies (10-825-1), A
Preschool, C

SCHOOL OF MEDIA AND CREATIVE ARTS
Animation (10-207-1), A
Audio Engineer (30-701-1), T A
Audio Production (10-701-4), A
Computer Simulation and Gaming (10-153-1), A
Digital Imaging (30-203-1), T eProduction (10-701-3), A
Front-End Web Developer (31-206-1), T
Graphic Design (10-201-1), A
Individualized Technical Studies (10-825-1), A
Music Occupations (10-805-1), A
Photography (10-203-1), A
Production Artist (31-201-2), T
Television & Video Production (10-701-1), A
TV/Video Field Production Assistant (31-701-1), T
TV/Video Studio Production Assistant (31-701-2), T
Unity Developer (31-153-1), T
Web & Digital Media Design (10-201-3), A

SCHOOL OF TECHNOLOGY AND APPLIED SCIENCES
Advanced Manufacturing Technology (10-664-2), A
Advanced Metal Fabrication (32-457-1), T
Air Conditioning and Refrigeration Technology (10-601-1), A
Appliance Technician (31-445-1), T A
Architectural Technology (10-614-1), A
Architectural Woodworking/Cabinetmaking (31-409-1), T
Auto Collision Repair and Finish Technician (31-405-1), T
Automated Building Systems (30-481-1), T
Automotive Express Lube Technician, C
Automotive Maintenance Technician (31-404-3), T
Automotive Technology – Comprehensive (10-602-6), A
Automotive Technology Maintenance Light Repair (30-602-4), T
Aviation Maintenance Technician – General, C
Aviation Technician – Airframe (31-486-1), T
Aviation Technician – Powerplant (31-486-2), T
Biomedical Electronics Technology (10-605-6), A
Boiler Operator, C
Bricklaying (30-408-2), T
Carpentry (31-410-1), T
Civil Engineering Technology (10-607-1), A
Computer Electronics Technology (10-605-3), A
Computer Numerical Control (CNC) Technician (32-444-1), T
Criminal Justice Studies (10-504-5), A
Diesel and Powertrain Servicing (31-412-3), T
Electrical Power Distribution/Line Mechanic (31-413-2), T
Electricity (31-413-1), T
Electronic Engineering Technology (10-605-7), A
Electronic Technology – Automation (10-605-1), A
Electronics Technician Fundamentals (30-605-1), T
Emergency Medical Technician (30-531-3), T
Emergency Medical Technician – Advanced (30-531-6), T
Emergency Medical Technician – Paramedic (31-531-1), T
Fire Protection Technician (10-503-2), A
Individualized Technical Studies (10-825-1), A
Interior Design (10-304-1), A
Landscape Horticulture (10-001-4), A
Landscape Horticulture Technician (31-001-5), T
Machine Tool Operations: CNC Machine Setup and Operation or CNC Swiss Turning Center Setup and Operation (31-420-1), T
Manufacturing Maintenance (32-462-1), T
Mechanical and Computer Drafting (31-421-2), T
Mechanical Design Technology (10-606-1), A
Power Engineering and Boiler Operator (30-428-1), T
Preparatory Plumbing (31-427-1), T
Refrigeration, Air Conditioning and Heating Service Technician (31-401-1), T
Surveying and Mapping (31-607-1), T
Technical Studies: Apprentice (10-499-5), A
Tool and Die Making (32-439-1), T
Truck Driving (30-458-1), T
Welding (31-442-1), T
Welding Fundamentals, C
Welding Technology (10-621-1), A

New Programs Under Development
MATC works with local industry and business partners to develop new programs that meet workforce needs. For the most current list of MATC’s academic programs, see matc.edu/academic_programs/masterlist.cfm.
GETTING STARTED

You can visit the Welcome Center at any MATC campus as your starting point. Services include computer stations for completing applications for admission, registration and financial aid. Our Student Services staff provides personal assistance at each Welcome Center. You also can start online at matc.edu/apply.

- If you plan to earn an associate degree or technical diploma from MATC or intend to receive financial aid, you must complete the admissions process and be admitted to an associate degree or technical diploma program before the start of the semester.
- If you want to take courses but are not interested in receiving an associate degree or technical diploma, it is not necessary to complete the admissions process, however, you will need to register for the classes you wish to take. You can register for classes in person at any of the four MATC campuses.

Current MATC students can register for classes online at INFOOnline.matc.edu.

Enrollment is completed when you have paid for your classes and attend them.

2019-20 Start Dates

Summer session starts Monday, June 10, 2019.
Fall semester starts Monday, August 26, 2019.
Spring semester starts Tuesday, January 21, 2020.

Credit for Prior Learning and Experience (CPLE)

MATC recognizes that you may have gained college-level learning on your own, through work, community experience or individual study. Credit for Prior Learning and Experience (CPLE) is a way to earn credit for specific MATC courses based on skills learned as part of your job, professional licenses, certificates, apprenticeships, military training or through specialized training programs.

To learn more about earning credit for your prior knowledge, refer to the CPLE section in this catalog and see matc.edu/student/resources/cple/.

ENTRANCE REQUIREMENTS FOR PROGRAM STUDENTS

A high school diploma or GED equivalency certificate is required before entrance to an MATC associate degree or technical diploma program, unless otherwise indicated. Some courses also may require specific high school requirements. If you lack these course requirements, you may fulfill them either through our Adult High School or our School of Liberal Arts and Sciences.

Readmission

If you were not continuously enrolled in your program (excluding summers) you must apply for readmission by completing a program readmission form. Complete the online form at matc.edu/student/Admissions/admissions_returning.cfm.

If the program you are reapplying to has a waiting list, the instructional department will determine if you can be readmitted directly to a segment of the program or must be placed on the waiting list.

The graduation requirements in effect at the time of your readmission will be used to determine your eligibility for graduation.

International Students

MATC welcomes international students. Those who intend to apply for a student visa should visit the International Students section at matc.edu, or write to the MATC International Student Admissions Office, Room S101, 700 West State Street, Milwaukee, WI 53233-1443; or call 414-297-6282.

Waiting Lists

Waiting lists are established when the number of applications for a program exceeds the student capacity of the program. Applicants are then placed on the waiting list by the date their application process is completed. Students are removed from this list as openings occur. Only applicants who meet the academic admissions requirements will be added to the waiting list. Students are informed during the admission process if a program has a waiting list. While waiting to take core courses, program students may enroll in the program’s specified General Studies courses and electives.

Petition Process

Most School of Health Sciences programs use a petition process for entry. Petitioning requires you to complete the petition application during the petition window dates. Additional instructions are provided throughout the process. The petitioning process is specific to each individual program. Instructions on how to complete the petitioning process for a School of Health Sciences program are available online. See matc.edu and visit the program’s webpage to view the petition process.

Criminal Background Check

The Wisconsin Caregiver Law requires MATC to check your criminal background if you are applying to an MATC program that has this requirement. Health programs require this prior to admittance to the program. There are other programs that will require this check after admission to the program as part of a course requirement. For information regarding a criminal background check, see the program’s webpage at matc.edu.

Healthcare facilities and many service facilities also are required by Wisconsin law to conduct criminal background checks. As a future provider of patient care services, child care/human services, or nutrition care services, you will be required to fulfill the criminal background check requirements prior to your participation in patient contact, or in clinical courses at facilities.
HOW TO APPLY FOR ADMISSION TO A PROGRAM

- **Apply for Admission**
  Fill out your application at matc.edu/apply.
  Pay the $30 application fee.

- **Submit Official Transcripts**
  (Submit those that are applicable from the list below):
  - High School (with graduation date)
  - GED/HSED
  - Homeschool PI-1206 form and detailed transcript
  - College/University
  - Out of country transcripts (must be translated and evaluated by an approved agency)

- **Submit Other Required Items**
  Some programs have additional admission requirements such as criminal background check or licensure. Check program requirements for details.

- **Watch for Your Acceptance Letter**

- **Activate Your myMATC Student Portal Account**
  MyMATC is the student portal where you can access your academic profile, MATC email and other resources.

- **Watch the Online Orientation**
  - The online orientation will introduce you to essential resources within the college, including how to register for classes.
  - You can take the online orientation after you have activated your account.

- **Register for Classes and Pay Tuition and Fees**

- **Attend New Student Welcome Session**

HOW TO REGISTER FOR CLASSES

Registration is the process of signing up for classes. The procedure depends upon whether you are a new or continuing program student, or if you are taking classes but not pursuing an associate degree or technical diploma.

- You may register in person at any of the four MATC campuses.
- Continuing students also may register online at INFOnline.matc.edu.

When registering for classes, remember to check that you have met the course prerequisites.

**Open Registration**

Newly admitted program students and students not accepted into a program register during Open Registration. See the Academic Calendar at matc.edu for Open Registration dates.

**Priority Registration**

If you’re already enrolled in an associate degree or technical diploma program, you will have the opportunity to register for classes for the next semester after mid-term of the current semester. You can meet with an advisor who will assist you in selecting courses. The Priority Registration dates for eligible program students are listed on the Academic Calendar at matc.edu.

**Service Members Priority Registration**

The 2013 Wisconsin Act 56 gives veterans and members of the armed forces priority in registering for courses at Wisconsin technical colleges and the University of Wisconsin System. Eligible service members include those who have served or who are serving on active duty under honorable conditions. Service members priority registration information is available at matc.edu/student/resources/MESO/veterans-priority-registration.cfm.

PAY TUITION & FEES

You are not officially enrolled and cannot attend classes until all requirements for registration have been completed, including payment of tuition and fees. You may pay in person at any campus or online at INFOnline.matc.edu.

Fees for most courses are set by the Wisconsin Technical College System Board and may change each semester. View current tuition and fees at matc.edu/student/Admissions/fees.cfm. Fees and tuition are subject to change.

**If you need financial aid:** Apply as early as possible. You apply for federal financial aid online at fafsa.gov. The MATC federal school code is 003866. See the Federal Financial Aid section of this catalog or at matc.edu for more information.

**New Student Welcome Session**

First-time students are required to attend a welcome session to learn important campus information. After registering for your classes, you will be able to reserve a session time. See the information at matc.edu/student/Admissions/welcome-session.cfm.
ADMISSIONS/HOW TO REGISTER

COURSE CHANGES

Adding courses
You may add courses up to the end of the first week of classes in a given semester (some restrictions apply). If the course is shorter than the 15- or 16-week semester, you may add courses until the first day of class. Instructor approval is required after classes have begun. You will need to submit a completed Course Change form.

Dropping courses
When you no longer wish to be enrolled in a class, you must officially drop the class within the timeframe specified in the Student Initiated Withdrawal Procedure located on the back of your student schedule.

If you register for a class after the class begins and fail to officially drop it, you are still responsible for the course fee.

To officially drop a class, use INFOline.matc.edu or obtain a Course Change form from any campus Welcome Center, then submit your completed form to the Welcome Center. Keep the student copy for your records.

Repeating continuing education courses
If more people register for a continuing education course than can be accommodated, students who have completed the objectives of the course previously may not reregister until new applicants have had a chance to enroll.

Cancellation of classes
The college reserves the right to cancel a class in cases of insufficient enrollment or budgetary constraints, and to close registrations for a class section that has reached its capacity. Course times, locations and instructors are subject to change without notice.

AGENCY- OR EMPLOYER-SPONSORED STUDENTS

The college will work in cooperation with agencies and/or employers that intend to pay your expenses. The agency or employer must submit a written agreement to the campus office, detailing which expenses will be paid. Following your enrollment, MATC will bill your sponsor for actual expenses only. If you are a sponsored student, counselors are available to assist you in planning your academic program. If you believe you may be eligible for sponsorship by the Wisconsin Division of Vocational Rehabilitation (DVR), contact one of the local offices in Milwaukee.
CAREER CLUSTERS

Each Career Cluster is a group of occupations requiring common knowledge and skills, and each has several pathways to related careers. Look for the symbols throughout this catalog.

MATC developed its Career Pathways to align with today’s national career clusters. The clusters are broad groupings of occupations and they are helpful for exploring career options based on your areas of interest. Additional information is available at wicareerpathways.org.

The following are the career clusters related to MATC’s academic programs:

- **Agriculture, Food & Natural Resources**
  Careers in the production, processing, marketing, distribution, financing and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources

- **Architecture & Construction**
  Careers in designing, planning, managing, building and maintaining the built environment

- **Arts, Audio-Visual Technology & Communications**
  Careers in designing, producing, exhibiting, performing, writing and publishing multimedia content, including visual and performing arts and design, journalism and entertainment services

- **Business, Management & Administration**
  Careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations

- **Education & Training**
  Careers in planning, managing and providing education and training services, and related support services

- **Finance**
  Careers that provide services for financial and investment planning, banking, insurance, and business financial management

- **Health Sciences**
  Careers in planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development

- **Hospitality & Tourism**
  Careers that encompass the management, marketing and operation of restaurants and other food services, lodging, attractions, recreation events and travel-related services

- **Human Services**
  Careers that relate to families and human needs, such as counseling and mental health services, family and community services, personal care and consumer services

- **Information Technology**
  Includes IT occupations for entry-level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services

- **Law, Public Safety & Security**
  Careers in planning, managing and providing legal, public safety, protective services and homeland security, including professional and technical support services

- **Marketing, Sales & Service**
  Careers in planning, managing and performing marketing activities to reach organizational objectives

- **Science, Technology, Engineering & Mathematics**
  Careers in planning, managing and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services

- **Transportation, Distribution & Logistics**
  Careers in planning, management and movement of people, materials and goods by road, pipeline, air, rail and water; and related professional and technical support services, such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance

MATC also offers:

- **Liberal Arts Transfer Programs**
  These programs enable students to begin their bachelor’s degrees at MATC and prepare students for transfer to four-year colleges and universities.

- **Individualized Programs**
  See the Individualized Technical Studies and the Technical Studies: Apprentice associate degree pages in this catalog for more information.
### CAREER CLUSTERS

### MATC’S PROGRAMS AND CAREER CLUSTERS

Below are MATC’s academic programs grouped by career cluster. 

(A) = Associate Degree  
(T) = Technical Diploma  
(C) = Certificate

#### Agriculture, Food & Natural Resources

- Environmental Health and Water Quality Technology (A)
- Landscape Horticulture (A)
- Landscape Horticulture Technician (T)
- Water Technician (C)

#### Architecture & Construction

- Air Conditioning and Refrigeration Technology (A)
- Architectural Technology (A)
- Architectural Woodworking/Cabinetmaking (T)
- Automated Building Systems (T)
- Boiler Operator (C)
- Bricklaying (T)
- Carpentry (T)
- Electrical Power Distribution/Line Mechanic (T)
- Electricity (T)
- Power Engineering and Boiler Operator (T)
- Preparatory Plumbing (T)
- Refrigeration, Air Conditioning and Heating Service Technician (T)

#### Arts, A/V Technology & Communications

- Animation (A)
- Audio Engineer (T)
- Audio Production (A)
- Digital Imaging (T)
- eProduction (A)
- Graphic Design (A)
- Interior Design (A)
- Music Occupations (A)
- Photography (A)
- Production Artist (T)
- Television & Video Production (A)
- TV/Video Field Production Assistant (T)
- TV/Video Studio Production Assistant (T)
- Web & Digital Media Design (A)

#### Business, Management & Administration

- Administrative Professional (A)
- Bilingual Office Assistant (T)
- Business Analyst (A)
- Business Management (A), (T)
- Entrepreneurship (T), (C)
- Business Management Trainee (C)
- Human Resources (A)
- Medical Administrative Specialist (A)
- Medical Billing (T)
- Office Technology Assistant (T)

#### Education & Training

- Child Care Services (T)
- Early Childhood Education (A)
- Preschool (C)

#### Health Sciences

- Anesthesia Technology (A)
- Cardiovascular Technology (A)
- Central Service Technician (T)
- Dental Assistant (T)
- Dental Hygiene (A)
- Dental Technician (T)
- Dietary Manager (C)
- Dietetic Technician (A)
- EKG Technician (C)
- Health Information Technology (A)
- Health Unit Coordinator (T)
- Healthcare Customer Service (C)
- Healthcare Services Management (A)
- Medical Assistant (T)
- Medical Coding Specialist (T)
- Medical Laboratory Technician (A)
- Nursing Assistant (T)
- Occupational Therapy Assistant (A)
- Pharmacy Technician (A)
- Phlebotomy (T)
- Physical Therapist Assistant (A)
- Practical Nursing (T)
- Practical Nursing LPN-RN Educational Progression (A)
- Radiography (A)
- Registered Nursing (A)
- Renal Dialysis Technician (T)
- Respiratory Therapist (A)
- Surgical Technology (A)

#### Finance

- Accounting (A)
- Accounting Assistant (T)
- Accounting Bookkeeper Trainee (C)
- Banking and Financial Services (A)
- Financial Services (T)
- Financial Services Trainee (C)

#### Hospitality & Tourism

- Baking and Pastry Arts (A)
- Baking Production (T)
- Culinary Arts (A)
- Culinary Assistant (T)
- Event Management (A)
- Food Service Assistant (T)
- Foundations of Lodging and Hospitality Management (T)
- Hotel/Hospitality Management (A)
- Special Event Management (T)

#### Human Services

- Aesthetician (T)
- Barber (T)
- Cosmetology (T)
- Funeral Service (A)
- Human Service Associate (A)
- Medical Interpreter (T)

#### Information Technology

- Computer Simulation and Gaming (A)
- Front-End Web Developer (T)
- IT Computer Support Specialist (A)
- IT Computer Support Technician (T)
- IT Digital Forensics Analyst (T)
- IT Help Desk Support Specialist (T)
- IT Information Systems Security Specialist (A)
- IT Level 2 — Service Center Technician (C)
- IT Microsoft Enterprise Desktop Support Specialist (C)
- IT Mobile Application Developer (A)
- IT Network Specialist — Online Accelerated (A)
- IT Network Specialist (A)
- IT Networking and Infrastructure Administration (T)
- IT Service Center Technician (C)
- IT User Support Technician (T)
- IT Web and Software Developer (A)
- Unity Developer (T)

#### Law, Public Safety & Security

- Criminal Justice Studies (A)
- Emergency Medical Technician (T)
- Emergency Medical Technician — Advanced (T)
- Emergency Medical Technician — Paramedic (T)
- Fire Protection Technician (A)
- Paralegal (A)
- Paralegal Studies (T)

#### Manufacturing

- Advanced Manufacturing Technology (A)
- Advanced Metal Fabrication (T)
- Appliance Technician (T)
- Computer Numerical Control (CNC) Technician (T)
- Machine Tool Operations (T)
- Manufacturing Maintenance (T)
- Mechanical and Computer Drafting (T)
- Tool and Die Making (T)
- Welding (T)
- Welding Fundamentals (C)
- Welding Technology (A)

#### Marketing, Sales & Service

- Digital Marketing and Integrated Communications (T)
- Fashion Marketing Specialist (T)
- Fashion/Retail Marketing (A)
- Marketing (A)
- Marketing — Online Accelerated (A)
- Property Management (C)
- Real Estate (A)
- Real Estate Broker Associate (T)
- Real Estate Salesperson (C)
- Retail Marketing Specialist (T)
- Sales and Customer Experience (T)
- Transportation — Logistics (T)

#### Science, Technology, Engineering & Mathematics

- Biomedical Electronics Technology (A)
- Chemical Processing Technician (T)
- Chemical Technician (A)
- Civil Engineering Technology (A)
- Computer Electronics Technology (A)
- Electronic Engineering Technology (A)
- Electronic Technology — Automation (A)
- Electronics Technician Fundamentals (T)
- Mechanical Design Technology (A)
- Surveying and Mapping (T)

#### Transportation, Distribution & Logistics

- Auto Collision Repair and Finish Technician (T)
- Automotive Express Lube Technician (C)
- Automotive Maintenance Technician (T)
- Automotive Technology — Comprehensive (A)
- Automotive Technology Maintenance Light Repair (T)
- Aviation Maintenance Technician — General (C)
- Aviation Technician — Airframe (T)
- Aviation Technician — Powerplant (T)
- Diesel and Powertrain Servicing (T)
- Supply Chain Management (A)
- Supply Management (T)
- Truck Driving (T)

#### Liberal Arts

- Transfer Programs
  - Associate in Arts (A)
  - Associate in Arts: Online Accelerated (A)
  - Associate in Arts — Community Engagement: Pre-Major (A)
  - Associate in Arts — Global Studies: Pre-Major (A)
  - Associate in Arts — Teacher Education: Pre-Major (A)
  - Associate in Science (A)
  - Associate in Science — Chemical Technology: Pre-Major (A)

#### Individualized Programs

- Individualized Technical Studies (A)
- Technical Studies: Apprentice (A)
START YOUR BACHELOR’S DEGREE AT MATC

MATC has transfer agreements with more than 35 four-year colleges and universities that enable students to seamlessly transfer MATC credits when they continue their education to attain a bachelor’s degree.

Some MATC transfer arrangements with four-year colleges and universities are course-to-course agreements, while others allow a complete degree program transfer. It’s important to check with your program advisor to find out which courses and MATC programs will transfer to the four-year college or university you plan to attend. Also, keep in touch with the admissions department of the four-year college so you can be certain you’re taking the MATC courses and/or programs that will match their bachelor’s degree requirements.

Credit Transfer: School of Liberal Arts and Sciences

One pathway to begin your bachelor's degree is to earn 64 or more bachelor's degree credits through MATC's School of Liberal Arts and Sciences. You can transfer credits earned in MATC’s 200-series courses to most four-year colleges and universities in Wisconsin, and to others across the nation. MATC’s Associate in Arts (A.A.) and Associate in Science (A.S.) degrees are equivalent to the general education/liberal arts and sciences requirements for freshmen and sophomores enrolled in many bachelor's degree programs at four-year colleges and universities. With planning, these degrees allow you to enter a four-year degree program with junior standing. Be sure to meet with your advisor often to find out which MATC courses transfer to other colleges, and stay in touch with the four-year school you plan to attend for updated and detailed credit transfer information.

Program-to-Program Transfer Agreements

In program-to-program transfer agreements, selected associate degree program credits are accepted as the first two years of a related bachelor's degree program at designated partner four-year colleges/universities.

All-Inclusive Transfer Agreements

All-inclusive agreements offer MATC students an opportunity to transfer many or all of their credits earned from MATC and apply them toward a four-year degree at the accepting school.

For a comprehensive listing of transfer agreements, see matc.edu/student/currentstudent/credittransfer/.

Specialized Guaranteed Admission Agreements

Students are guaranteed admission into UW-Madison, Marquette University, UW-Milwaukee or UW-Parkside if they complete a predetermined number of credits in prescribed Liberal Arts courses, maintain a good GPA and declare their intent for the program. See Credit Transfer at matc.edu for more information.

Plan Ahead

Preparation is key. Students should plan ahead by researching their transfer options and contacting MATC’s Office of Articulation and Transfer at 414-297-6836. Also review the four-year transfer information at matc.edu.

It is important to remember that in credit transfer, the awarding of credits is decided by the receiving institution. Contact the admissions department of the college or university that you plan to transfer to for more detailed credit transfer information.

Transfer Days

MATC hosts representatives from many public and private colleges and universities for events throughout the academic year such as Transfer Days and four-year transfer partner visits. Check matc.edu for dates and times.

Research Your Options

To plan your transfer to a four-year college or university, check into the following when researching your options:

- Articulation agreements between MATC and the various colleges and universities
- Majors offered and the curriculum guides for the majors you are interested in at the four-year school, to assist with course selection while at MATC
- Location and other important logistics that will influence your decision
- Financial aid availability at the four-year institution
- General information about the university or college, such as average class size, student and campus activities, and other areas of interest to you
- Submission deadlines and the contact information for admissions departments of schools you are considering
- For University of Wisconsin System transfer information, see wisconsin.edu/transfer
Important Information for Federal Financial Aid Eligibility

- You must be admitted to an MATC associate degree or technical diploma program before the admission application deadline.
- You must maintain a cumulative 2.0 or higher grade-point average (GPA), complete your program at a 67% completion rate and have not reached the 150% rule. (See the information about the 150% Rule that follows.)
- You will not receive MATC financial aid for the 2019-20 school year until your 2019-20 FAFSA has been processed and the information from the U.S. Department of Education has been received by the MATC Financial Aid office.
- Submit all forms and documents requested by the MATC Financial Aid office as soon as possible.
- You will receive an email from MATC informing you of the financial aid that you have been awarded.
- It is your responsibility to read all MATC student emails and information that you receive from the MATC Financial Aid office.
- It is also your responsibility to update your postal mailing address and email address with MATC and the U.S. Department of Education.

- If you withdraw or if your instructors withdraw you from all of your courses prior to 60% of the semester being completed, you will owe a portion of your federal financial aid back.
- If you do not attend a course that was included in your federal financial aid enrollment status, your federal financial aid will be adjusted and you may have to repay a portion of your federal financial aid.

The 150% Rule

- You are not eligible for federal financial aid if you have reached the 150% rule, meaning that you may attempt no more than 150% of the number of credits needed to graduate from your academic program of study. Once the MATC Financial Aid office becomes aware that a student cannot mathematically complete their program within the 150% timeframe, the student’s federal financial aid will be suspended.
- All of your attempted credits, transfer credits, and credits you paid on your own apply toward the 150% rule.
- If you change programs, all of your attempted credits apply toward the 150% rule in your new program of study.
Federal Pell Grant – 12 Full-Time Semesters Limit
The Consolidated Appropriations Act of 2012 reduces the duration of a student’s federal Pell Grant eligibility to a 12-semester lifetime limit. Students who have received federal Pell Grant funds for the equivalent of 12 full-time semesters will not be eligible to receive this grant for future semesters. Full-time enrollment is defined as 12 or more credits per semester.

Satisfactory Academic Progress
Students receiving financial aid must make Satisfactory Academic Progress (SAP) toward the completion of course requirements for an associate degree, technical diploma or eligible certificate. Students can only receive financial aid for classes that are required or prepare them for success (remedial courses) in their program area. All periods of enrollment and applicable credits are included even if the student did not receive financial aid for them. To be considered in good standing at MATC, a student must meet all of the following requirements:

- Grade-Point Average (GPA) Requirement:
  A student must maintain a cumulative GPA of 2.0 or better. Remedial credits will be considered in GPA. For repeat coursework, the highest grade received will be considered.

- Completion Rate Percentage Requirement:
  A student must successfully complete 67% of all credits attempted. This is a cumulative percentage. Credits attempted is defined as the total credits you are enrolled in (including remedial, repeated courses, withdrawals, incompletes and transfer credits) even if you did not receive aid for them.

- Maximum Timeframe Requirement:
  Students must complete an associate degree, technical diploma or eligible certificate before 150% of credits required for graduation are attempted. For example: If an associate degree (two year published length) requires 60 credits, a student must complete the degree before 90 credits have been attempted. Students may be deemed ineligible for aid at the point when they cannot mathematically complete their program within the 150% timeframe.

The entire policy can be found online at matc.edu/administration/upload/F0900-rev-18-0216.pdf.

Repeated Coursework
Federal regulations limit the number of times a student may repeat a course and receive federal financial aid for that course:

- A student may receive aid to repeat a previously passed course one additional time.
- A student may receive aid when repeating a course that was previously failed, regardless of the number of times the course was attempted and failed.
- If a student retakes a course that is not aid eligible, a recalculation of aid is done to exclude the credits for the repeated course. If a balance is due after the recalculation, the student must make payment in order to retain the course.
- This rule applies whether or not the student received aid for earlier enrollments in the course.

Eligibility for Loans and State Grants
You must be enrolled in at least six credit hours, prior to the federal financial aid census date, to be eligible to receive a loan and state grants.

For your loan to be processed, you must complete the online loan counseling and sign an online master promissory note at studentloans.gov.

The federal financial aid date, census date, and other important dates are listed in the financial aid section of matc.edu.

Deferments for Course Fees or Books
As a student receiving federal financial aid, you may be eligible for a deferment to cover the cost of books, fees, required uniforms or tools until your federal financial aid funds are available. You must obtain approval from the Financial Aid office and sign a promissory note agreeing to pay these costs by the date indicated on the promissory note. Only those students who have had a federal Student Aid Report processed may be eligible for a course fee deferment without a down payment.

How to Contact the MATC Financial Aid Office
Visit the Financial Aid office, Room S101, at the Downtown Milwaukee Campus or the Welcome Center at the Mequon, Oak Creek or West Allis campuses.
Phone: 414-297-6282; email: finaid@matc.edu.
MATC STUDENT RECORDS INFORMATION

Request for MATC Transcripts
Academic records are kept on permanent file at the Downtown Milwaukee Campus Office of the Registrar. Requests for transcripts can be submitted in writing, in person or by mail. Students also can receive their transcripts electronically by requesting an e-transcript online. Telephone requests will not be honored. There is a charge for transcripts. Financial obligations to the college must be cleared before a transcript will be issued.

Please include with your transcript request: name when you attended MATC, student ID or Social Security number, birthdate, first and last years of attendance, complete mailing address and appropriate fee. Payment can be made with check, money order, cash (in person only) or credit card (Discover, MasterCard or Visa). For information, call 414-297-6824.

Reviewing Your Academic Record
You have the right to review and inspect your academic record. You can view your unofficial college transcript at INFOnline.matc.edu.

If you believe the record is inaccurate or misleading, you must notify the Registrar in writing what you believe the inaccuracy or misleading statement to be. Within 45 days of the date MATC receives a request for revision, the Registrar will respond to you in writing as to whether or not the record will be amended. If the amendment is not granted, you will be informed of your right to a hearing. Additional information regarding the hearing procedures also will be provided at that time.

If MATC and you agree that the appropriate remedy would be inclusion of a statement in your record commenting on the challenged information, or a statement setting forth reasons for disagreeing with the decision, that may be the action taken with or without a hearing. The statement may be maintained as part of your educational record as long as the contested portion is maintained.

Academic Renewal
MATC acknowledges that a student's past academic performance may not, for a variety of reasons, be reflective of the student's subsequent demonstrated ability. Academic Renewal is intended to provide an opportunity to remove a period of poor academic performance at MATC from the student's academic standing and graduation calculations.

Academic Renewal does not apply to federal or other government provided benefits including, for example, financial aid, veterans benefits, etc. Therefore, for purposes of these benefits all credit attempts are counted and will continue to affect eligibility.

All courses remain on the student's transcript, but are not included in calculations for academic standing or graduation.

A request for Academic Renewal must meet the following guidelines:
1. At least three years must have elapsed between the last semester being renewed and submission of the renewal request.
2. The student must be currently enrolled at MATC and have earned a GPA of 2.0 or higher for a minimum of 12 MATC credits. Transfer credits are not included when determining the required GPA of 2.0 or higher, or the required minimum of 12 credits.
3. The request for Academic Renewal may be for one or two semesters. The semesters do not have to be consecutive. If the renewal is awarded, all grades and hours during the enrollment period are included.
4. A course and its related credits that are removed for purposes of renewal cannot be used for any purpose at all, including to demonstrate competency in a subject matter, to fulfill credit hour requirements, to meet graduation requirements or for any other purpose.
5. A student is eligible for only one Academic Renewal during the student's academic career at MATC.

Change of Name or Mailing Address
Students are responsible for notifying MATC of changes to their name and mailing address. Name changes can be made at the Welcome Center on any of our campuses. Address changes can be made at INFOnline.matc.edu.

Family Educational Rights and Privacy Act (FERPA)
MATC complies with the Family Educational Rights and Privacy Act (FERPA). The purpose of this act is to allow students to know what educational records are kept by the college, to provide students the right to inspect those records and ask for corrections if necessary, and to control the release of such information to those who are not involved in the educational process.

Under FERPA, directory information is made available to anyone who requests it unless you specifically ask that this not be done. To block directory information, the request must be made in the Registrar's office at the Downtown Milwaukee Campus. MATC considers directory information to be only the following: name; program of study; dates of attendance; full-time/part-time status; degrees, technical diplomas or certificates awarded; and participation in officially recognized activities and sports.

Under provisions of FERPA, MATC will not respond to inquiries regarding time and/or location of a student's classes. MATC does not provide student or instructor home addresses and/or telephone numbers. If you do not want any information released, as noted above, please contact the Registrar's office to complete the necessary paperwork.

Under FERPA, personally identifiable information in your education record will not be released or disclosed unless you consent to such a release. However, there are exceptions under FERPA that authorize disclosure without your consent.
One exception is disclosure to school officials with legitimate educational interests. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the college discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

FERPA allows the release of education records without the consent of the student or parents to authorized representatives of the state attorney general’s office for law enforcement purposes.

FERPA permits disclosure to an alleged victim of either a crime of violence or of a nonforcible sex offense the final results of any disciplinary action taken against an alleged perpetrator. For more information, call 414-297-6824.

**ACADEMIC REQUIREMENTS**

**Program Plan**
Your Program Plan includes academic status, advisor name and location, term, program, cumulative GPA, courses taken and courses yet to take to complete your program. You may obtain your Program Plan at INFOnline.matc.edu.

**Honors Program**
An Honors designation on transcripts enhances prospects for employment, university admission and scholarships. Other benefits of being an Honors student include:

- Coursework to prepare you for bachelor’s degree programs
- Interaction with Honors faculty and Honors students
- Greater latitude to pursue special-interest projects for credit
- Participation in national and regional Honors associations and conferences

To participate in the Honors Program, complete an Honors Option contract with your instructor.

Students receive special commendation if they earn a required minimum number of Honors credits, complete the course requirements of their program and attain a 3.5 cumulative grade-point average. For more information, email honors@matc.edu.

**Attendance**
Instructors are required to take attendance. Regularity and punctuality of class attendance are expected. It is the responsibility of instructors to inform you of attendance requirements, and these requirements should be included in each course syllabus. It is your responsibility as a student to discuss absences with your instructors. When an absence occurs, the responsibility for making up the work missed lies with the student.

**Instructor Recommended Withdrawal**
You may be dropped for absenteeism when:

- Your consecutive absences exceed the number of class meetings per week, or on the third consecutive absence when classes meet once each week
- Your attendance is sporadic (e.g., you miss seven class periods for a class that meets three periods a week) and you are unable to make up the instruction missed
- You fail to meet attendance requirements of licensing agencies
- You pose a safety hazard to yourself or others because of missed instruction critical to safe class or lab performance
- You are unable to make up instruction missed in a lab/shop class
- You have not attended class during the first two weeks of the term

If you have documented health or unusual personal problems affecting your attendance and your instructor agrees that you can make up the work, you may be allowed to continue and may be advised to use MATC support services. However, if your instructor determines you cannot complete the work or you will hinder instruction of other students, you will be withdrawn. To appeal, you must go to the academic dean and request reinstatement. If you are appealing, you may stay in class until the drop is official, unless your presence may cause a safety hazard to yourself or others.

**Student-Initiated Withdrawal From a Course**
The last day you may voluntarily withdraw from a course is two weeks before the last day of the semester. For summer sessions and quarter sessions, the cutoff date for withdrawal is one week before the end of the session. In extenuating circumstances, the withdrawal cutoff date may be overridden with the approval of both the instructor and the associate dean.

If you do not report for the final examination and you do not formally withdraw or arrange for an incomplete grade, you will be given a U grade for the course.

You are considered enrolled in courses until you officially withdraw. Complete a Course Change form or follow instructions at INFOnline.matc.edu.

**Prerequisites**
A prerequisite is the preparation or previous coursework considered necessary for success in a class. MATC students must complete the required prerequisites for a class prior to enrolling in the class. Course prerequisites are listed with the course description at INFOnline.matc.edu.

**Prerequisites may apply to:**

- Sequential coursework in an academic program
- Courses for which specific required skills and/or knowledge have been established
- Courses in which an equivalent prerequisite exists at another two-year or four-year transfer college or university

Contact your counselor, advisor or the instructor of the course you wish to enroll in if you have any questions about prerequisites. This should be done before you enroll in the course.
ACADEMIC STANDARDS

Grading
The grade-point average (GPA) is computed by multiplying the grade-point value of each grade by the credit value for the course. The total grade-point value is divided by the total number of credits attempted, to determine the grade-point average.

Letter grades are given the following grade-point values:

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<th>Grade</th>
<th>Grade Point</th>
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<td>D+</td>
<td>1.25</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
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<tr>
<td>D-</td>
<td>0.75</td>
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<tr>
<td>U</td>
<td>0.00</td>
</tr>
<tr>
<td>P</td>
<td>Pass</td>
</tr>
<tr>
<td>I*</td>
<td>Incomplete</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
</tr>
</tbody>
</table>

Abbreviations also used on transcripts:
- CE: Credit by exam or experiential learning
- WE: Work experience
- AU**: Audit
- TE: Transfer Courses

(Courses a student withdraws from during the refund period do not appear on transcripts)

* An Incomplete (I) may be given if you have satisfactorily carried a course until near the end of the semester and have made arrangements to complete the course requirements prior to the end of the following semester. An I that is not removed from your transcript within one semester will become a U for scholarship purposes.

** You may audit a course if you do not want to receive credits or an achievement grade. A student does not receive financial aid for an audited course.

If you are enrolled in continuing education career courses (400-series), you may be issued a certificate at the end of the course. MATC does not issue grades for personal enrichment (600-series, avocational) courses.

The MATC Standards of Academic Success define the requirements students must meet to maintain satisfactory academic progress. They provide students who are having academic difficulties with a framework for knowing when assistance and specific support services are needed to ensure success in meeting their educational goals. They also establish a formal process to identify, notify and provide assistance to students who fall below required academic standards, as well as provide the appeal process.

The Standards of Academic Success apply to all students enrolled in associate degree and technical diploma programs.

MATC calculates students’ Academic Status three times each year: after the end of the Fall, Spring and Summer semesters. Grade changes and completion of incomplete grades will be calculated the following semester. This calculation includes:

- Semester grade-point average (GPA) based on coursework completed at MATC during the semester being evaluated
- Cumulative GPA based on all coursework completed at MATC
- Semester course completion rate (percentage of credits completed out of credits attempted at MATC for the semester being evaluated)
- Cumulative course completion rate (percentage of credits completed out of all credits attempted at MATC)

After the calculation, students will be placed on Good Academic Standing, Academic Warning, Academic Suspension, Academic Probation, or Academic Probation With Monitored Academic Plan.

**Good Academic Standing**
To remain in Good Academic Standing, a student must maintain:

- Minimum 2.0 Semester Grade-Point Average
- Minimum 2.0 Cumulative Grade-Point Average
- Minimum 67% Semester Course Completion Rate (U, W and I grades are considered as credits attempted but not successfully completed)
- Minimum 67% Cumulative Course Completion Rate (U, W and I grades are considered as credits attempted but not successfully completed)
**STANDARDS OF ACADEMIC SUCCESS**

**Academic Warning**

Students who fail to meet the requirements for Good Academic Standing will have their status changed to Academic Warning and will receive written notification from the Registrar. The number of credits a student may take is not limited. Students on Academic Warning will return to Good Academic Standing when they meet both semester and cumulative standards. If students do not meet the standards to return to good standing, they will be placed on Academic Suspension. Students may not appeal their Academic Warning status.

**Academic Suspension**

Students on Academic Warning placed on Academic Suspension will be notified by the Registrar of their change in status, the reinstatement procedures, and the deadline for reinstatement.

**Academic Probation**

Students on Academic Probation will be limited to a maximum of six counselor-approved credits. The program counselor will serve as the advisor to students on Academic Probation. Students will return to Good Academic Standing when they meet both the semester and the cumulative requirements.

**Academic Probation With Monitored Academic Plan**

As a consequence of failing to meet the requirements to return to Good Academic Standing, students on Academic Probation will be placed on Academic Suspension. Students will need to be reinstated, and students will be placed on Academic Probation With Monitored Academic Plan and will be required to follow an academic plan that is developed by their program counselor. The plan will be monitored each semester. Any deviation from the plan will result in suspension.

Students on this status must achieve a 2.0 semester grade-point average and a 100% semester completion rate to remain on this status and avoid returning to Academic Suspension. Students will return to Good Academic Standing when they meet both semester and cumulative requirements, as defined by the Standards for Good Academic Standing.

**GRADUATION REQUIREMENTS**

To graduate from a program, you must complete all program requirements and have a cumulative grade-point average of 2.0 or higher. Associate degree programs and technical diploma programs require that the final 25 percent of the credits be taken at MATC. For Fall graduation, you must apply on or before October 31. For Spring graduation, you must apply on or before March 31.

Upon admission to the program, you will be able to print a copy of the most current curriculum requirements for graduation. Graduation requirements are subject to review annually and may be modified. Accommodation of students who are enrolled will be made as needed.

If you were not continuously enrolled in your program (excluding summers) while attending MATC, the graduation requirements in effect at the time of your re-enrollment or readmission into the program will be used to determine your eligibility for graduation.

**GRADUATE TUITION GUARANTEE**

MATC provides a tuition fee exemption for up to six credits to an MATC graduate who is unable to obtain employment within six months of graduation, or in the event the graduate's employer certifies that the graduate lacks entry-level job skills in the related field of study.

The guarantee states:

A graduate of an associate degree program or technical diploma program who is a resident of the state of Wisconsin is exempt from program and material fees established by the board for up to six credits within the same occupational program for which the degree or technical diploma was awarded if the graduate applies for this fee exemption within six months and any of the following conditions apply:

1. Within 90 days after his or her initial employment, the graduate's employer certifies to the MATC District Board that the graduate lacks entry-level job skills and specifies in writing the specific areas in which the graduate's skills are deficient.

2. The graduate certifies in writing that all of the following apply:
   - The graduate has not secured employment in the occupational field in which he or she received the degree or technical diploma;
   - The graduate has demonstrated that he or she has actively pursued employment in that occupational field;
   - The graduate has not refused employment in that occupational field or in a related field;
   - The graduate has actively sought the assistance of the MATC Student Employment Services office.

Appropriate application forms and information may be obtained through the Registrar’s office in Room S201 at the Downtown Milwaukee Campus or by calling 414-297-6824.
DEGREES, TECHNICAL DIPLOMAS, CERTIFICATES

Associate in Arts Degree or Associate in Science Degree (A.A. or A.S.)

The Associate in Arts (A.A.) and Associate in Science (A.S.) degree programs typically require two or more years to complete. These programs include courses in the 200-series in English, history, social science, mathematics, natural science, humanities, foreign language, computer literacy and physical education. Credits earned in most 200-series courses will be accepted by four-year institutions to satisfy course requirements for bachelor’s degree programs.

Associate in Applied Science Degree (A.A.S.)

An Associate in Applied Science degree program typically takes two years to complete when pursued full time. Courses with the A.A.S. degree programs are numbered in the 100-series. Selected courses are accepted for transfer to bachelor’s degree programs, but it is important to check transferability with the four-year institution you plan to attend.

Technical Diplomas

If you are interested in preparing for a specific job or upgrading your job skills, MATC offers specialized programs leading to a technical diploma. When pursued full time, the timeframe of technical diploma programs ranges from less than one semester to one- and two-year programs that provide extensive career training. Technical diploma courses usually require more time in hands-on activities, more class time and less homework per credit than associate degree courses. Many technical diploma courses are numbered in the 300-series. Some technical diploma programs have courses in the 100-series and those credits can be applied to related associate degree programs.

Certificates

In addition to associate degrees and technical diplomas, MATC also awards certificates. A certificate may consist of:

- Selected courses to update career skills
- Courses selected from an existing associate degree or technical diploma program that are combined to meet the needs of people having related experience and/or who are working in the field
- A single continuing-education career course

SECONDARY CREDENTIALS

Adult High School

Adults 18 and older may attend the MATC Adult High School to complete high school graduation requirements. An academic screening test for course placement and official transcripts from former high schools are needed. Students attending regular high school who are 16 or 17 years of age may enroll in evening, online, weekend or summer session Adult High School classes for credit recovery purposes if they have written consent of their principal or guidance counselor and parent/guardian. See the School of Pre-College Education pages in this catalog, the Adult High School information at matc.edu, or call 414-297-7471.

General Educational Development (GED)

MATC offers the GED test as an option for high school non-completers. The GED is often a minimum employment requirement and is one way to meet the entrance requirements at MATC and other colleges. Students interested in earning their GED can take advantage of specific GED preparation classes offered at MATC and at community-based organizations (CBOs). GED tests may be taken at all MATC campuses. See the School of Pre-College Education section of this catalog for more information.

High School Equivalency Diploma (HSED)

Students can earn a High School Equivalency Diploma by completing the GED certificate and satisfying the civic literacy and health requirements. There are four other methods of earning an HSED. Please call 414-297-7471 for information about these options.

Program for Emerging Scholars

Wisconsin Statute s.118.15 provides that a student who is 16 years of age or older and meets the statutory definition of being a child-at-risk may take classes leading to a high school diploma at a technical college. For more information, call the School of Pre-College Education at 414-297-7447.

HIGH SCHOOL RELATIONS

MATC offers opportunities for high school students to begin their college education by taking career and technical courses while still in high school. Examples include:

- Start College Now (formerly Youth Options). Start College Now is a program that allows qualified high school students to take college-level courses at MATC. Students generally participate in this program to enhance their educational opportunities beyond the high school offerings.
- Transcripted Credit represents a technical college course taught by a WTCS (Wisconsin Technical College System) certified high school teacher at the high school. A successful student earns credit both at their high school and on an official MATC transcript, which may be transferable within the WTCS.
- Youth Apprenticeship is a Wisconsin high school and work-based program in which high school students combine academic courses and applicable employment, and upon successful completion will receive a state certificate. This certificate represents credentials that are recognized by business and industry throughout Wisconsin. Students have the option to participate in either an abbreviated one-year or a standard two-year Youth Apprenticeship program. Advanced standing credits are awarded to Youth Apprenticeship graduates who enroll in a sequenced MATC program.
• Advanced Standing refers to a high school course that has similar content to an MATC course; it is taught by a high school teacher at the high school. A successful student becomes eligible to receive advanced standing credit only after enrolling in an associate degree or a technical diploma program at MATC.

• Dual Enrollment Academy for High School Seniors. Dual enrollment opportunities enable high school students to enroll in specific college programs at MATC full time or near full time during their senior year of high school. For information about these opportunities: 414-297-6068 or matc.edu/student/currentstudent/credittransfer/hs_initiatives.cfm.

MATC OFFERS FLEXIBLE LEARNING OPTIONS

MATC has many options for students to fit classes around work and family schedules:

• Evening classes are held at all four campuses and other sites throughout the district.
• Weekend classes are held on Friday evenings and/or Saturdays.
• More than 400 online classes are offered.
• Some associate degree, technical diploma and certificate programs are offered entirely online; see the Online Learning page of this catalog or matc.edu.
• Accelerated degree programs are available and designed especially for working adults. These programs are identified by the word “accelerated” in the program name.
• Through Interactive Television (ITV), two-way video sessions can originate from any campus and be shared with other campuses.

Auditing Courses

You may audit a course if you do not want to receive credits or a grade. You will not be required to complete out-of-class assignments and examinations, but fees and attendance requirements are identical to those of credit students. Audited courses may not be used to satisfy course prerequisites or course requirements, and are not eligible for financial aid or veterans benefits. Not all courses can be audited.

Continuing Education Courses

MATC offers continuing education credit (CEC) and personal enrichment course opportunities.

Continuing education courses are also available to businesses on a contract basis through MATC’s Workforce Solutions. Classes can be conducted on campus or at the workplace; see matc.edu/workforce_solutions.

• Career Courses — Degree and Technical Diploma Credit
  MATC offers associate degree courses and technical diploma courses for credit, which may be taken for continuing education purposes.

• Career Courses – Continuing Education Credit (CEC)
  MATC provides continuing education courses that are not part of the college’s associate degree and technical diploma programs. MATC’s CEC career courses (400-series) provide ways for students to update job skills and gain new competencies in emerging technologies. The 400-series courses are not included in this catalog. See course offerings at INFOline.matc.edu.

• Personal Enrichment Courses (Noncredit)
  Personal enrichment courses may be offered at MATC campuses and other locations throughout the district. These courses are numbered in the 600-series; the courses are not included in this catalog. See course offerings at INFOline.matc.edu.

Apprenticeships

An apprenticeship is a formal training agreement providing on-the-job training and related classroom instruction. A participating employer teaches the skills of the trade on the job. The classroom instruction provides theoretical and practical knowledge pertaining to the given trade.

To become an apprentice you will need to be registered with the Bureau of Apprenticeship Standards and have an employer sponsor your attendance in classes for one day per week, delivered by MATC. The balance of your training will occur on the job. For more information, contact the Apprenticeship Coordinator at 414-571-4743 or polkdd@matc.edu.

The following lists apprenticeship instruction areas at MATC; it does not represent all occupations that may offer apprenticeships.

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Apprenticeship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Arborist</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>Construction Electrician, Drywall Taper and Finisher, Environmental Service Technician, Glazier, Painter and Decorator, Plumber, Refrigeration and Air Conditioning, Sheet Metal Worker, Sprinkler Fitter, Steamfitter, Telecommunications (VDV) Installer/Technician</td>
</tr>
<tr>
<td>Finance</td>
<td>Financial Services</td>
</tr>
<tr>
<td>Human Services</td>
<td>Barber, Cosmetologist</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Industrial Electrician (Maintenance Electrician), Industrial Maintenance Technician, Industrial Manufacturing Technician, Industrial Pipe Fitter, Machine Repair, Machine Tool (Machinist), Mechatronics, Tool and Die Maker (Patternmaker), Tool Maker</td>
</tr>
</tbody>
</table>
**INTERNSHIPS**

Internships are educational programs that combine in-class academic work with career-related employment. Internships provide students the opportunity to apply academic knowledge to actual work situations, earn required or elective college credits, acquire career-related work experience and enhance personal growth. Internships are mandatory in some MATC programs and optional in others; refer to the program’s curriculum.

For information about how to become involved in an internship, contact InternConnect in the JOBshop at 414-297-6967, email internconnect@matc.edu or stop in the JOBshop office on the Downtown Milwaukee Campus, Room S114.

**STUDY ABROAD OPPORTUNITIES**

MATC offers a variety of study abroad opportunities for students interested in learning firsthand about cultures around the world. Scholarships are available, on a limited basis, to help fund MATC-sponsored study abroad opportunities. Credits earned while studying abroad may apply directly to your program. For more information, call the Office of International Education at 414-297-8014 or visit matc.edu/student/resources/international_study.cfm.

**CREDIT FOR PRIOR LEARNING AND EXPERIENCE (CPLE)**

Students can apply for CPLE and obtain course credits if they have skills and knowledge equivalent to MATC courses. Options include credit awarded for specific high school coursework, courses transferred from another college, work experience, independent study, military training, apprenticeship or examination. CPLE work also may qualify as course substitutions or waivers. If credit is awarded, it will be counted toward completion of MATC graduation requirements. Apply early to avoid duplication of coursework. All MATC graduates must complete 25 percent of their coursework at MATC.

Applications for CPLE are available at all MATC campuses. For more information, call 414-297-8593 at the Downtown Milwaukee Campus, or 414-297-6891 for the Mequon, Oak Creek and West Allis campuses.

**Examples of CPLE include:**

**Apprenticeship Credits**

Students may request credit for prior learning and experience based upon apprenticeship credits (500-level) or apprenticeship work experience.

**Credit by Examination**

Students may earn CPLE by demonstrating ability in a specific subject through credit by examination. The most common examinations include the College Level Examination Program (CLEP), International Baccalaureate (IB), and Advanced Placement (AP) exams. Credit for the CLEP general or subject examinations will be granted for advanced standing. CLEP examinations are administered at MATC’s Downtown Milwaukee Campus.

**Credit for Work Experience**

Students may receive credit for work experience. After you apply for CPLE, evaluation of work experience is conducted by the instructional dean. A list of course requirements is provided to the applicant.

**High School Credits**

MATC has agreements with high schools to award credit for courses taken in high school, including MATC’s Adult High School. These agreements are for individual MATC technical diploma and associate degree programs. Credit is awarded toward completion of specific MATC program graduation requirements. The credit is applied when the student has been admitted to the program and completed coursework at MATC. The number of credits awarded will appear on the student’s MATC transcript without a grade. See matc.edu/student/currentstUDENT/credittransfer/hs_initiatives.cfm.

**Military Experience**

Service members, reservists and veterans pursuing a college education may be able to obtain academic credit for military courses they have completed through the military. MATC evaluates military training and experience according to ACE standards for recommended college credit. Contact the MATC Military Education Support Office (MESO) if you have questions, 414-297-8363.

**Spanish Retroactive Credits**

If students have had Spanish coursework in the past or speak Spanish, they should take the Spanish Placement Exam. It is a free exam and a good indicator as to what level of Spanish coursework is the best fit. By testing into an advanced course and earning at least a grade of B, students can earn advanced standing (retroactive credits) for prior courses. Contact the Foreign Language department chairperson in the School of Liberal Arts and Sciences for additional information.

**Substitution**

One or more MATC courses may replace another MATC course. Students will earn the grade and credit of the course taken. There is no fee for substitution.

**Transfer Credit**

MATC will award transfer of credit from regionally accredited colleges and universities. A request will be considered only if the student received a grade of C or higher in those courses. Credit for military service school may be allowed in conformity with the American Council on Education (ACE) Office of Educational Credits. Credit for noncollegiate courses offered by business, industry and government agencies also may be allowed. All credits awarded for transfer will be counted toward financial aid eligibility.
ONLINE LEARNING AND ACCELERATED PROGRAMS

Online Courses
More than 400 courses are offered online in a variety of programs. To take advantage of the convenience of online courses, you will need to be skilled in computer navigation and word processing/document creation, and be familiar with email communication.

- Online courses require independent learners who are disciplined and responsible for turning in high-quality assignments on time.
- You must have a dedicated desktop or laptop computer and all software required for completing the course.
- Students access course content through the Blackboard learning management system at their convenience while following course due dates. Course content can include syllabi, lesson materials, group projects, discussion boards, interactive activities and assessments.
- Coursework is submitted via Blackboard according to designated due dates.
- Typically, online courses do not include live events where all students log in at the same time to participate. However, instructors may recommend specific times for online chats. This gives you the opportunity to communicate with the instructor and your classmates via Blackboard Collaborate Ultra.
- Campus time may be required for proctored testing sessions. This will be noted in the course information at INFOline.matc.edu.

Requirement for students taking online courses:
COMPUB-798
To help our students succeed, all students who register for an online course for the first time at MATC will be required to complete the Online Student Readiness course (COMPUB-798), which provides skills development related to a number of topics that are essential to online learning success. Subject areas include working with Blackboard, INFOline, myMATC and Gmail, time management and online learning best practices. The course is self-paced, takes between 4 ½ to 5 hours to complete, does not have to be completed in one session, and costs $4.50. See course availability at INFOnline.matc.edu.

Note: All fees are subject to change.

If you are interested in pursuing an online course, these resources provide additional information:
- Visit ecampus.matc.edu/starthere and review the information.
- Go to INFOline.matc.edu to view all online courses currently available by using the Search for Classes option; select the following three items to narrow your search: Term, Online (which is under Course Type), and the Subject.
- Go to blackboard.matc.edu and click on Student Support. Review the Blackboard Orientation.
- Call 414-297-7986 or email distancelearning@matc.edu.

Programs available entirely online include:
- Accounting Associate Degree
- Accounting Assistant Technical Diploma
- Accounting Bookkeeper Trainee Certificate
- Associate in Arts Degree
- Banking and Financial Services Associate Degree
- Business Management Associate Degree
- Business Management Technical Diploma
- Business Management Trainee Certificate
- Digital Marketing and Integrated Communications Technical Diploma
- Entrepreneurship Technical Diploma
- Entrepreneurship Certificate
- Financial Services Technical Diploma
- Financial Services Trainee Certificate
- Healthcare Customer Service Certificate
- IT Network Specialist – Online Accelerated Associate Degree
- Marketing Associate Degree
- Sales and Customer Experience Technical Diploma

Accelerated Programs Fit Your Busy Schedule
Accelerated associate degree programs provide the opportunity to advance in your current career or begin a new profession, even if you are working full time. The format allows for more flexibility to fit your schedule. Most accelerated courses run for eight weeks, which is half of a traditional semester.

Accelerated associate degree programs include:
- Associate in Arts – Online Accelerated
- IT Network Specialist – Online Accelerated
- Marketing – Online Accelerated

For more information, see the program’s page in this catalog or at matc.edu.
MATC COUNSELING
Each MATC campus Counseling, Advising and Career Planning Center offers crisis intervention, referrals and brief, supportive listening. All services are free, confidential and tailored to fit student needs. Faculty and staff also are encouraged to utilize the services.

The counselors are available at each campus from 8 a.m. to 6 p.m. weekdays and until 4 p.m. on Fridays.
- Downtown Milwaukee Campus, 414-297-6267
- Mequon Campus, 262-238-2300
- Oak Creek Campus, 414-571-4500
- West Allis Campus, 414-456-5500

ACADEMIC ADVISING
As an MATC student, you will make many critical decisions regarding your academic program and career goals. You have access to our Advising Center where an advisor or counselor can provide the assistance you need to make informed decisions.

Advisors and counselors can:
- Answer questions about degree requirements and college procedures
- Assist you with course selection and registration
- Provide information about helpful campus resources and academic support services

Additionally, you are assigned a faculty advisor within your program who is available to offer support and answer course selection questions before you register each semester.

Maintain communication with your faculty advisor throughout your attendance at MATC.

Your assigned faculty advisor can help you understand your academic options and avoid costly mistakes, but only if you take the initiative to seek advice.

Every semester, MATC schedules a Priority Registration period for continuing program students. Before and during this time, advisors are available to assist you with course planning and scheduling for the following semester.

If you are admitted to an associate degree or technical diploma program, you will be assigned a faculty advisor after the start of your first semester. Thereafter, your advisor’s name and contact information will appear on your Program Plan, class schedule and other student records.

Students on Academic Probation will be assigned a counselor instead of an advisor. If you do not have an assigned advisor or cannot locate your advisor, contact advising@matc.edu or visit the Counseling, Advising and Career Planning Center on your campus.

CAREER PLANNING SERVICES
Your interests help determine the kind of work you enjoy, and the careers where you are likely to find success. If you are undecided about a career, MATC can help you make an informed decision through the CAREER-411 workshop.

Career Workshop: CAREER-411 – All campuses
MATC has the expertise and tools to help you explore today’s array of career options. Our 1½ hour workshop, “Exploring College Majors,” is designed for all individuals seeking a strong future:
- High school students and graduates
- College students
- Returning adult students
- Adults contemplating a career change

CAREER-411 Exploring College Majors is an interactive workshop. You will:
- Complete an online Career Cruising interest inventory and match up careers with MATC programs
- Look at your strengths and skills
- Review labor market trends, average salaries and resources that provide current career information for your selected occupations

Gaining knowledge about what careers best suit you will help you choose the profession and major/program that is right for you. Register at INFOline.matc.edu and pay the $5 fee online or at the Cashier on campus. New students: Contact registration at 414-297-7900 for your ID to access INFOline.

For more information about workshops held at the Downtown Milwaukee Campus, visit or call the Career Planning Center, Room S209, 414-297-6267. For workshops at MATC’s other locations, call Mequon Campus, 262-238-2300; Oak Creek Campus, 414-571-4500; or West Allis Campus, 414-456-5500.

STUDENT SUPPORT SERVICES
MATC is committed to student success and offers a range of services to support your academic goals.

MATC Libraries
The MATC libraries provide access to information, services and resources to meet the curriculum-based needs of students, faculty and staff. The libraries are staffed with librarians who are trained to assist with research needs and provide information literacy instruction.

Library services are available onsite at our four campus libraries, as well as virtually at book.matc.edu, and via our Text-a-Librarian (SMS) service.

Visit book.matc.edu
This website enables you to easily locate and request materials at any of the campus libraries. This site also provides 24/7 access to our collection of electronic resources, including: electronic databases containing articles, reference materials, podcasts, streaming videos and e-book collections. Each campus library provides a comfortable study environment, computers available for student research, and materials to support all programs taught at the campus. Each campus library also has special featured collections:
- The Downtown Milwaukee Campus library has collections specializing in health sciences, law and
culinary arts. The Legal Research Center provides a comfortable area for patrons to conduct legal research and receive instruction in legal areas of study.

- The Mequon Campus library has collections specializing in horticulture, nursing, anatomy and physiology.
- The Oak Creek Campus library has collections specializing in aviation, fire science, police science and Energy Conservation and Advanced Manufacturing (ECAM).
- The West Allis Campus library specializes in materials that support the Funeral Service program.

Library locations and telephone numbers:
- Downtown Milwaukee Campus, Room M377, 414-297-7030
- Mequon Campus, Room A282, 262-238-2209
- Oak Creek Campus, Room A202, 414-571-4720
- West Allis Campus, Room 213, 414-456-5392
- Text-a-Librarian (SMS) service: 414-937-5379

See book.matc.edu for detailed information on library services and resources, including library hours. The library staff strives to make library use as easy and rewarding as possible. Reference questions are answered in person, by phone or text, or via email. Questions and suggestions are always welcome.

Academic Support Centers and Tutoring Services
Located at the Downtown Milwaukee, Mequon, Oak Creek and West Allis campuses, the Academic Support Centers (ASC) are open to all MATC students. Services include assistance in computer applications, course assignments, online use, math, science, social sciences, study skills, writing, as well as tutoring services. Current MATC IDs are needed to use the printers in the centers. For more information, visit matc.edu and search: MATC ASC. Hours are posted online or you may call:
- Mequon Campus, Room A282, 262-238-2220
- Oak Creek Campus, Room A208, 414-571-4647
- West Allis Campus, Room 249, 414-456-5334
- Downtown Milwaukee Campus – See the phone numbers listed in the descriptions below.

Communications Center
Located at the Downtown Milwaukee Campus in Room C278, Communications Center staff provide assistance in business courses related to communications, including writing, business and computer applications, and in online work. Call 414-297-6739.

Computer Production Center
Located at the Downtown Milwaukee Campus in Room M273, Computer Production Center staff offer assistance in using a computer for course assignments; word processing, spreadsheets and database help; tutoring, including in computer programming; and more. Call 414-297-7922.

Math Center
Located at the Downtown Milwaukee Campus in Room C271, the Math Center staff provide assistance in all math levels, including technical math and business math. Call 414-297-6989.

Science Center
Located at the Downtown Milwaukee Campus in Room C271, Science Center staff offer assistance in science and School of Health Sciences courses, use of computerized instructional resources, and internet use. Call 414-297-6989.

Writing Center
Located at the Downtown Milwaukee Campus in Room C270, Writing Center staff offer assistance in course-related written assignments and projects, résumé writing and research papers. Online writing help is available; at matc.edu search: MATC Online Tutoring. Call 414-297-8189 for more information.

Tutoring Services
Tutoring is free to all MATC college students. Services include walk-in tutoring, group tutoring, in-class tutoring and online tutoring. Tutoring is offered based on the needs of students and tutor availability. Tutoring is offered at the following campus sites:
- Downtown Milwaukee Campus, Room C201, 414-297-6791
- Mequon Campus, Room A282, 262-238-2220
- Oak Creek Campus, Room A208, 414-571-4647
- West Allis Campus, Room 249, 414-456-5334

Additional information is available at matc.edu:
- For details about online help in most courses, search: MATC Online Tutoring
- For details about writing and academic skills workshops, search: MATC Tutoring Workshops
- For details about walk-in tutors available to students, search: MATC Tutoring Schedules

Student Accommodation Services
The mission of Student Accommodation Services (SAS) is to ensure that students with disabilities have equal access and opportunities to all courses, programs and activities offered at MATC according to Section 504 of the Rehabilitation Act of 1973, Americans With Disabilities Act, and Americans With Disabilities Act Amended.

Accommodations and services will be based upon written requests for accommodation and documentation of disability.

Prospective students with disabilities should contact Transition Services at the Downtown Milwaukee Campus, Room S215, 414-297-7839.

Current students should contact the SAS office on campus to apply for classroom accommodations:
- Downtown Milwaukee Campus
  Room C219, 414-297-6750
- Mequon Campus
  Room A282; enter through the Learning Commons, 262-238-2227
- Oak Creek Campus
  Room A211, 414-571-4525
- West Allis Campus
  Room 217, 414-456-5332

Wisconsin Relay System 711
STUDENT SUPPORT SERVICES

Test Monitoring
Test monitoring provides all MATC students with the opportunity to complete a test from a course or program in a secure and professional campus environment. For more information call:

- Downtown Milwaukee Campus, Room S215, 414-297-6233
- Mequon Campus, Room A282, 262-238-2204
- Oak Creek Campus, Room A208, 414-571-4711
- West Allis Campus, Room 249, 414-456-5492

Child Care Services
The college offers reliable, quality child care to support the academic success of MATC students. Child care is available at each campus for the children of students enrolled at any MATC location. The child care centers offer a variety of learning experiences that encourage the child's emotional, social, intellectual and physical development. All of the locations are nationally accredited and hold a five-star quality rating from the state of Wisconsin. While flexible scheduling is available, children must be registered with the child care center prior to attending. MATC is approved for payment by several funding agencies.

- Downtown Milwaukee Campus, Room H240, 414-297-7880
- Mequon Campus, Room A216, 262-238-2450
- Oak Creek Campus, Room B124, 414-571-4690
- West Allis Campus, 865 South 72nd Street, 414-456-5419

Office of Bilingual Education
The School of Pre-College Education Office of Bilingual Education serves students whose primary language is not English, and English Language Learners (ELL) and Limited English Proficiency (LEP) students who need guidance in completing their postsecondary education. The Office of Bilingual Education is located on the Downtown Milwaukee Campus, Room M224. For more information about these services, see the School of Pre-College Education section of this catalog or call 414-297-8882.

Veterans Services (MESO)
If you are a recipient of the GI Bill and wish to take advantage of federal and/or state VA educational benefits, complete the required forms and submit the necessary paperwork to the School Certifying Official (SCO) in the Military Education Support Office (MESO) at the Downtown Milwaukee Campus. All certifying and processing of educational benefits is done at the Downtown Milwaukee Campus. Paperwork should be submitted prior to the start of each semester to make sure your monthly GI Bill payments will arrive in a timely manner. Your VA educational benefits may be used to pay college expenses, but you also may be eligible for other types of financial aid. For information, contact the MATC Military Education Support Office (MESO) at 414-297-8363, or stop in Room S115 on the Downtown Milwaukee Campus. The School Certifying Official is available to answer questions regarding the certification of benefits on a walk-in basis or by appointment.

Veterans Priority Registration – Wisconsin Legislature 2013 Wisconsin Act 56
Veterans and current members of the armed forces are given a one-day priority registration for courses at Wisconsin technical colleges and the University of Wisconsin System. MATC offers eligible student veterans and current military service members (not including dependents) priority registration for each term. Priority registration does not waive any course or program requirements, such as prerequisites and program restrictions. MATC courses are available on a first-come, first-served basis. This priority registration allows veterans and service members (not including dependents) to register one day prior to the standard designated date. Registration dates are based on your student status, such as returning program students, undeclared program students and new students. On the designated date, veterans may submit an online registration form or visit the Welcome Center registration office. Phone registration is not available. See the Academic Calendar at matc.edu for specific dates.

Department of Multicultural Student Services and the Men of Color Initiative
The Department of Multicultural Student Services is composed of four offices: Asian-American, African-American, American Indian and Latino Student Services.

Support services, case management, advocacy and intervention, and academic advising are provided. These offices are staffed with specialists who are culturally competent to the types of support services needed by students of color. The specialists serve as advocates for current and prospective students of color from diverse backgrounds. The staff provides case management related to student retention, and is concerned with helping students leverage cultural strengths and overcome educational, vocational and financial obstacles so they can successfully achieve their educational goals. Multicultural Student Services is located at the Downtown Milwaukee Campus, Room M238. For more information, call 414-297-6968.

The Men of Color initiative strengthens and serves current and future MATC students by collaborating with the community to leverage cultural strengths and overcome the challenges and issues men of color may face on the road to their academic success. For more information, email menofcolor@matc.edu or see the Facebook page for MATC Multicultural Affairs and Men of Color Initiative.
MATC’S STUDENT EMPLOYMENT SERVICES: JOBshop/InternConnect

The mission of the MATC JOBshop is to assist students and graduates with employment needs and provide career information resources.

• The JOBshop partners with employers to offer information about job openings for MATC graduates and students.
• It also provides opportunities for students to network with employers through on-campus programming, employer information sessions and job fairs.
• Through our InternConnect services, MATC brings together students interested in internships and employers seeking interns.

The JOBshop is located at the Downtown Milwaukee Campus in Room S114, and services are available at all regional campuses by appointment.

For details on all the services offered, stop in the office, check out the JOBshop/InternConnect webpage at matc.edu or contact us – JOBshop: 414-297-6244, jobshop@matc.edu; InternConnect: 414-297-6967, internconnect@matc.edu.

WisconsinTechConnect.com and the Wisconsin “TechConnect” Job System

WisconsinTechConnect.com is a statewide online employment information system for recruiting Wisconsin Technical College System (WTCS) students and graduates. It is a collaborative effort of Wisconsin’s 16 technical colleges.

Employers across the state post job openings on the website. Students and graduates can explore job opportunities related to MATC’s program areas, and can upload their résumés for employers to view.

Graduate Career Report Gives Employment Information

An important resource for prospective and current students regarding career and education planning is MATC’s Graduate Career Report. To view the report online, see matc.edu/discover_matc/grad_report.cfm.

APPLY FOR SCHOLARSHIPS

The MATC Foundation Inc. offers students the opportunity to apply for a variety of scholarships.

• The scholarship application period for current and continuing MATC students begins the last Monday in February and ends in early April; scholarship recipients are selected and notified via email in May
• The 2019 scholarship application period for new high school graduates and first-time MATC students is July 1 – August 2
• Most scholarships are awarded as multisemester (Fall and Spring) scholarships for the next academic year
• The application is completed online at: matc.academicworks.com

Students log in with their seven-digit student identification number and myMATC password. Once the application has been submitted, the scholarship system matches students with scholarships for which they are qualified. It also will recommend other scholarships for which the student might be qualified after additional information from the student is provided. To learn more about available scholarships or the application process:

• View the webpage: matc.edu/foundation/scholarships.cfm
• Email: scholarships@matc.edu

The MATC Promise for New High School Graduates

In the 2019-20 school year, MATC will welcome its fourth class of MATC Promise students. The MATC Promise means free tuition for eligible students. First launched in 2015, the program was the first of its kind in Wisconsin, helping to make college an option for students who never thought it was possible. This public-private “last dollar” partnership covers tuition and fees for program courses, after other grants and scholarships are applied, for up to 75 credits. Students may be responsible for other fees and for the cost of books. Learn more about the program at matc.edu/promise.

The MATC Promise for Adults

In 2018, MATC launched the Promise for Adults for students age 24 and older who started but did not complete a college degree. It provides eligible students up to 75 credits of free tuition, after other scholarships and grants are applied, to complete an in-demand associate degree. See details at matc.edu/promise.
OFFICE OF STUDENT LIFE

The Office of Student Life is dedicated to serving you in all nonacademic areas of student life. The office staff can assist you with a variety of needs including educational, recreational and cultural programming; honor recognition; guidance; problem-solving; student housing information; student organizations; and student advocacy and student development. If you have college-related concerns or problems, you are encouraged to utilize the Office of Student Life. Visit matc.edu/student/studentlife or call:

- Downtown Milwaukee Campus, 414-297-7859
- Mequon Campus, 262-238-2218
- Oak Creek Campus, 414-571-4715
- West Allis Campus, 414-456-5304

Stormer Pass: Your Student ID

The MATC Stormer Pass is the official identification card for every student at MATC. The card provides you with a convenient, easy and safe method to make purchases and use services on campus. While off campus, use your Stormer Pass as your U.S. Bank ATM/debit card when you open a U.S. Bank checking account. Contact Office of Student Life at 414-297-7859, email stormerpass@matc.edu or visit matc.edu/student/studentlife, or contact U.S. Bank at 414-226-0105.

STUDENT ACTIVITIES

Students enjoy a complete college experience at MATC. Below are some examples of the opportunities for students.

Student Athletic Teams – The Stormers

MATC features these women’s and men’s varsity athletic teams:

- Baseball
- Basketball (Men’s and Women’s)
- Soccer (Men’s and Women’s)
- Softball
- Tennis (Men’s and Women’s)
- Volleyball (Women’s)

MATC Stormers teams have won numerous state championships, with athletes earning state and regional honors. MATC sports teams are members of the National Junior College Athletic Association and the North Central Community College Conference. Stormers athletics help you grow as a leader outside the classroom. For information about athletic opportunities, visit matcstormers.com or call 414-297-7872.

Student Development Events and Programs

Student development programs and events present information that you can apply to life on campus, as well as in your personal development. Workshops, seminars, presentations and programs address such topics as stress management, study-habit improvement, how to choose a career, and how to deal with conflict. For a schedule of presentations, call 414-297-7859.

Student Enrichment/Diversity Programs

Working with campus student organizations, the Office of Student Life brings together students from a broad range of ethnic and cultural groups. This office plans, implements and coordinates social and cultural extracurricular events, including student entertainment programs, in collaboration with student organizations. For more information, call 414-297-7859.

Student Honor Societies

Information on eligibility requirements for membership in various honor recognition programs is available through the Office of Student Life. Ceremonies recognizing scholastic achievement are conducted by this office during the year. See Student Honor Societies at matc.edu/student/studentlife.

STUDENT ORGANIZATIONS

With more than 50 student organizations and clubs to choose from, you will find a group that matches your interests. Academic, professional, service, cultural and special-interest organizations are available. Information about registered student organizations, or how to start a new one, is available from the Office of Student Life at each MATC campus. For a complete listing, see matcclubs.matc.edu or call 414-297-7859.

Student Government

Through Student Government, all MATC students are represented by elected student representatives who act on their behalf. It is officially recognized as the voice of the student body by the administration of MATC and as such, it can make recommendations to the director of Student Life regarding student- or college-related issues. Participating in Student Government is a way to contribute to MATC and to develop skills in communication, organization and leadership. To become involved, call 414-297-7859, or see Student Government at matc.edu/student/studentlife.

Student Newspaper

The college’s biweekly student newspaper, MATC Times, is produced and published by MATC students. Students interested in photography, art and design, advertising and writing are encouraged to participate; it is not necessary that you have previous training or experience. Call 414-297-7859.

STUDENT HANDBOOK AND
STUDENT CODE OF CONDUCT

The Office of Student Life also updates and distributes the MATC Student Handbook, which includes the Student Code of Conduct. MATC may impose disciplinary sanctions for violations of the Student Code of Conduct. Violations may include, but are not limited to, the following situations:

- Conduct that damages or destroys college property, or attempts to damage or destroy college property
- Failure to comply with federal, state, county and municipal laws or ordinances while participating in MATC activities or while present on MATC property
Workforce Solutions, a department of MATC, offers businesses professional training and development.

We learn the current conditions and goals of the employer by assessing current and future needs. We deliver customized cost-effective solutions to meet the employer and employee needs. Our training and professional services utilize best practices in adult learning with experienced professionals.

Our services include:

• Organization-wide training and development programs onsite at your location or at one of our four campus training facilities
• Customized training to improve organizational and leadership performance
• Enhancement of workforce skills to improve employee productivity
• Professional development workshops and seminars

Workforce Solutions is committed to the economic development of the region and achieving a diverse and trained workforce.

For more information about the services available, see matc.edu/workforce_solutions.

STUDENT LEGAL CLINIC

The Student Legal Clinic provides information and referrals on issues that have an impact on your daily life outside the college. Such issues might be unemployment insurance, landlord-tenant disputes, family matters, traffic violations, small claims, and debt counseling. Legal issues involving MATC services, policies and/or personnel, and criminal or serious civil matters are not handled through this office.

Operating in cooperation with the Office of Student Life and at no charge to you, the clinic offers information, workshops, seminars and a self-help library of reference materials. For hours or to make an appointment, call 414-297-6630.

STUDENT LIFE // WORKFORCE SOLUTIONS
Specific MATC academic programs are accredited, approved and/or governed by the following organizations and agencies:

**Aesthetician**
State of Wisconsin Department of Safety and Professional Services
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112

**Barber**
State of Wisconsin Department of Safety and Professional Services
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112

**Automotive Maintenance Technician**
ASE Education Foundation
1503 Edwards Ferry Road NE, Suite 401
Leesburg, VA 20176
703-669-6650, fax: 703-669-6125
www.aseeducationfoundation.org

**Cardiovascular Technology**
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
727-210-2350
www.caahep.org

Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT). Both invasive and echocardiography portions are accredited.

**Civil Engineering Technology**
Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112

**Computer Numerical Control (CNC) Technician**
The National Institute for Metalworking Skills
10565 Fairfax Boulevard, Suite 10
Fairfax, VA 22030
703-352-4971
www.nims-skills.org

**Cosmetology**
State of Wisconsin Department of Safety and Professional Services
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112

**Criminal Justice Studies**
State of Wisconsin Department of Justice
Training & Standards Bureau
17 West Main Street
P.O. Box 7857
Madison, WI 53707-7857
608-266-8800, fax: 608-266-7869
www.doj.state.wi.us/dles/training-and-standards-bureau
Culinary Arts
American Culinary Federation Education Foundation
Accrediting Commission (ACFEFAC)
180 Center Place Way
St. Augustine, FL 32095
800-624-9458, fax: 904-940-0741
www.acfchefs.org/accreditation

Dental Hygiene
The Commission on Dental Accreditation
211 East Chicago Avenue
Chicago, IL 60611
312-440-2718
www.ada.org/coda

Diesel and Powertrain Servicing
ASE Education Foundation
1503 Edwards Ferry Road NE, Suite 401
Leesburg, VA 20176
703-669-6650, fax: 703-669-6125
www.aseeductionfoundation.org

Dietary Manager
Association of Nutrition & Foodservice Professionals (ANFP)
406 Surrey Woods Drive
St. Charles, IL 60174
800-323-1908
www.anfponline.org

Dietetic Technician
Commission on Accreditation for Dietetic Education (CADE)
of the American Dietetic Association
120 South Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
800-877-1600 or 312-899-0040
fax: 312-899-4817
education@eatright.org

Early Childhood Education
National Association for the Education of Young Children
(NAEYC)
1313 L Street N.W., Suite 500
Washington, DC 20005
800-424-2460
www.naeyc.org

EMT – Paramedic Technician
(pending)
Committee on Accreditation of Educational Programs for the
Emergency Medical Services Professions (CoAEMSP)
8301 Lakeview Parkway, Suite 111-312
Rowlett, TX 75088
214-703-8445, fax: 214-703-8992
www.coaemsp.org

Funeral Service
American Board of Funeral Service Education
992 Mantua Pike, Suite 108
Woodbury Heights, NJ 08097
816-233-3747
www.abfse.org

Medical Assistant
Commission on Accreditation of Allied Health Education
Programs (CAAAHEP)
1361 Park Street
Clearwater, FL 33756
727-210-2350
www.caahep.org

Medical Laboratory Technician
National Accrediting Agency for Clinical Laboratory Sciences
(NAACLS)
5600 North River Road, Suite 720
Rosemont, IL 60018
312-714-8880
www.naacls.org

Occupational Therapy Assistant (OTA)
Accreditation Council for Occupational Therapy
Education (ACOTE), c/o AOTA
P.O. Box 31220
Bethesda, MD 20824-1220
301-652-2682
www.aota.org

Paralegal
American Bar Association
750 North Lakeshore Drive
Chicago, IL 60611
312-988-5616
www.americanbar.org/groups/paralegals/

Pharmacy Technician
American Society of Health-System Pharmacists (ASHP)
4500 East-West Highway, Suite 900
Bethesda, MD 20814
301-657-3000
www.ashp.org

Accreditation information continues on next page.
Phlebotomy
National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
5600 North River Road, Suite 720
Rosemont, IL 60018
312-714-8880
www.naacls.org

Physical Therapist Assistant
Commission on Accreditation of Physical Therapy Education (CAPTE)
1111 North Fairfax Street
Alexandria, VA 22314-1488
703-684-2782
www.capteonline.org

Practical Nursing
Accreditation Commission for Education in Nursing (ACEN)
3343 Peachtree Road NE, Suite 850
Atlanta, GA 30326
404-975-5000, fax: 404-975-5020
email: info@acenursing.org
www.acenursing.org

Practical Nursing LPN – RN Educational Progression
Accreditation Commission for Education in Nursing (ACEN)
3343 Peachtree Road NE, Suite 850
Atlanta, GA 30326
404-975-5000, fax: 404-975-5020
email: info@acenursing.org
www.acenursing.org

Radiography
Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850
Chicago, IL 60606-3182
312-704-5300
www.jrcert.org

Real Estate
State of Wisconsin Department of Safety and Professional Services
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112

Registered Nursing
Accreditation Commission for Education in Nursing (ACEN)
3343 Peachtree Road NE, Suite 850
Atlanta, GA 30326
404-975-5000, fax: 404-975-5020
email: info@acenursing.org
www.acenursing.org

Respiratory Therapist
Commission on Accreditation for Respiratory Care (CoARC)
1248 Harwood Road
Bedford, TX 76021-4244
817-283-2835, fax: 817-354-8519
www.coarc.com
Accreditation is based on recommendation of the Commission on Accreditation for Respiratory Care.

Surgical Technology
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
727-210-2350
www.caahep.org
Accreditation is based on recommendation of the Accreditation Review Committee on Education in Surgical Technology.

Surveying and Mapping
Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors
1400 East Washington Avenue
P.O. Box 8935
Madison, WI 53708
608-266-2112
ASSOCIATE DEGREES

The Associate in Arts, Associate in Science and Associate in Applied Science degree programs typically require two years of full-time study to complete.

Associate in Arts and Associate in Science degree programs include courses in the 200-series; credits earned in most 200-series courses will be accepted by four-year colleges and universities to satisfy course requirements for bachelor’s degree programs.

Associate in Applied Science degree programs provide hands-on training leading directly to a career. Most courses in these programs are numbered in the 100-series; selected 100-series courses are accepted for transfer to bachelor’s degree programs, but it is important to check transferability with the four-year institution you plan to attend.

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**Accounting**

**ASSOCIATE DEGREE**  Program Code: 10-101-1

Downtown Milwaukee, Oak Creek, West Allis campuses (Also offered online)

**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCTG-111</td>
<td>Accounting 1 ^</td>
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<tr>
<td>ACCTG-121</td>
<td>Income Taxation ^</td>
<td>4</td>
</tr>
<tr>
<td>ACCTG-122</td>
<td>Accounting Software Applications ^</td>
<td>3</td>
</tr>
<tr>
<td>BADM-165</td>
<td>Legal Environment of Business ^</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG-113</td>
<td>Accounting 2 ‡</td>
<td>4</td>
</tr>
<tr>
<td>ACCTG-130</td>
<td>Computerized Accounting ‡</td>
<td>3</td>
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<tr>
<td>ACCTG-142</td>
<td>Payroll Accounting ^</td>
<td>2</td>
</tr>
<tr>
<td>ACCTG-116</td>
<td>Intermediate Accounting ‡</td>
<td>4</td>
</tr>
<tr>
<td>ACCTG-126</td>
<td>Accounting for Managers</td>
<td>3</td>
</tr>
<tr>
<td>FIN-180</td>
<td>Financial Statement Analysis ‡</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG-150</td>
<td>Accounting Practice With a Systems Approach ‡</td>
<td>3</td>
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<tr>
<td>FIN-120</td>
<td>Introduction to Money, Banking and Financial Markets ‡</td>
<td>3</td>
</tr>
<tr>
<td>ACC TG-14</td>
<td>Accounting for Governmental and Nonprofit Entities ‡</td>
<td>3</td>
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<tr>
<td>ACC TG-145</td>
<td>Forensic Accounting</td>
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<tr>
<td>ACC TG-155</td>
<td>Applied Individual Income Tax ‡</td>
<td>3</td>
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<td>(4) Students select two courses from the following three courses:</td>
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<tr>
<td>ACCTG-140</td>
<td>Accounting for Governmental and Nonprofit Entities ‡</td>
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<tr>
<td>ACCTG-145</td>
<td>Forensic Accounting</td>
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<tr>
<td>ACCTG-155</td>
<td>Applied Individual Income Tax ‡</td>
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**GENERAL STUDIES**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series ECON course</td>
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<td></td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
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<tr>
<td>(or) ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-201 and any 200-series ENG or SPEECH course</td>
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<td></td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series MATH course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series PSYCH course</td>
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</tbody>
</table>

**TOTAL CREDITS: 60**

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  | 414-297-6395

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Designed to provide fundamental accounting skills in a range of applications, this program is a good fit for students who like to work with numbers. You will learn about financial, cost, tax, payroll, governmental, nonprofit and computerized accounting.

**Career Outlook**

Qualified accounting applicants continue to be in demand.

**Program Learning Outcomes**

- Process financial transactions throughout the accounting cycle
- Analyze financial and business information to support planning and decision-making
- Perform payroll preparation, reporting, and analysis tasks
- Perform cost accounting preparation, reporting, and analysis tasks
- Perform individual and/or organizational tax accounting preparation, reporting, and analysis tasks
- Identify internal controls to reduce risk

**Admission Requirement**

- A high school diploma or GED
Administrative Professional

ASSOCIATE DEGREE  Program Code: 10-106-6  West Allis Campus

Get ready to take on key responsibilities that include operating new office technologies, performing and coordinating an office’s administrative activities, and storing and integrating information for dissemination to staff and clients.

Career Outlook
The employment outlook is strong. Opportunities are best for candidates having extensive knowledge of computer software applications.

Program Learning Outcomes
• Demonstrate effective workplace communications
• Apply technology skills to business and administrative tasks
• Perform routine administrative procedures
• Manage administrative projects
• Maintain internal and external relationships
• Model professionalism in the workplace

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January
For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Administrative Professional
matc.edu/academic_programs/pathways

Technical Diploma
• Office Technology Assistant, p. 164

Associate Degree
• Administrative Professional, p. 33

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>OFTECH-101</td>
<td>Windows and MS Word Keyboard Shortcuts</td>
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<td>OFTECH-103</td>
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<td>Office Technologies ‡</td>
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<td>OFTECH-137</td>
<td>Business Document Production 2 ‡</td>
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<td>Machine Transcription Proofreading and Editing/Administrative ‡</td>
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<td>Microsoft Office: Word, Excel, Access, PowerPoint</td>
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GENERAL STUDIES

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<td>Communication Skills 1 ‡</td>
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<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>NATSCI-167</td>
<td>Science of Technology</td>
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<td>Energy in Nature, Technology and Society</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>(or) Any 200-series PSYCH course</td>
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<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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<td>ELECTIVES</td>
<td>(Three credits needed)</td>
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TOTAL CREDITS: 67

( ) Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the Office Technology Assistant technical diploma.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.
Advanced Manufacturing Technology

ASSOCIATE DEGREE

Program Code: 10-664-2

Downtown Milwaukee Campus

A technical diploma is being developed for this pathway. Contact an MATC advisor for information.

Gain skills related to the latest manufacturing technology, sometimes known as Smart Manufacturing or Industry 4.0, which requires a skill set related to microprocessor-driven equipment, sensors and processes.

Career Outlook

The outlook for the advanced manufacturing industry is strong. This program addresses employers’ needs for manufacturing technicians capable of working with today’s complex manufacturing equipment and processes.

Program Learning Outcomes

• Apply state and national safety rules to the manufacturing systems environment
• Analyze automation within a complex manufacturing system
• Manage advanced manufacturing systems for operational efficiency and cost control
• Analyze technical specifications for implementation of manufacturing systems, modules, and components

(See full description at matc.edu.)

Admission Requirements

• A high school diploma or GED
• One year of high school-level algebra or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TECHNICAL STUDIES

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<th>Course Title</th>
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<td>Introduction to Mechatronics</td>
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<td>ADVMFG-113</td>
<td>Advanced Manufacturing DC/AC Circuits 1 #</td>
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<td>ADVMFG-115</td>
<td>Interpret Engineering Drawings</td>
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<td>ADVMFG-102</td>
<td>Advanced Manufacturing Motor Controls #</td>
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<td>Introduction to Robotics #</td>
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<td>Advanced Manufacturing DC/AC Circuits 2 #</td>
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<td>Introduction to Industrial Internet of Things (IIoT) #</td>
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<td>Advanced Manufacturing Digital Electronics</td>
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<td>ADVMFG-111</td>
<td>Advanced Manufacturing Machine Mechanisms #</td>
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<td>ADVMFG-116</td>
<td>Introduction to Manufacturing Quality Control Systems</td>
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<td>ADVMFG-117</td>
<td>Advanced Manufacturing Materials and Processes #</td>
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<td>ADVMFG-121</td>
<td>Vision and Smart Sensors</td>
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<td>Air Conditioning Systems</td>
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<td>HVAC2-125</td>
<td>Fundamentals of Machining Processes</td>
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<td>Advanced Manufacturing Engineering Project Management #</td>
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<td>HVAC2-116</td>
<td>Introduction to Control Systems</td>
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<td>HVAC2-113</td>
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<td>HVAC2-119</td>
<td>Advanced Manufacturing PLC System Applications</td>
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GENERAL STUDIES

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<td>Advanced Manufacturing Engineering Project Management</td>
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<td>Advanced Manufacturing Design Problems</td>
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<td>ENG-192</td>
<td>Advanced Manufacturing Fluid Power #</td>
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<td>ENG-198</td>
<td>Advanced Manufacturing PLC System Applications</td>
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<tr>
<th>Course Code</th>
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<tr>
<td>NATSCI-169</td>
<td>Contemporary American Society</td>
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<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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TOTAL CREDITS: 64

(1) Semester order for full-time students.
# Prerequisite required.
† Program curriculum requirements are subject to change.

Start Date: August

For complete information, go to matc.edu/has

Milwaukee Area Technical College
School of Technology and Applied Sciences

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Air Conditioning and Refrigeration Technology

**ASSOCIATE DEGREE**  Program Code: 10-601-1  Oak Creek Campus

Ensure comfortable environments in homes and businesses. Students attain a background in mathematics, drafting, electricity and thermodynamics. Co-op credit may be available for appropriate employment opportunities.

**Career Outlook**
There is a steady demand for trained air conditioning and refrigeration technicians.

**Program Learning Outcomes**
- Install HVAC/R components
- Service HVAC/R systems
- Troubleshoot HVAC/R systems
- Evaluate HVAC/R system designs

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<td>Air Conditioning Fundamentals</td>
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<td>HVAC2-113</td>
<td>Electrical Fundamentals</td>
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<td>HVAC2-132</td>
<td>Architectural and Mechanical Fundamentals</td>
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<td>HVAC2-114</td>
<td>Electrical Controls and Systems ‡</td>
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<td>HVAC2-120</td>
<td>Heating Systems 1 ‡</td>
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<td>HVAC2-116</td>
<td>Refrigeration 2 ‡</td>
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<td>HVAC2-121</td>
<td>Heating Systems 2 ‡</td>
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<td>HVAC2-146</td>
<td>Digital Energy Management Systems ‡</td>
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<td>HVAC2-148</td>
<td>Heat Pumps ‡</td>
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<td>HVAC2-125</td>
<td>Control Application and Circuits ‡</td>
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<td>HVAC2-126</td>
<td>Air Conditioning Systems ‡</td>
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<tr>
<td>HVAC2-144</td>
<td>Servicing and Troubleshooting Refrigeration and Air Conditioning ‡</td>
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**GENERAL STUDIES**

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>ECON-195</td>
<td>Economics</td>
<td>3</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>MATH-107</td>
<td>College Mathematics ‡</td>
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<td>NATSCI-169</td>
<td>Energy in Nature, Technology and Society</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>SOCSSCI-197</td>
<td>Contemporary American Society</td>
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**ELECTIVES**
(Three credits needed) 3

**TOTAL CREDITS: 70**

(1) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Official Wisconsin Technical College System program title: Air Conditioning, Heating and Refrigeration Technology.

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**Start Dates: August and January**

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES

matc.edu  | 414-297-MATC  | Wisconsin Relay System 711
Associate Degrees

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Admission Requirements
High school diploma or GED, and one year of high school-level biology, chemistry and algebra required. This program admits students through a petition selection process. See this program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Career Outlook
Anesthesia technologists are in high demand.

Program Learning Outcomes
- Apply healthcare and technological science principles to the OR environment
- Operate patient-related equipment
- Perform intraoperative case management as an anesthesia technologist

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Start Date: August

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6263

Anesthesia Technology
ASSOCIATE DEGREE Program Code: 10-541-1 Downtown Milwaukee Campus

Become an anesthesia technologist and you’ll be a vital member of the anesthesia care team. These technologists work under the direction of the anesthesia provider and are proficient in the acquisition, preparation and application of the equipment required for the delivery of anesthesia care. Graduates are eligible to take the American Society of Anesthesia Technologists & Technicians (ASATT) National Certification Examination to become certified as an Anesthesia Technologist (Cert.A.T.T.).

Career Outlook
Anesthesia technologists are in high demand.

Program Learning Outcomes
- Apply healthcare and technological science principles to the OR environment
- Operate patient-related equipment
- Perform intraoperative case management as an anesthesia technologist

Admission Requirements
High school diploma or GED, and one year of high school-level biology, chemistry and algebra required. This program admits students through a petition selection process. See this program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TECHNICAL STUDIES

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<td>HEALTH-101 Medical Terminology</td>
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<td>HEALTH-104 Culture of Healthcare</td>
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<td>HEALTH-107 Digital Literacy for Healthcare</td>
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<td>ANTECH-117 AT Fundamentals 1 #</td>
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<td>ANTECH-118 AT Instrumentation 1 #</td>
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<td>CVTECH-110 EKG Analysis #</td>
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<td>ANTECH-120 AT Clinical Procedures #</td>
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<td>ANTECH-133 Anesthesiology #</td>
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<td>ANTECH-138 AT Instrumentation 2 #</td>
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GENERAL STUDIES

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TOTAL CREDITS: 67

(*) Semester order for full-time students.
S = Summer.
# Prerequisite required.
^ Counts toward earning the Healthcare Customer Service certificate.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Program curriculum requirements are subject to change.
**Animation**

**ASSOCIATE DEGREE  Program Code: 10-207-1**  Downtown Milwaukee Campus

### Technical Studies

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<td>Basic Drawing for Animators</td>
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<td>ANIM-104</td>
<td>Principles of Character Development</td>
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<td>ANIM-106</td>
<td>Principles of 3D Animation</td>
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<td>CSG-115</td>
<td>CSG Production</td>
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<td>Broadcast Animation</td>
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<td>ANIM-150</td>
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<td>Interactive Simulation Displays</td>
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<td>ANIM-160</td>
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<td>ENG-152</td>
<td>Communication Skills 2</td>
<td>3</td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>NATSCI-167</td>
<td>Science of Technology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**Credits:** 70

### Program Learning Outcomes

- Create an animated asset for a product
- Build assets suitable for export and/or rendering to target platforms
- Apply fundamental artistic concepts to the 3D environment
- Implement project management skills

### Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Career Outlook**

From visualization of architectural spaces to video games to effects in movies, animation is expanding.

**Program Learning Outcomes**

- Create an animated asset for a product
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- Apply fundamental artistic concepts to the 3D environment
- Implement project management skills

**Admission Requirement**

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Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

MATC’s unique facilities and the program’s innovative curriculum offer a comprehensive background in animation; you will have the choice of the 2D Animation or 3D Animation emphasis. Portfolio reviews in several courses are designed to assist you in compiling work samples to show employers.

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- Create an animated asset for a product
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- Implement project management skills

**Admission Requirement**

- A high school diploma or GED

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Architectural Technology

ASSOCIATE DEGREE Program Code: 10-614-1 Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

This program prepares students for work in fields related to architecture and construction. Students are introduced to architectural drafting through sketching techniques, and then receive extensive training in computer-aided drafting and Building Information Modeling (BIM) using AutoCAD and Revit (BIM) software.

Career Outlook
Architectural technicians are in demand. They work with architects, engineers, contractors, designers, and building material manufacturers and suppliers.

Program Learning Outcomes
• Develop construction documents
• Evaluate building materials
• Develop building designs
• Integrate building systems

Admission Requirements
• A high school diploma or GED
• One year of high school-level algebra and geometry

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TECHNICAL STUDIES Credits
(1) ARCHT-101 Architectural Theory and Drawing 1 ..... 4
(1) ARCHT-103 Architectural Theory and CADD 3 ‡ ..... 5
(2) ARCHT-102 Architectural Theory and CADD 2 ‡ ..... 5
(2) ARCHT-120 Structural Systems and Components ‡ ..... 3
(2) ARCHT-122 Architectural Materials and Methods 2 ‡ ..... 3
(3) ARCHT-131 Mechanical and Environmental Systems 1 ‡ ..... 2
(4) ARCHT-104 Architectural Theory and CADD 4 ‡ ..... 5
(4) ARCHT-132 Mechanical and Environmental Systems 2 ‡ ..... 2
(4) ARCHT-141 Architectural Practices and Procedures ‡ ..... 2
(4) CIVIL-132 Building Estimating ‡ ..... 3

GENERAL STUDIES
ENG-151 Communication Skills 1 ‡ ..... 3
ENG-152 Communication Skills 2 ‡ ..... 3
ENG-201‡ and any 200-series ENG or SPEECH course
MATH-115 College Technical Mathematics 1 ‡ ..... 5
MATH-116 College Technical Mathematics 2 ‡ ..... 4
NATSCI-137 Comprehensive Technical Physics ‡ ..... 4
PSYCH-199 Psychology of Human Relations ‡ ..... 3
SOCSCI-197 Contemporary American Society ‡ ..... 3
SOCSCI-197 Any 200-series HIST or SOCSCI course
ELECTIVES (Three credits needed) ..... 3

TOTAL CREDITS: 68

(†) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.

Start Date: August

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
The Associate in Arts degree provides you with the first two years of bachelor’s degree credit courses that will transfer to four-year colleges and universities. The courses in this degree emphasize the humanities and allow students many options to analyze information, think critically and creatively, respect diversity and collaborate with others. Courses may be taken online or face to face. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and the credit transfer details. Contact an MATC advisor for more information.

**Program Learning Outcomes**
- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method
(For full description, see matc.edu.)

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### English – 6 credits required
- ENG-201 English 1 ‡
- ENG-202 English 2 ‡

### Speech – 3 credits required
- SPEECH-201 Elements of Speech
- (or) SPEECH-203 Interpersonal Communication
- (or) SPEECH-206 Intercultural Communication

### Humanities – 15 credits required
Select credits from 200-level courses in the humanities (such as English, music, speech, art, foreign language).
- Three credits must be in 200-level diversity/ethnic studies courses.
- Three credits must be in 200-level fine arts courses.
- Examples: MUSIC-205, ART-201.

### Social Sciences – 15 credits required
The 15 credits must be taken from at least three of these five areas:
1. ECONOMICS ECON-195 (or) any 200-level ECON course
2. SOCSCI-203 Introduction to Sociology
3. PSYCH-231 Introductory Psychology
4. SOCSCI-221 American National Government and Politics Today
   (or) SOCSCI-222 American State and Local Government
5. HISTORY Any 200-level HIST course

### World/Foreign Language – 4 credits required
This requirement may be waived if student has completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school.

### Mathematics – 4 credits required
- Select any 200-level MATH courses, except MATH-260.

### Natural Sciences – 7 credits required
- Select any 200-level NATSCI courses.
- Four credits must be in a laboratory science.

### Physical Education – 3 credits required
- Select any 200-level PHYED course.

### Additional Electives – 7 credits required
Choose primarily from 200-level courses. A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

**TOTAL CREDITS: 64**

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**Start Dates: August and January**

For complete information, go to matc.edu/las

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of LIBERAL ARTS and SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Liberal Arts and Sciences Four-Year College Transfer

This online accelerated degree program provides students with the first two years of bachelor’s degree credit courses that will transfer to four-year colleges and universities. You can complete this degree entirely online and in one year of full-time study through five sessions. A session lasts seven or eight weeks. The degree can also be completed in more time, per your schedule.

Students who plan to transfer are advised to consult with the four-year college/university regarding specific requirements for a major, and the credit transfer details. Contact an MATC advisor for more information.

Program Learning Outcomes
- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method
(For full description, see matc.edu.)

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Quin 1: Fall term, first session Credits
ENG-201 English 1 ‡ ............................................ 3
PHYED-210 An Active Approach to Wellness and Fitness ...................... 3
ECON-201 Principles of Microeconomics ............................................. 3
HIST-211 America Through 1877 ..................................................... 3

Quin 2: Fall term, second session
SOCSCI-203 Introduction to Sociology ............................................ 3
SPEECH-206 Intercultural Communication .......................................... 3
ECON-202 Principles of Macroeconomics ............................................. 3
PSYCH-231 Introduction to Psychology .............................................. 3

Quin 3: Spring term, third session
ENG-202 English 2 ‡ ......................................................... 3
MATH-200 Intermediate Algebra ‡ .................................................... 4
FLANG-202 Spanish 1 .............................................................. 4

This requirement may be waived if student has completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school.

Quin 4: Spring term, fourth session
SOCSCI-217 Valuing Diversity ..................................................... 3
ART-201 Understanding Art .......................................................... 3
NATSCI-232 Earth Science ............................................................. 3
NATSCI-234 Earth Science Laboratory ............................................... 1
SOCSCI-217 Valuing Diversity ..................................................... 3

Summer term, fifth session
Choose any 200-level Natural Sciences (NATSCI) course .......................................................... 3

Additional Electives – 9 credits required
Choose primarily from 200-level courses. A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

TOTAL CREDITS: 63

‡ Prerequisite required.

Note: Consult the four-year college or university you plan to attend regarding transferability of your selected courses. Successful completion of this degree requires a grade-point average of 2.0 (C) or higher.
Curriculum requirements are subject to change.

Start Dates: August and January
For complete information, go to matc.edu/las
To apply for financial aid, visit fsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6584
Associate in Arts Community Engagement: Pre-Major

ASSOCIATE DEGREE  Program Code: 20-800-1  All campuses

Four-Year College Transfer Program
This Associate in Arts program prepares you to create positive change through advocacy and community engagement. The curriculum explores contemporary urban issues with an emphasis on social action and diverse perspectives. Through this program, students earn the first two years of bachelor’s degree courses that will transfer to a four-year college/university. Courses may be taken online, or face to face. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and credit transfer details. Contact an MATC advisor for more information.

Program Learning Outcomes
• Effective Communication
• Information Literacy
• Global Awareness
• Analytical/Critical Thinking
• Professionalism
• Scientific Method
(For full description, see matc.edu.)

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

English – 6 credits required ........................................ 6
ENG-201 English 1 ‡
ENG-202 English 2 ‡

Speech – 3 credits required ........................................ 3
SPEECH-203 Interpersonal Communication

Humanities – 15 credits required .............................. 15
ART-201 Understanding Art
Any 200-level ENG diversity-focused Literature course; choose one of the following:
  ENG-218 African-American Literature 1 ‡
  ENG-219 African-American Literature 2 ‡
  ENG-220 Native American Literature ‡
  ENG-221 Native American Women in Literature ‡
  ENG-222 Images of Women in Literature ‡
  ENG-223 African-American Literature By and About Black Women ‡

Any additional 200-level FLANG, MUSIC, ENG, SPEECH or ART (9 or more credits); additional foreign language is not required but is recommended.

Social Sciences – 15 credits required ...................... 15
SOCSCI-203 Introduction to Sociology
SOCSCI-217 Valuing Diversity
SOCSCI-221 American National Government and Politics Today
HIST-216 History of American Minorities
(or) HIST-217 Contemporary Civil Rights
ECONOMICS: ECON-195 (or) any 200-level ECON course

World/Foreign Language* – 4 credits required ....... 4
Any 200-level FLANG

Mathematics – 4 credits required at the level of intermediate algebra or above ........................................ 4
MATH-200 Intermediate Algebra ‡

Natural Sciences – 7 credits required .............................. 7
NATSCI-232 Earth Science, take concurrently with NATSCI-234 Earth Sciences Laboratory
Any 200-level NATSCI technology or environmental sciences-related course; choose one of the following:
  NATSCI-233 Environmental Science
  NATSCI-246 Climate Change Fundamentals
  NATSCI-260 Plagues, People and Power
  NATSCI-262 Energy in Nature, Technology & Society

Physical Education – 1 to 3 credits required .......... 1–3
Select any 200-level PHYED course(s)

Additional Electives – 7 to 9 credits required ......... 7–9
Choose primarily from 200-level courses. A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

TOTAL CREDITS: 64
Steps to Success

- Complete the MATC admissions process
- Enroll in EDF-249 Orientation to Urban Teaching
- Full admission to this program requires completion of the following courses with a grade of C or higher: EDF-249, ENG-201 and MATGEN-110 (or sufficient math placement score)
- After you’ve been admitted to the program, meet with your advisor at least once every semester to select courses
- Earn your associate degree through the Teacher Education: Pre-Major at MATC, including four teacher preparation courses
- Complete your associate degree with a GPA of 2.5 or higher
- Apply to the School of Education at one of the partnering four-year colleges/universities, where you will continue your studies to receive your bachelor’s degree in education
- After you receive your bachelor’s degree, you will be eligible to apply for a Wisconsin teaching license

Learning Goals and Curriculum Requirements

The curriculum includes four courses in Educational Foundations focused on the historical, cultural, sociological and philosophical foundations of urban education. Students complete observational and participatory experiences with Milwaukee Public Schools.

Four-Year College Transfer Program

To prepare for a teaching career, this program is designed for students interested in entering K-12 teacher licensing programs at four-year colleges and universities. The program enables you to fulfill the first two years of requirements for a bachelor’s degree at MATC. The curriculum includes courses focused on the foundations of urban education.

Some of the colleges and universities that MATC students can transfer to include Alverno College, Cardinal Stritch University, Carroll University, Lakeland University, Marquette University, Mount Mary University, UW-Milwaukee and UW-Whitewater.

Program Learning Outcomes

- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method

(For full description, see matc.edu.)

Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

‡ Prerequisite required.

Note: It is important to consult the four-year institution regarding transferability of your selected courses. Contact an MATC advisor for information.

Program curriculum requirements are subject to change.
ASSOCIATE DEGREE  Program Code: 20-800-1  All campuses

Associate Degrees

Associate in Arts Global Studies: Pre-Major

ASSOCIATE DEGREE Program Code: 20-800-1  All campuses

English – 6 credits required ........................................ 6
  ENG-201  English 1 ‡
  ENG-202  English 2 ‡

Speech – 3 credits required ........................................ 3
  SPEECH-206 Intercultural Communication

World Language – 4 credits required 4
  Any 200-level FLANG course

Humanities – 15 credits required ................................... 15
  Any additional 200-level FLANG courses (12 credits)
    ENG-215 Contemporary Literature ‡ (3 credits)
    may be substituted for one FLANG course
  Any 200-level ENG diversity-focused Literature course;
    choose one of the following (3 credits):
    ENG-218 African-American Literature 1 ‡
    ENG-219 African-American Literature 2 ‡
    ENG-220 Native American Literature ‡
    ENG-221 Native American Women in Literature ‡
    ENG-222 Images of Women in Literature ‡
    ENG-223 African-American Literature
    By and About Black Women ‡

Social Sciences – 15 credits required .............................. 15
  SOCSCI-208 Global Cultures and Politics
    (or) GLOBAL-115 International Field Studies
  SOCSCI-217 Valuing Diversity
  SOCSCI-224 Peoples and Cultures of the World
  HIST-205 Contemporary World Affairs
    (or) HIST-223 Latin American History
  ECON-223 Ecological Economics
    (or) ECON-202 Principles of Macroeconomics

Mathematics – 4 credits required at the level of intermediate algebra or above 4
  MATH-200 Intermediate Algebra ‡
    (or) Any 200-level MATH course

Natural Sciences – 7 credits required .............................. 7
  NATSCI-232 Earth Science (3 credits), take concurrently
    with NATSCI-234 Earth Sciences Laboratory (1 credit)
  Any 200-level NATSCI technology or environmental sciences-related course;
    choose one of the following:
    NATSCI-233 Environmental Science
    NATSCI-246 Climate Change Fundamentals
    NATSCI-260 Plagues, People and Power
    NATSCI-262 Energy in Nature, Technology & Society

Physical Education – 1 to 3 credits required ............................. 1–3
  Select any 200-level PHYED course(s).

Additional Electives – 9 credits required .............................. 9
  Choose any 200-level courses.

TOTAL CREDITS: 64

Four-Year College Transfer Program

This Associate in Arts program prepares students for effective intercultural interaction in a globalized society. The curriculum explores contemporary global issues with an emphasis on foreign language study, multicultural perspectives and service learning. Students will develop effective communication skills and learn strategies to support cultural exploration in a global context. Students earn the first two years of bachelor’s degree courses that will transfer (consult with the destination institution regarding specific requirements for a major and credit transfer details). Courses may be taken online or face to face.

Program Learning Outcomes

• Effective Communication
• Information Literacy
• Global Awareness
• Analytical/Critical Thinking
• Professionalism
• Scientific Method
(For full description, see matc.edu.)

Admission Requirement

• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

‡ Prerequisite required.

Note: It is important to consult the four-year college/university regarding transferability of your selected courses. Successful completion of this degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC. Students in their final semester should choose a course incorporating service learning. See an MATC advisor for information.

Curriculum requirements are subject to change.

Start Dates: August and January

For complete information, go to matc.edu/las

To apply for financial aid, visit fasfa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6584
The Associate in Science degree provides you with the first two years of bachelor’s degree credit courses that will transfer to four-year colleges and universities. The courses in this degree emphasize the sciences and allow students many options to analyze information, think critically and creatively, respect diversity and collaborate with others. Courses may be taken online or face to face. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and the credit transfer details. Contact an MATC advisor for information.

**Program Learning Outcomes**
- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method
(For full description, see matc.edu.)

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

‡ Prerequisite required. * This requirement for World/Foreign Language may be waived if student has completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school. Note: It is important to consult the four-year institution regarding transferability of your selected courses. Successful completion of this degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC. Program curriculum requirements are subject to change.

**Start Dates: August and January**

For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

English – 6 credits required ........................................6
ENG-201 English 1 ‡
ENG-202 English 2 ‡

Speech – 3 credits required ........................................3
SPEECH-201 Elements of Speech
(or) SPEECH-203 Interpersonal Communication
(or) SPEECH-206 Intercultural Communication

Humanities – 9 credits required .....................................9
Select credits from 200-level courses in the humanities (such as English, art, foreign language, music, speech). Examples: SPEECH-212, FLANG-214.
Three credits must be in 200-level diversity/ethnic studies courses.
Three credits must be in 200-level fine arts courses.
Examples: MUSIC-205, ART-201.

Social Sciences – 9 credits required ............................9
The nine credits must be taken from at least three of these five areas:
1. ECONOMICS ECON-195 (or) any 200-level ECON course
2. SOCSCLI-203 Introduction to Sociology
3. PSYCH-231 Introductory Psychology
4. SOCSCLI-221 American National Government and Politics Today
   (or) SOCSCLI-222 American State and Local Government
5. HISTORY Any 200-level HIST course

World/Foreign Language* – 4 credits required ........4

Mathematics – 5 credits required ...............................5
MATH-231 Analytic Geometry and Calculus 1 ‡

Natural Sciences – 8 credits required ..........................8
Select at least one 200-level course with laboratory from each of two areas of NATSCI: chemistry, biology, earth sciences and physics.

Mathematics or Natural Sciences emphasis –
12 credits required ..................................................12
Select additional (optional) mathematics credits from the following courses only:
1. MATH-232 Analytic Geometry and Calculus 2 ‡;
   MATH-233 Analytic Geometry and Calculus 3 ‡;
   MATH-234 Differential Equations/Linear Algebra ‡
   (and/or)
2. Any 200-level NATSCI courses

Physical Education – 3 credits required .....................3
Select any 200-level PHYED course.

Additional Electives – 5 credits required ....................5
Take five elective credits from 200- or 100-level courses.
A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

**TOTAL CREDITS: 64**
Associate in Science Chemical Technology: Pre-Major

ASSOCIATE DEGREE Program Code: 20-800-2 Downtown Milwaukee Campus

Liberal Arts and Sciences Four-Year College Transfer

The Associate in Science Chemical Technology: Pre-Major provides the first two years of bachelor's degree credit courses that will transfer to four-year colleges and universities. MATC’s state-of-the-art labs give students an advantage as they prepare for bachelor’s degree studies and the workforce. Courses emphasize chemistry and prepare you for both transfer to a four-year degree program and to begin work in an industrial chemistry lab. Summer research/internship opportunities are available. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and the credit transfer details. Contact an MATC advisor for information.

Program Learning Outcomes

- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method

(For full description, see matc.edu.)

Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Note: It is important to consult the four-year institution regarding transferability of your selected courses. Successful completion of this degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Start Dates: August and January

For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

MATC's state-of-the-art labs give students an advantage as they prepare for bachelor's degree studies and the workforce. Courses emphasize chemistry and prepare you for both transfer to a four-year degree program and to begin work in an industrial chemistry lab. Summer research/internship opportunities are available. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and the credit transfer details. Contact an MATC advisor for information.

Program Learning Outcomes

- Effective Communication
- Information Literacy
- Global Awareness
- Analytical/Critical Thinking
- Professionalism
- Scientific Method

(For full description, see matc.edu.)

Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Note: It is important to consult the four-year institution regarding transferability of your selected courses. Successful completion of this degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Start Dates: August and January

For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

English – 6 credits required

ENG-201 English 1 ‡
ENG-202 English 2 ‡

Speech – 3 credits required

SPEECH-201 Elements of Speech
(or) SPEECH-203 Interpersonal Communication
(or) SPEECH-206 Intercultural Communication

Humanities – 9 credits required

Select credits from 200-level courses in the humanities (such as English, art, foreign language, music, speech). Examples: SPEECH-212, FLANG-214.

Social Sciences – 9 credits required

Three credits must be in 200-level diversity/ethnic studies courses.
Three credits must be in 200-level fine arts courses.
Examples: MUSIC-205, ART-201.

World/Foreign Language – 4 credits required

This requirement may be waived if student has completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school.

Natural Sciences – 20 credits required

NATSCI-211 Chemistry 1 ‡
NATSCI-212 Chemistry 2 ‡
NATSCI-215 Quantitative Analysis ‡
NATSCI-217 Organic Chemistry 1 ‡
NATSCI-219 Organic Chemistry Lab ‡

Mathematics – 5 credits required

MATH-231 Analytic Geometry and Calculus 1 ‡

Physical Education – 3 credits required

Select any 200-level PHYED course.

Additional Electives – 7 credits required

CHEMT-103 Introduction to Chemical Technology
CHEMT-107 Industrial Methods of Analysis ‡
CHEMT-109 Chemical Processes ‡

TOTAL CREDITS: 66

‡ Prerequisite required.
Program curriculum requirements are subject to change.
Audio Production
ASSOCIATE DEGREE Program Code: 10-701-4 Downtown Milwaukee Campus

Combining creative and practical aspects of sound and music, this program prepares you to enter the audio engineering field. Coursework covers working with live and recorded sound to provide more employment options.

Program Learning Outcomes
- Produce and edit audio recordings using professional software and equipment
- Apply studio management practices and standards
- Apply critical listening and post-production mastering skills to final audio mixes
- Demonstrate the process of live mixing by blending multiple sources of digital audio using a mixing console
- Set up and prepare audio equipment for proper sound reinforcement during performances

(For full description, see matc.edu.)

Admission Requirements
- A high school diploma or GED
- Demonstration of basic computer skills in the Mac OS
- Ability to hear without impairment
- Must have the ability to lift, bend, and move equipment

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866

Start Dates: August and January

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) MUSIC-148</td>
<td>Music Fundamentals 1</td>
</tr>
<tr>
<td>(1) AUDIO-100</td>
<td>Introduction to Audio Software</td>
</tr>
<tr>
<td>(1) AUDIO-102</td>
<td>Techniques of Sound Recording</td>
</tr>
<tr>
<td>(1) AUDIO-103</td>
<td>Recording Live Concerts</td>
</tr>
<tr>
<td>(1) MUSIC-189</td>
<td>Voice Lab</td>
</tr>
<tr>
<td>(2) MUSIC-177</td>
<td>Piano Lab</td>
</tr>
<tr>
<td>(2) AUDIO-111</td>
<td>Advanced Audio Software</td>
</tr>
<tr>
<td>(2) AUDIO-114</td>
<td>Critical Listening of Sound and Music</td>
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<tr>
<td>(2) AUDIO-116</td>
<td>Advanced Techniques of Sound Recording</td>
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<td>(2) AUDIO-117</td>
<td>Sound Reinforcement</td>
</tr>
<tr>
<td>(3) AUDIO-118</td>
<td>Studio Management and Design</td>
</tr>
<tr>
<td>(3) AUDIO-120</td>
<td>Audio Production for Visual Media</td>
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<tr>
<td>(3) AUDIO-125</td>
<td>Advanced Midi Recording</td>
</tr>
<tr>
<td>(3) MUSIC-101</td>
<td>Music Business</td>
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<tr>
<td>(4) AUDIO-126</td>
<td>Electronics of Audio Engineers</td>
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<tr>
<td>(4) AUDIO-127</td>
<td>Mastering for Media</td>
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<tr>
<td>(4) AUDIO-133</td>
<td>Final Project – Field Work</td>
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<tr>
<td>(4) MKTG-118</td>
<td>Social Media Marketing</td>
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GENERAL STUDIES

<table>
<thead>
<tr>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>3</td>
<td>Economics</td>
</tr>
<tr>
<td>3</td>
<td>Communication Skills 1</td>
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<tr>
<td>3</td>
<td>Communication Skills 2</td>
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<tr>
<td>3</td>
<td>College Mathematics</td>
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<tr>
<td>3</td>
<td>Math With Business Applications</td>
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<tr>
<td>3</td>
<td>Psychology of Human Relations</td>
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<tr>
<td>3</td>
<td>Contemporary American Society</td>
</tr>
<tr>
<td>6</td>
<td>Social Media Marketing</td>
</tr>
</tbody>
</table>

ECON-195 | Economics |
ENG-151 | Communication Skills 1 |
ENG-152 | Communication Skills 2 |
MATH-107 | College Mathematics |
MATH-123 | Math With Business Applications |
PSYCH-199 | Psychology of Human Relations |
SOCSCI-197 | Contemporary American Society |

ELECTIVES | (Six credits needed) | 6 |

TOTAL CREDITS: 64
(1) Semester order for full-time students.
^ Prerequisite required.
S = Summer.

Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

Start Dates: August and January

For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of MEDIA and CREATIVE ARTS

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Automotive Technology – Comprehensive

ASSOCIATE DEGREE  Program Code: 10-602-6  Mequon Campus

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO2-150</td>
<td>Automotive Fundamentals ‡ ^</td>
<td>2</td>
</tr>
<tr>
<td>AUTO2-151</td>
<td>Electrical Systems 1 ‡ ^</td>
<td>4</td>
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<tr>
<td>AUTO2-161</td>
<td>Express Service ‡ ^</td>
<td>3</td>
</tr>
<tr>
<td>AUTO2-164</td>
<td>Applied Automotive Experience 1 ‡</td>
<td>1</td>
</tr>
<tr>
<td>AUTO2-147</td>
<td>Electrical Systems 2 ‡ ^</td>
<td>2</td>
</tr>
<tr>
<td>AUTO2-153</td>
<td>Alignment, Suspension and Steering ‡ ^</td>
<td>3</td>
</tr>
<tr>
<td>AUTO2-159</td>
<td>Automotive Brakes ‡ ^</td>
<td>4</td>
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<tr>
<td>AUTO2-165</td>
<td>Applied Automotive Experience 2 ‡</td>
<td>1</td>
</tr>
<tr>
<td>AUTO2-152</td>
<td>Automotive Climate Control ‡ ^</td>
<td>2</td>
</tr>
<tr>
<td>AUTO2-154</td>
<td>Fuel Management 1 ‡ ^</td>
<td>2</td>
</tr>
<tr>
<td>AUTO2-148</td>
<td>Manual Transmissions and Drivelines ‡</td>
<td>2</td>
</tr>
<tr>
<td>AUTO2-155</td>
<td>Fuel Management 2 ‡ ^</td>
<td>4</td>
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<tr>
<td>AUTO2-160</td>
<td>Automotive Accessories ‡ ^</td>
<td>3</td>
</tr>
<tr>
<td>AUTO2-166</td>
<td>Applied Automotive Experience 3 ‡</td>
<td>1</td>
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<tr>
<td>AUTO2-157</td>
<td>Engine Concepts ‡ ^</td>
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</tr>
<tr>
<td>AUTO2-158</td>
<td>Automotive Transmissions ‡ ^</td>
<td>4</td>
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<tr>
<td>AUTO2-167</td>
<td>Applied Automotive Experience 4 ‡</td>
<td>1</td>
</tr>
<tr>
<td>AUTO2-156</td>
<td>Fuel Management 3 ‡ ^</td>
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GENERAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>ECON-195</td>
<td>Economics ^ ...........................................</td>
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<tr>
<td>(or) ECON-219 Personal Finance and Consumer Economics</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-152 Communication Skills 2 ‡</td>
<td>3</td>
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<tr>
<td>(or) ENG-201 and any 200-series ENGR or SPEECH course</td>
<td></td>
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<tr>
<td>NATSCI-169</td>
<td>Energy in Nature, Technology and Society .</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series NATSCI course</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
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</table>

TOTAL CREDITS: 62

Start Dates: August and October

For complete information, go to matc.edu/atas

To apply for financial aid, visit fasa.gov. School Code: 003866

Milwaukee Area Technical College
School of Technology and Applied Sciences | 414-297-6315

This program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Road NE, Suite 401, Leesburg, VA 20176; 703-669-6650; fax 703-669-6125; www.aseeducationfoundation.org.

Bumper-to-bumper diagnostics, repairs and preventive maintenance will be taught on cars and light trucks. The Automotive Technology programs are: Ford ASSET (Automotive Student Service Educational Training), MOPAR CAP (Career Automotive Program) and CART (Comprehensive Automotive Repair Technology). Manufacturer credentials are earned in ASSET and CAP programs. There is high demand for trained automotive technicians.

Program Learning Outcomes

• Demonstrate professionalism appropriate for the auto service industry
• Perform diagnosis, service, and repair of automotive internal combustion engines
• Perform diagnosis, service, and repair of automotive automatic transmission/transaxle systems
• Perform diagnosis, service, and repair of automotive manual drive train and axles systems

(For full description, see matc.edu.)

Admission Requirements

• A high school diploma or GED
• Dealership sponsor is required to provide applied automotive experience opportunities; program advisors will help locate a sponsor

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

( ) Semester order for full-time students.
S = Summer.
‡ Prerequisite required.
^ Counts toward earning the Automotive Technology Maintenance Light Repair technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

This program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Road NE, Suite 401, Leesburg, VA 20176; 703-669-6650; fax 703-669-6125; www.aseeducationfoundation.org.
Baking and Pastry Arts

ASSOCIATE DEGREE  Program Code: 10-314-1  Downtown Milwaukee Campus

Learn techniques of producing artisan breads, pastries, celebration cakes, confections and showpieces. You will have the opportunity to learn firsthand how to run a successful bakery/café operation from the front and back of the house.

Career Outlook

Employment in the food preparation sector is expected to increase throughout the United States, including a growing demand for specialty products.

Program Learning Outcomes

• Demonstrate baking and pastry skills
• Apply principles of safety and sanitation in food service operations
• Apply principles of nutrition
• Analyze food service financial information
• Apply supervision skills
• Relate food service operations to sustainability

Admission Requirements

• A high school diploma or GED
• Ability to lift up to 50 pounds, and the purchase of pastry tool kit and uniform also required for this program

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC), 180 Center Place Way, St. Augustine, FL 32095; 800-624-9458; fax 904-940-0741; www.acfchefs.org/accreditation.

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  |  414-297-6395

Start Dates: August and January

TECHNICAL STUDIES

(1) BAKING-120  Basic Baking ...................................... 3
(1) BAKING-122  Baking Principles and Ingredient Functions ...................................... 3
(1) BAKING-123  Cake Decorating, Icing, Pastry Bags ...................................... 3
(1) BAKING-124  Scratch Baking ...................................... 3
(1) CULMGT-112  Food Service Sanitation ...................................... 2

(2) BAKING-101  Specialty Baking and Pastry Techniques 1 † ^ ...................................... 3
(2) BAKING-125  Artisan Breads ‡ ...................................... 3
(2) BAKING-129  Healthy and Natural Baking ‡ ...................................... 2

(2) BAKING-130  Field Experience in Baking and Pastry Arts ‡ ...................................... 1
(2) CULMGT-105  Culinary Math and Cost Control ...................................... 3
(3) CULART-125  Culinary Skills for Baking/Hospitality ...................................... 5

(3) BAKING-102  Hotel and Restaurant Dessert Production ...................................... 3
(3) BAKING-104  Fondant and Gum Paste ...................................... 2
(3) BAKING-128  Baking and Classical Cakes ...................................... 1
(4) HOTEL-133  Supervision in Hospitality Industry ...................................... 3
(4) BAKING-107  Café Operations ...................................... 5
(4) BAKING-127  Chocolate, Confections and Sugar Work ...................................... 3

GENERAL STUDIES

ECON-195  Economics ...................................... 3
Any 200-series ECON course

ENG-151  Communication Skills 1 † ^ ...................................... 3
ENG-152  Communication Skills 2 † ^ ...................................... 3
ENG-201‡ and any 200-series ENG or SPEECH course

MATH-107  College Mathematics † ^ ...................................... 3
Any 200-series MATH course

NATSCI-172  Basic Nutritional Science ...................................... 3
Any 200-series NATSCI course

PSYCH-199  Psychology of Human Relations ...................................... 3
Any 200-series PSYCH course

SOCSCI-197  Contemporary American Society ...................................... 3
Any 200-series SOCSCI or HIST course

TOTAL CREDITS: 69

‡ Prerequisite required.
^ Counts toward earning the Baking Production technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

( ) Semester order for full-time students.

( ) Any 200-series ECON course

( ) Any 200-series MATH course

( ) Any 200-series NATSCI course

( ) Any 200-series PSYCH course

( ) Any 200-series SOCSCI or HIST course
Banking and Financial Services

**ASSOCIATE DEGREE**  Program Code: 10-114-3  Downtown Milwaukee, West Allis campuses (Also offered online)

**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) FIN-110</td>
<td>Principles of Banking ^</td>
<td>3</td>
</tr>
<tr>
<td>(1) BADM-106</td>
<td>MS Office for Business Applications ^</td>
<td>3</td>
</tr>
<tr>
<td>(1) MKTG-104</td>
<td>Selling Principles ^</td>
<td>3</td>
</tr>
<tr>
<td>(1) ACCTG-111</td>
<td>Accounting 1 ^</td>
<td>4</td>
</tr>
<tr>
<td>(1) FIN-120</td>
<td>Introduction to Money, Banking and Financial Markets ^</td>
<td>3</td>
</tr>
<tr>
<td>(2) BADM-134</td>
<td>Business Organization and Management ^</td>
<td>3</td>
</tr>
<tr>
<td>(2) RBUS-102</td>
<td>Mathematics of Business ^</td>
<td>3</td>
</tr>
<tr>
<td>(3) ACCTG-113</td>
<td>Accounting 2 ‡</td>
<td>4</td>
</tr>
<tr>
<td>(3) BADM-104</td>
<td>Business Statistics ‡</td>
<td>3</td>
</tr>
<tr>
<td>(3) HRMGT-198</td>
<td>Business Ethics</td>
<td>3</td>
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<tr>
<td>(3) FIN-170</td>
<td>Credit Management Procedures ^</td>
<td>3</td>
</tr>
<tr>
<td>(4) FIN-122</td>
<td>Investment Principles ‡</td>
<td>3</td>
</tr>
<tr>
<td>(4) BADM-126</td>
<td>Business Finance ‡</td>
<td>3</td>
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<tr>
<td>(4) BADM-192</td>
<td>Risk Management and Insurance ^</td>
<td>3</td>
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<tr>
<td>(4) FIN-180</td>
<td>Financial Statement Analysis</td>
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**GENERAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
<td>3</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td>NATSCI-167</td>
<td>Science of Technology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS:** 68

( ) Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the Financial Services technical diploma.

Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

Learn accounting and financial principles used in banks, credit unions, insurance and consumer finance companies, and corporate finance departments.

**Career Outlook**

Graduates will have a solid foundation for a range of career opportunities within the industry, including personal banker, credit specialist, insurance sales agent and loan specialist.

**Program Learning Outcomes**

- Create reports
- Analyze financial data
- Analyze investments
- Sell financial products and services

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Start Dates:** August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**

School of BUSINESS
Biomedical Electronics Technology

ASSOCIATE DEGREE  Program Code: 10-605-6  Downtown Milwaukee Campus

Through coursework and lab work focused on electrical safety, medical gas safety and the clinical application of electronics and electromechanical devices, you will prepare for a technical career in the healthcare field.

Program Learning Outcomes

- Manage medical equipment and systems
- Identify the function and operation of various types of imaging equipment
- Problem-solve electronic circuits and systems
- Demonstrate competency with computers and networks used in medical equipment
- Apply principles of anatomy, physiology, and medical terminology
- Demonstrate safety precautions and practices with medical equipment

Admission Requirements

- A high school diploma or GED; and one year of high school-level algebra
- Criminal background check, 10-panel drug test, health exam, immunizations

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TECHNICAL STUDIES  Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ELCTEC-170</td>
<td>Computer Systems ‡</td>
<td>3</td>
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<tr>
<td>ELCTEC-130</td>
<td>Digital Electronics ‡ ^</td>
<td>3</td>
</tr>
<tr>
<td>ELCTEC-110</td>
<td>DC and AC Electronics 1 ‡ ^</td>
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</tr>
<tr>
<td>ELCTEC-111</td>
<td>DC and AC Electronics 2 ‡ ^</td>
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<tr>
<td>ELCTEC-120</td>
<td>Electronic Devices and Circuits ‡ ^</td>
<td>4</td>
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<tr>
<td>ELCTEC-134</td>
<td>Biomedical Instrumentation ‡</td>
<td>4</td>
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<tr>
<td>ELCTEC-137</td>
<td>Biomedical Electronics Technician Internship 1 ‡</td>
<td>2</td>
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<tr>
<td>ELCTEC-140</td>
<td>Microprocessors ‡ ^</td>
<td>3</td>
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<tr>
<td>ELCTEC-150</td>
<td>Data Communications and Networking ‡ ^</td>
<td>3</td>
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<tr>
<td>ELCTEC-133</td>
<td>Medical Imaging Equipment ‡</td>
<td>4</td>
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<tr>
<td>ELCTEC-138</td>
<td>Biomedical Electronics Technician Internship 2 ‡</td>
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<tr>
<td>ELCTEC-176</td>
<td>Computer Networks ‡</td>
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GENERAL STUDIES

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<tr>
<td>MATH-115</td>
<td>College Technical Mathematics 1 ‡ ^</td>
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<tr>
<td>MATH-116</td>
<td>College Technical Mathematics 2 ‡</td>
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<tr>
<td>NATSCI-137</td>
<td>Comprehensive Technical Physics ‡ ^</td>
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<tr>
<td>NATSCI-177</td>
<td>General Anatomy and Physiology ‡</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>SOCSI-197</td>
<td>Contemporary American Society</td>
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<tr>
<td>ELECTIVES</td>
<td>(Three credits needed)</td>
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TOTAL CREDITS: 70

( ) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Electronics Technician Fundamentals technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

Official Wisconsin Technical College System program title: Bio-Medical Electronics.
Learn techniques to gather and analyze information and business requirements, integrating best practices and relevant technologies. As a graduate, you will be prepared to function as a liaison with an organization’s stakeholders, such as IT and subject matter experts, in order to understand its policies, structure and operation.

Career Outlook
Opportunities exist within a variety of industries, including healthcare, manufacturing, insurance and finance.

Program Learning Outcomes
- Perform elicitation, validation, and analysis of requirements to meet a business need
- Build relationships with stakeholders
- Demonstrate leadership throughout business analysis efforts
- Demonstrate professional communication in a business environment

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

TERMS AND CONDITIONS

(1) Semester order for full-time students.
(2) Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Attain a strong foundation in a range of areas including supervision, business law, office technologies, human resources and marketing. Students select one of two groups of courses: Career Emphasis or Four-Year College/University Transfer Emphasis; the Career Emphasis program may be taken in class or entirely online.

**Career Outlook**
Opportunities exist within different types of firms, as well as operating your own business.

**Program Learning Outcomes**
- Plan the operations of a business across functional areas
- Organize resources to achieve the goals of the organization
- Direct individuals and/or processes to meet organizational goals
- Control business processes

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

(1) Semester order for full-time students.  
‡ Prerequisite required.  
^
Counts toward earning the Business Management technical diploma.  
* Students seeking transfer to a four-year college/university should take 200-level courses.  
Program curriculum requirements are subject to change.  
This Associate in Applied Science program will transfer to one or more four-year institutions.
Cardiovascular Technology (Echocardiography or Invasive)

ASSOCIATE DEGREE  Program Code: 10-521-1  Downtown Milwaukee Campus

Students begin with general cardiovascular technology (CVT) coursework and then study either the invasive CVT (Cardiac Cath Lab) or noninvasive CVT (echocardiography) subspecialty. Completing this program fulfills prerequisites to take the Registered Cardiovascular Invasive Specialist exam, or Registered Cardiac Sonographer (CCI) or Registered Diagnostic Cardiac Sonographer (ARDMS) exam.

Program Learning Outcomes

• Explain diagnostic procedures and provide support to patients
• Ability to perform diagnostic imaging including transthoracic echocardiogram, transesophageal echocardiogram and a stress echocardiogram
• Assist the invasive cardiologist in the diagnosis and corrective intervention of cardiac procedures
• Apply sterile technique in preparing and handling of instruments
• Prepare the cath lab by aseptic technique

Admission Requirements

High school diploma or GED, and one year of high school-level biology, chemistry and algebra required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

(*) Semester order for full-time students. S = Summer.
† Prerequisite required.
^ Counts toward earning the EKG Technician certificate.
* Cardiovascular Technology students are not required to take NATSCI-177/179 or 201/202 as prerequisites to NATSCI-197; go to INFOline.matc.edu and submit a waiver indicating you are a CVT student.

Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; 727-210-2350; www.caahep.org.
Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT).
Both invasive and echocardiography portions are accredited.

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Start Date: January

Milwaukee Area Technical College  |  414-297-6263
School of Health Sciences

ECON-195 Economics ........................................ 3
(0) Any 200-series ECON course

ENG-151 Communication Skills 1 † .......................... 3
(0) ENG-201 and any 200-series ENG course or SPEECH course

ENG-152 Communication Skills 2 † .......................... 3

MATH-189 Introductory Statistics ............................. 3
(0) MATH-260 Basic Statistics †

NATSCI-197 Microbiology * ^ .............................. 4

PSYCH-199 Psychology of Human Relations ............ 3
(0) Any 200-series PSYCH course

SOCSCI-197 Contemporary American Society ........... 3
(0) SOCSCI-210 Dying and Dying

ELECTIVES (Two credits needed) .......................... 2

TOTAL CREDITS: 70
Chemical Technician

ASSOCIATE DEGREE Program Code: 10-603-1 Downtown Milwaukee Campus

Chemical technicians assure the quality of the products made in the manufacturing, chemical and allied industries. This program trains you to perform as an analyst or chemist’s assistant in various industries.

Career Outlook
Employment prospects for program graduates are strong, locally and nationally. Most graduates work in labs, in research and development, or in technical assistance.

Program Learning Outcomes
• Apply knowledge of chemical apparatus, equipment and procedures
• Work precisely in solution making
• Communicate and receive precise chemical data and procedures
• Practice laboratory safety procedures
• Use software for instrument operation and data handling

Admission Requirements
• A high school diploma or GED
• One year of high school-level chemistry, and advanced algebra or one semester of MATH-116 College Technical Mathematics 2

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Date: August

For complete information, go to matc.edu/cls
To apply for financial aid, visit fafsa.gov. School Code: 003866

School of LIBERAL ARTS and SCIENCES

**TECHNICAL STUDIES**

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<thead>
<tr>
<th>Credits</th>
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<th>Course Title</th>
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<td>CHEMT-101</td>
<td>Chemical Laboratory/Process Safety ‡</td>
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<td>CHEMT-103</td>
<td>Introduction to Chemical Technology ^</td>
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<td>CHEMT-111</td>
<td>General Chemistry 1 ‡</td>
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<td>CHEMT-105</td>
<td>Introduction to Instrumental Methods ^</td>
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<td>CHEMT-112</td>
<td>General Chemistry 2 ‡</td>
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<td>2</td>
<td>CHEMT-107</td>
<td>Industrial Methods of Analysis ‡</td>
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<td>CHEMT-117</td>
<td>Organic Chemistry 1 ‡</td>
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<td>5</td>
<td>CHEMT-116</td>
<td>Instrumental Analysis ‡</td>
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<td>CHEMT-119</td>
<td>Organic Chemistry Laboratory 1 ‡</td>
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<td>CHEMT-109</td>
<td>Chemical Processes ‡</td>
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<td>5</td>
<td>CHEMT-115</td>
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<td>Organic Chemistry 2 ‡</td>
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**GENERAL STUDIES**

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<thead>
<tr>
<th>Credits</th>
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<tr>
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<td>ECON-195</td>
<td>Economics</td>
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<tr>
<td>3</td>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<tr>
<td>3</td>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>5</td>
<td>MATH-197</td>
<td>College Algebra and Trigonometry with Applications ‡</td>
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<td>4</td>
<td>NATSCI-137</td>
<td>Comprehensive Technical Physics ‡</td>
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<td>PSYCH-199</td>
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<td>SOCSCI-197</td>
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<tr>
<td>6</td>
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TOTAL CREDITS: 70

‡ Prerequisite required.
^ Counts toward earning the Chemical Processing Technician technical diploma.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.
Civil Engineering Technology

ASSOCIATE DEGREE  Program Code: 10-607-1  Downtown Milwaukee Campus

CAREER pathways

CIVIL ENGINEERING
matc.edu/academic_programs/pathways

Technical Diploma
• Surveying and Mapping, p. 179

Associate Degree
• Civil Engineering Technology, p. 55

Career Outlook
Civil engineering technicians and surveying technicians are needed in all phases of project development.

Program Learning Outcomes
• Utilize CAD and sketching techniques to produce engineering documents
• Perform design and routine testing procedures related to construction materials
• Utilize land surveying instruments to collect data necessary to produce topographic maps, establish horizontal and vertical control, and to layout civil engineering projects
• Operate computer software and hardware to solve technical problems
• Apply elements of design to roads, subdivision layout, storm and sanitary sewer systems

Admission Requirements
• A high school diploma or GED
• One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is approved by the Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors, 1400 East Washington Avenue, P.O. Box 8935, Madison, WI 53708; 608-266-2112; www.dps.wi.gov/pages/BoardsCouncils/AE/Default.aspx.

Start Date: August

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

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<tr>
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<tr>
<td>TECHNICAL STUDIES</td>
<td>Credits</td>
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<tr>
<td>(1) CIVIL-101</td>
<td>Civil Engineering Drawing</td>
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<td>(1) CIVIL-102</td>
<td>Introduction to AutoCAD</td>
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<td>(1) CIVIL-105</td>
<td>Computer Applications</td>
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<td>(1) CIVIL-135</td>
<td>Public Works Engineering and Estimating</td>
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<tr>
<td>(1) CIVIL-155</td>
<td>Surveying 1</td>
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<tr>
<td>(2) CIVIL-106</td>
<td>Intermediate AutoCAD</td>
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<tr>
<td>(2) CIVIL-147</td>
<td>Soils and Materials Testing</td>
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<tr>
<td>(2) CIVIL-156</td>
<td>Surveying 2</td>
</tr>
<tr>
<td>(3) CIVIL-110</td>
<td>Introduction to Civil 3D</td>
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<tr>
<td>(3) CIVIL-141</td>
<td>Statics and Strength of Materials</td>
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<tr>
<td>(3) CIVIL-157</td>
<td>Route and Highway Surveying</td>
</tr>
<tr>
<td>(4) CIVIL-142</td>
<td>Structures</td>
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<tr>
<td>(4) CIVIL-148</td>
<td>Structural Detailing</td>
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<tr>
<td>(4) CIVIL-158</td>
<td>Land Surveying</td>
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<tr>
<td>(4) CIVIL-170</td>
<td>Sewer and Water Systems</td>
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</tbody>
</table>

GENERAL STUDIES

ENG-151  Communication Skills 1  | 3
ENG-152  Communication Skills 2  | 3
ENG-201  and any 200-series ENG or SPEECH course
MATH-115  College Technical Mathematics 1  | 5
MATH-116  College Technical Mathematics 2  | 4
MATH-201  College Algebra  
MATH-202  Trigonometry  
NATSCI-137  Comprehensive Technical Physics  | 4
NATSCI-211  Chemistry 1  | 5
NATSCI-215  Quantitative Analysis  | 5
NATSCI-216  Instrumental Analysis  | 5
NATSCI-217  Organic Chemistry  | 5
NATSCI-219  Organic Chemistry 2  | 5
NATSCI-274  Calculus-Based College Algebra and Trigonometry  |
SOCSCI-197  Contemporary American Society  | 3
SOCSCI-199  Psychology of Human Relations  | 3
TECHNICAL STUDIES Credits
(1) CIVIL-105  Computer Applications  | 2
(1) CIVIL-135  Public Works Engineering and Estimating  | 3
(1) CIVIL-155  Surveying 1  | 2
(2) CIVIL-106  Intermediate AutoCAD  | 2
(2) CIVIL-147  Soils and Materials Testing  | 3
(2) CIVIL-156  Surveying 2  | 2
(3) CIVIL-110  Introduction to Civil 3D  | 2
(3) CIVIL-141  Statics and Strength of Materials  | 4
(3) CIVIL-157  Route and Highway Surveying  | 3
(4) CIVIL-142  Structures  | 3
(4) CIVIL-148  Structural Detailing  | 3
(4) CIVIL-158  Land Surveying  | 2
(4) CIVIL-170  Sewer and Water Systems  | 3

TOTAL CREDITS: 69

( ) Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the Surveying and Mapping technical diploma.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.
Learn to install, use, maintain, troubleshoot and repair computer and network hardware and software. The coursework provides a blend of hands-on learning experiences using the most current equipment.

**Career Outlook**

Extensive opportunities are available for computer electronics technicians with current skills.

**Program Learning Outcomes**

- Apply electronic theory to practice
- Operate test equipment
- Build electronic circuits and systems
- Evaluate the operation of electronic circuits or systems
- Communicate technical information

**Admission Requirements**

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Computer Electronics Technology**

**ASSOCIATE DEGREE**  
Program Code: 10-605-3  
Downtown Milwaukee Campus

**CAREER PATHWAYS**

**COMPUTER ELECTRONICS TECHNOLOGY**  
matc.edu/academic_programs/pathways

**Technical Diploma**

- Electronics Technician Fundamentals, p. 139

**Associate Degree**

- Computer Electronics Technology, p. 56

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**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) ELCTEC-170</td>
<td>Computer Systems ‡</td>
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<tr>
<td>(1) ELCTEC-130</td>
<td>Digital Electronics ‡ ▲</td>
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<td>(1) ELCTEC-110</td>
<td>DC and AC Electronics 1 ‡ ▲</td>
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<td>(2) ELCTEC-111</td>
<td>DC and AC Electronics 2 ‡ ▲</td>
<td>3</td>
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<tr>
<td>(2) ELCTEC-120</td>
<td>Electronic Devices and Circuits ‡ ▲</td>
<td>4</td>
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<tr>
<td>(2) ELCTEC-140</td>
<td>Microprocessors ‡ ▲</td>
<td>3</td>
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<tr>
<td>(2) ELCTEC-186</td>
<td>Fabrication Techniques ‡</td>
<td>1</td>
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<tr>
<td>(3) ELCTEC-150</td>
<td>Data Communications and Networking ‡</td>
<td>3</td>
</tr>
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<td>(3) ELCTEC-173</td>
<td>Computing With C ‡</td>
<td>3</td>
</tr>
<tr>
<td>(3) ELCTEC-174</td>
<td>Hardware Systems ‡</td>
<td>3</td>
</tr>
<tr>
<td>(3) ELCTEC-178</td>
<td>Software Systems ‡</td>
<td>3</td>
</tr>
<tr>
<td>(4) ELCTEC-172</td>
<td>Input/Output Programming ‡</td>
<td>3</td>
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<td>(4) ELCTEC-176</td>
<td>Computer Networks ‡</td>
<td>3</td>
</tr>
<tr>
<td>(4) ELCTEC-179</td>
<td>Advanced Computer Systems ‡</td>
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**GENERAL STUDIES**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>(or) ENG-201+</td>
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<td>MATH-115</td>
<td>College Technical Mathematics 1 ‡</td>
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<td>MATH-116</td>
<td>College Technical Mathematics 2 ‡</td>
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<td>NATSCI-137</td>
<td>Comprehensive Technical Physics ‡</td>
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<tr>
<td>(or) NATSCI-221</td>
<td>College Physics 1 ‡</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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<td>(or) Any 200-series HIST or SOCSCI course</td>
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<td>ELECTIVES</td>
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</table>

**TOTAL CREDITS: 70**

( ) Semester order for full-time students.

‡ Prerequisite required.

▲ Counts toward earning the Electronics Technician Fundamentals technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

Official Wisconsin Technical College System program title: Electronics – Computer.

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**Start Dates: August and January**

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**

School of TECHNOLOGY and APPLIED SCIENCES

414-297-6315

---

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Create a career in animation and gaming, plus attain skills transferable to other industries such as computer programming, multimedia development and film production. Students choose Programming, Design or Animation emphasis.

Program Learning Outcomes

- Create an animated asset for a product
- Build assets suitable for export and/or rendering to target platforms
- Apply fundamental artistic concepts to the 3D environment
- Implement project management skills

Admission Requirements

- A high school diploma or GED
- Demonstration of basic computer skills in OS, word processing and the internet
- Completion of CSG-100 Pre-Entry Evaluation

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### TECHNICAL STUDIES (For All Emphases)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>CSG-110</td>
<td>Introduction to Computer Simulation and Gaming</td>
<td>3</td>
</tr>
<tr>
<td>CSG-115</td>
<td>CSG Production</td>
<td>3</td>
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<tr>
<td>CSG-129</td>
<td>CSG Architecture</td>
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<td>CSG-130</td>
<td>CSG Design</td>
<td>3</td>
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<td>CSG-120</td>
<td>Interactive Display Production 1</td>
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<td>CSG-121</td>
<td>Interactive Display Production 2</td>
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<td>CSG-122</td>
<td>Interactive Display Production 3</td>
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<td>CSG-181</td>
<td>CSG Collaborative Lab</td>
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<td>VICOM-140</td>
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<td>CSG-180</td>
<td>Multimedia Collaborative Lab</td>
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### Students choose one emphasis: credits

#### PROGRAMMING EMPHASIS

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<th>Course Title</th>
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<td>CSG-117</td>
<td>Game Logic and Problem-Solving</td>
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<td>CSG-114</td>
<td>Introduction to Game Development Programming</td>
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<td>CSG-128</td>
<td>Intermediate Game Development Programming</td>
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<td>CSG-118</td>
<td>Game Engine Scripting</td>
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<td>CSG-179</td>
<td>CSG API Programming</td>
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<td>CSG-185</td>
<td>Data Structures for Game Developers</td>
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<td>CSG-119</td>
<td>Interactive Simulation Displays</td>
<td>3</td>
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<td>CSG-132</td>
<td>Artificial Intelligence</td>
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#### DESIGN EMPHASIS

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<td>CSG-131</td>
<td>Introduction to Game Design</td>
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<td>CSG-133</td>
<td>Intermediate Game Design</td>
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<td>CSG-118</td>
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<td>CSG-138</td>
<td>Advanced Game Design</td>
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<td>CSG API Programming</td>
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<td>Interactive Simulation Displays</td>
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<td>CSG-132</td>
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#### ANIMATION EMPHASIS

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<td>Principles of Character Development</td>
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<td>ANIM-106</td>
<td>Principles of 3D Animation</td>
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<td>ANIM-120</td>
<td>Environment and Set Design</td>
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<td>ANIM-125</td>
<td>3D Modeling</td>
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<td>ANIM-140</td>
<td>Timeline Key Frames and Kinematics</td>
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<td>ANIM-115</td>
<td>Refining the Character</td>
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<td>ANIM-135</td>
<td>Character Expression and Lip Sync</td>
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<td>ANIM-160</td>
<td>Animation Portfolio</td>
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#### GENERAL STUDIES (For All Emphases)

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ECON-195</td>
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<td>ENG-151</td>
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<td>College Mathematics</td>
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<td>NATSCI-167</td>
<td>Science of Technology</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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</table>

### TOTAL CREDITS: 68

(*) Semester order for full-time students.

# Prerequisite required.

^ Counts toward earning the Unity Developer technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
# Criminal Justice Studies

**ASSOCIATE DEGREE**  
Program Code: 10-504-5  
Downtown Milwaukee, Mequon and Oak Creek campuses

## TECHNICAL STUDIES

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>POLICE-900</td>
<td>Introduction to Criminal Justice</td>
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<td>POLICE-901</td>
<td>Constitutional Law</td>
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<tr>
<td>POLICE-161</td>
<td>Ethics in Law Enforcement</td>
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<tr>
<td>POLICE-902</td>
<td>Criminal Law ‡</td>
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<td>POLICE-907</td>
<td>Community Policing Strategies</td>
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<tr>
<td>POLICE-908</td>
<td>Traffic Theory</td>
<td>3</td>
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<tr>
<td>POLICE-906</td>
<td>Criminal Investigation Theory ‡</td>
<td>3</td>
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<tr>
<td>POLICE-160</td>
<td>Contemporary Legal Issues</td>
<td>3</td>
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<td>POLICE-162</td>
<td>Sensitive Crimes</td>
<td>3</td>
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<tr>
<td>POLICE-903</td>
<td>Professional Communications ‡</td>
<td>3</td>
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<tr>
<td>POLICE-904</td>
<td>Juvenile Law ‡</td>
<td>3</td>
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<tr>
<td>POLICE-905</td>
<td>Report Writing ‡</td>
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## GENERAL STUDIES

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<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<td>ENG-152</td>
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<td>MATH-107</td>
<td>College Mathematics ‡</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies</td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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</table>

## ELECTIVES

(Three credits needed)  

TOTAL CREDITS: 60

( ) Semester order for full-time students.  
‡ Prerequisite required.  
Program curriculum requirements are subject to change.  
This Associate in Applied Science program will transfer to one or more four-year institutions.

This program is being developed as a pathway. Contact an MATC advisor for information.

This program prepares you for employment in law enforcement at the local, state and federal levels, as well as in the field of private security. Successful completion of this program may qualify you to enroll in basic recruit training that leads to certification in Wisconsin.

**Career Outlook**

Currently trained security professionals are in demand.

**Program Learning Outcomes**

- Examine the components of and interrelationships in the criminal justice system  
- Analyze situational responses  
- Apply communication skills as a criminal justice professional  
- Conduct investigations  
- Adhere to the professional code of ethics for a criminal justice practitioner  
- Maintain personal wellness

**Admission Requirements**

- Age 17 or older  
- Official high school or GED/HSED transcript, and an ACT or assessment score above the program minimum

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

---

**Start Dates: August and January**

For complete information, go to matc.edu/atas  
To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College  
School of TECHNOLOGY and APPLIED SCIENCES  
| 414-297-6315 |
This program fuses the art and science of cooking with an introduction to business management. You will learn how to run a food-service operation by participating in the on-campus Cuisine restaurant, International Foods lunch service, and business and industry kitchens.

Career Outlook
Graduates are highly employable as cooks and management trainees.

Program Learning Outcomes
- Apply principles of safety and sanitation in food service operations
- Apply principles of nutrition
- Demonstrate culinary skills

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

( ) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Food Service Assistant technical diploma.

Curriculum requirements for this Associate in Applied Science degree program are subject to change.

This program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC), 180 Center Place Way, St. Augustine, FL 32095; 800-624-9458; fax 904-940-0741; www.acfchefs.org/accreditation.

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866
Dental Hygiene

ASSOCIATE DEGREE  Program Code: 10-508-1  Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Help patients maintain their oral health as a dental hygienist. Working under a dentist’s supervision, dental hygienists perform such duties as teeth cleaning, fluoride treatments, X-ray processing and dental health counseling. You will gain clinical experience in MATC’s dental hygiene clinic and at external sites. Graduates are eligible to complete the National Board of Dental Hygiene examination, and state or regional practical examinations.

Program Learning Outcomes

- Model dental hygiene professional code of ethics
- Counsel clients/patients to reduce health risks
- Provide community oral health services in a variety of settings
- Manage infection and hazard control
- Assess data on all aspects of patient/client health using methods consistent with dental hygienist scope of practice and legal principles

(For full description, see matc.edu.)

Admission Requirements

High school diploma or GED, and one year of high school-level biology and chemistry required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, IL 60611; 312-440-2718; www.ada.org/coda.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  |  414-297-6263

School of HEALTH SCIENCES

<table>
<thead>
<tr>
<th>TECHNICAL STUDIES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) DENHYG-101 Dental Health Safety ‡</td>
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<tr>
<td>(1) DENHYG-102 Oral Anatomy, Embryology and Histology ‡</td>
<td>4</td>
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<tr>
<td>(1) DENHYG-103 Dental Radiography ‡</td>
<td>2</td>
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<tr>
<td>(1) DENHYG-105 Dental Hygiene Process 1 ‡</td>
<td>4</td>
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<tr>
<td>(2) DENHYG-106 Dental Hygiene Process 2 ‡</td>
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<tr>
<td>(2) DENHYG-107 Dental Hygiene Ethics and Professionalism ‡</td>
<td>1</td>
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<tr>
<td>(2) DENHYG-108 Periodontology ‡</td>
<td>3</td>
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<tr>
<td>(2) DENHYG-109 Cariology ‡</td>
<td>1</td>
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<tr>
<td>(2) DENHYG-110 Nutrition and Oral Health ‡</td>
<td>2</td>
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<tr>
<td>(2) DENHYG-111 General and Oral Pathology ‡</td>
<td>3</td>
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<tr>
<td>(3) DENHYG-112 Dental Hygiene Process 3 ‡</td>
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<td>(3) DENHYG-113 Dental Materials ‡</td>
<td>2</td>
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<tr>
<td>(3) DENHYG-114 Dental Pharmacology ‡</td>
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<tr>
<td>(3) DENHYG-115 Community Dental Health ‡</td>
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<tr>
<td>(3) DENHYG-118 Dental Anxiety and Pain Management</td>
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<td>(4) DENHYG-117 Dental Hygiene Process 4 ‡</td>
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<tbody>
<tr>
<td>ECON-195 Economics ‡</td>
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<tr>
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<tr>
<td>ENG-151 Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-201‡ and any 200-series ENG or SPEECH course</td>
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</tr>
<tr>
<td>ENG-152 Communication Skills 2 ‡</td>
<td>3</td>
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<tr>
<td>NATSCI-177 General Anatomy and Physiology ‡</td>
<td>4</td>
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<tr>
<td>(or) NATSCI-201 Anatomy &amp; Physiology 1‡ and NATSCI-202 Anatomy &amp; Physiology 2‡</td>
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<tr>
<td>NATSCI-186 Introductory Biochemistry ‡</td>
<td>4</td>
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<tr>
<td>(or) NATSCI-207 General Chemistry ‡  and NATSCI-208 Survey of Biochemistry ‡</td>
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<tr>
<td>NATSCI-197 Microbiology ‡</td>
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<td>PSYCH-199 Psychology of Human Relations ‡</td>
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<td>(or) Any 200-series PSYCH course</td>
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<td>SOCSCI-197 Contemporary American Society ‡</td>
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<td>(or) Any 200-series HIST or SOCSCI course</td>
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<td>ELECTIVES</td>
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</table>

TOTAL CREDITS: 70

(‡) Prerequisite required.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.
## Associate Degree Program Code: 10-313-1

### West Allis Campus

**Dietetic Technician**

**Associate Degree**

Program Code: 10-313-1

**West Allis Campus**

Learn how the science of managing food and nutrition helps promote good health. Dietetic technicians typically work as a member of the food service or healthcare team. MATC's program includes supervised clinical and field experiences. Graduates are eligible for technician membership in the Academy of Nutrition and Dietetics and will receive the title Dietetic Technician Registered (DTR) after completing the national registration exam.

### Program Learning Outcomes

- Integrate scientific information and translate research into practice
- Practice beliefs, values, attitudes and behaviors for the professional nutrition and dietetics technician level of practice
- Develop information, products and services for individuals, groups and populations
- Deliver information, products and services to individuals, groups and populations
- Apply principles of management and systems in the provision of services to individuals and organizations

### Admission Requirements

High school diploma or GED required. This program admits students through a petition selection process. See the program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Commission on Accreditation for Dietetic Education (CADE) of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995; 800-877-1600 or 312-899-0040; fax 312-899-4817; education@eatright.org.

### Start Dates: August and January

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**

School of HEALTH SCIENCES

414-297-6263

414-297-MATC | Wisconsin Relay System 711

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<table>
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<td>(1) DIETNT-106</td>
<td>Food Service Sanitation ♻.............. 2</td>
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<tr>
<td>(1) DIETNT-107</td>
<td>Food Science.......................... 3</td>
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<td>(1) DIETNT-123</td>
<td>Dietetic Technician Orientation....... 1</td>
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<td>(1) DIETNT-151</td>
<td>Nutrition for Dietetics ♻............... 4</td>
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<td>(1) DIETNT-160</td>
<td>Medical Terminology for the Dietetic Technician......................................................... 1</td>
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<td>(2) DIETNT-108</td>
<td>Food Service Management 1 ‡ ♻........ 3</td>
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<td>(2) DIETNT-118</td>
<td>Food Service Management 1: Coordinated Practice ‡ ♻........................................... 1</td>
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<tr>
<td>(2) DIETNT-124</td>
<td>Medical Nutrition Therapy 1 .......... 3</td>
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<tr>
<td>(2) DIETNT-134</td>
<td>Medical Nutrition Therapy 1: Coordinated Practice ‡............................................. 1</td>
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<td>(2) DIETNT-152</td>
<td>Physiology for Dietetics............... 3</td>
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<td>(2) DIETNT-156</td>
<td>Nutrition in the Life Cycle ‡......... 2</td>
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<td>(2) DIETNT-166</td>
<td>Nutrition in the Life Cycle: Coordinated Practice ‡............................................. 1</td>
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<td>(3) DIETNT-125</td>
<td>Medical Nutrition Therapy 2 .......... 4</td>
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<td>(3) DIETNT-135</td>
<td>Medical Nutrition Therapy 2: Coordinated Practice ‡............................................. 2</td>
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<tr>
<td>(3) DIETNT-155</td>
<td>Community Nutrition..................... 3</td>
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<tr>
<td>(3) DIETNT-157</td>
<td>Food Service Management 2 ‡......... 3</td>
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<td>(3) DIETNT-167</td>
<td>Food Service Management 2: Coordinated Practice ‡............................................. 2</td>
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<td>(4) DIETNT-136</td>
<td>Medical Nutrition Therapy Field Experience......................................................... 3</td>
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<td>(4) DIETNT-146</td>
<td>Food and Nutrition Management Field Experience.................................................... 3</td>
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<tr>
<td>(4) DIETNT-170</td>
<td>Nutritional Counseling Skills ‡........ 2</td>
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### GENERAL STUDIES

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<th>ENG-151</th>
<th>Communication Skills 1 ‡.............. 3</th>
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<td>(or) ENG-152</td>
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<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies...... 3</td>
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<td>(or) SOCSCI-203 Introduction to Sociology</td>
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**TOTAL CREDITS: 62**

(1) Semester order for full-time students.

‡ Prerequisite required.

& Students completing these four courses are eligible to take the Association of Nutrition and Foodservice Professionals Certified Dietary Manager examination.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
**Early Childhood Education**

**ASSOCIATE DEGREE**  Program Code: 10-307-1  Downtown Milwaukee, West Allis campuses

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### TECHNICAL STUDIES

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>(1) CHILDD-148</td>
<td>ECE: Foundations of Early Childhood Education</td>
<td>3</td>
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<tr>
<td>(1) CHILDD-151</td>
<td>ECE: Infant and Toddler Development</td>
<td>3</td>
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<tr>
<td>(1) CHILDD-167</td>
<td>ECE: Health, Safety and Nutrition</td>
<td>3</td>
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<tr>
<td>(1) CHILDD-174</td>
<td>ECE: Introductory Practicum</td>
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<tr>
<td>(2) CHILDD-108</td>
<td>ECE: Early Language and Literacy</td>
<td>3</td>
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<tr>
<td>(2) CHILDD-177</td>
<td>ECE: Intermediate Practicum</td>
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<tr>
<td>(2) CHILDD-179</td>
<td>ECE: Child Development</td>
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<td>(2) CHILDD-195</td>
<td>ECE: Family and Community Relationships</td>
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<td>(3) CHILDD-110</td>
<td>ECE: Social Studies, Art and Music</td>
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<td>(3) CHILDD-175</td>
<td>ECE: Preschool Practicum</td>
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<td>(3) CHILDD-188</td>
<td>ECE: Guiding Child Behavior</td>
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<td>(4) CHILDD-112</td>
<td>ECE: STEM</td>
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<td>(4) CHILDD-187</td>
<td>ECE: Children With Differing Abilities</td>
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<td>ECE: Advanced Practicum</td>
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### GENERAL STUDIES

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
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<tr>
<td>NATSCI-112</td>
<td>Principles of Sustainability</td>
<td>3</td>
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<td>PSYCH-188</td>
<td>Developmental Psychology</td>
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<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies</td>
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</tr>
<tr>
<td>ELECTIVES</td>
<td>(Three credits needed)</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 60**

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Pursue a career in child care or at exceptional education settings for young children and have a positive impact on a child’s life. Program requirements include the completion of four practicum experiences. All courses are offered in English; a bilingual mode is offered at the West Allis Campus.

### Career Outlook

Opportunities exist in child care centers, family child care, or working with exceptional-needs children.

### Program Learning Outcomes

- Apply child development theory to practice
- Cultivate relationships with children, family, and the community
- Assess child growth and development
- Use best practices in teaching and learning
- Demonstrate professionalism
- Integrate health, safety, and nutrition practices

### Admission Requirements

- A high school diploma or GED
- Documentation of compliance with Wisconsin’s Caregiver Law; proper immunizations and good health as evidenced by a medical examination; practicum placement is contingent upon results of criminal background check

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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This program is accredited by the National Association for the Education of Young Children (NAEYC), 1313 L Street N.W., Suite 500, Washington, DC 20005; 800-424-2460; www.naeyc.org.

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**Start Dates: August and January**

For complete information, go to matc.edu/las

To apply for financial aid, visit fafsa.gov. School Code: 003866

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**MILWAUKEE AREA Technical College | 414-297-6584**

School of LIBERAL ARTS and SCIENCES
Electronic Engineering Technology

ASSOCIATE DEGREE  Program Code: 10-605-7  West Allis Campus

ELECTRONIC ENGINEERING TECHNOLOGY
matc.edu/academic_programs/pathways

Technical Diploma
• Electronics Technician Fundamentals, p. 139

Associate Degree
• Electronic Engineering Technology, p. 63

Gain the expertise for professional testing/repair positions in the field of electronics. Graduates have the option to continue their education at Milwaukee School of Engineering (MSOE) to pursue a Bachelor of Science degree in electrical engineering through the BSEE Transfer Track.

Career Outlook
These technicians assist engineers and producers of electronic equipment and systems, and are part of a fast-growing career area.

Program Learning Outcomes
• Apply electronic theory to practice
• Operate test equipment
• Build electronic circuits and systems
• Evaluate the operation of electronic circuits or systems
• Communicate technical information

Admission Requirements
• A high school diploma or GED
• One year of high school-level geometry and one year of high school-level algebra, or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

( ) Semester order for full-time students. ‡ Prerequisite required.
^ Counts toward earning the Electronics Technician Fundamentals technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

TECHNICAL STUDIES

For Job-Ready or MSOE-BSEE Transfer Track
The Transfer Track option is available directly to those entering the program calculus-ready.

(1) ELCTEC-130  Digital Electronics ^ ........................................... 3
(1) ELCTEC-110  DC and AC Electronics 1 ‡ ......................... 4
(2) ELCTEC-111  DC and AC Electronics 2 ‡ ......................... 3
(2) ELCTEC-120  Electronic Devices and Circuits ^ ............ 4
(2) ELCTEC-140  Microprocessors ^ ........................................... 3
(3) ELCTEC-121  Advanced Electronic Devices and Circuits ‡ ........................................... 3
(3) ELCTEC-150  Data Communications and Networking ‡ ..... 3
(3) ELCTEC-196  Programmable Controllers ‡ .................... 3
(4) ELCTEC-141  Microcontrollers ‡ ........................................... 3
(4) ELCTEC-195  Motors and Controls ‡ ........................................... 4

Select Job-Ready or MSOE-BSEE Transfer Track:

JOB-READY EMPHASIS

(1) MATH-115  College Technical Math 1 ^ ........................................... 5
(or) MATH-230 College Algebra and Trigonometry ‡
(2) ELCTEC-131  Advanced Digital Electronics ^ .................. 3
(2) MATH-116  College Technical Math 2 ‡ ................................. 4
(4) ELCTEC-198  Advanced Programmable Controllers ‡ 3
(4) ELCTEC-176  Computer Networks ‡ ........................................... 3

MSOE-BSEE TRANSFER TRACK*

(1) MATH-231  Analytic Geometry and Calculus 1 ‡ ........ 5
(or) MATH-232  Analytic Geometry and Calculus 2 ‡ ........ 5
(4) ELCTEC-112  DC and AC Electronics 3 ‡ ......................... 3
(4) ELCTEC-124  Electronic Circuit Analysis ‡ .......................... 3

GENERAL STUDIES

ECON-195  Economics (MSOE track) (or) ECON-201 (MSOE track)
(or) ECON-202 (MSOE track)* 3
ENGL-151  Communication Skills 1 ‡ ................................. 3
(ESL) ENGL-152  Communication Skills 2 ‡ ................................. 3
(Job-ready emphasis)
(or) ENGL-201 and any 200-series ENG or SPEECH course (Job-ready emphasis)
(or) ENGL-204 and ENGL-208 (MSOE track)
NATSCI-137  Comprehensive Technical Physics ‡ ............ 4
(or) NATSCI-221 College Physics 1 ‡
PSYCH-199  Psychology of Human Relations .................. 3
(or) Any 200-series PSYCH course
SOCSCI-197  Contemporary American Society .................. 3
(or) Any 200-series HIST or SOCSCI course
ELECTIVES (Job-ready: Three credits needed) .......................... 3
(MSOE track: Five credits needed)* ............................. 5

TOTAL CREDITS: 70

*73 credits needed for MSOE Transfer Track program

Start Dates: August and January

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

School of TECHNOLOGY and APPLIED SCIENCES
This program features industry-relevant hands-on labs and is designed to prepare students for a variety of occupations in the field of electronics.

Career Outlook
Electronic technology is a rapidly changing field, which creates great opportunities. Skills acquired from this program provide a strong foundation to keep pace with the technology.

Program Learning Outcomes
• Apply electronic theory to practice
• Operate test equipment
• Build electronic circuits and systems
• Evaluate the operation of electronic circuits or systems
• Communicate technical information

Admission Requirements
• A high school diploma or GED
• One year of high school-level geometry and one year of high school-level algebra, or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TOTAL CREDITS: 70

() Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Electronics Technician Fundamentals technical diploma.

Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Official Wisconsin Technical College System program title: Electronics.
This program promotes environmental protection, improvement and sustainability, with a focus on protecting our water, food and air resources. Hands-on coursework includes techniques used to determine water, food, and air quality along with implementing needed corrective actions. Graduates will have a solid foundation for a range of career opportunities that include the application of regulations and procedures to identify, evaluate, and control hazards.

Program Learning Outcomes

• Evaluate environmental health hazards (air, food, water, soil, etc.)
• Conduct both field and lab environmental sampling/monitoring according to regulatory requirements and guidelines
• Perform corrective actions to remediate environmental health hazards
• Communicate measures for the prevention of environmental health hazards
• Develop environmental technical records and reports
• Perform safe work practices

Admission Requirements

• A high school diploma or GED
• One semester of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TOTAL CREDITS: 69

( ) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Water Technician certificate.
Contact program instructor if you would like more information about this program.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fasa.gov. School Code: 003866
TECHNICAL STUDIES

(1) WEBDEV-102 Introduction to Digital Media ................. 3
(1) TV-101 TV/Video Studio Production Techniques .......... 4
(1) TV-181 Video in Society ‡ ................................ 1
(1) EPROD-150 Introduction to eProduction ‡ ........... 3
(2) TV-107 Scriptwriting for Visual Media ‡ .............. 3
(2) TV-105 TV/Video Field Production Techniques ‡ ...... 4
(2) TV-112 Storytelling Via Post-Production ‡ .......... 3
(2) EPROD-151 Data Content Management and Implementation ‡ ...... 3
(3) EPROD-152 eProduction Techniques and Implementation .......... 3
(3) EPROD-153 eProduction Practicum 1 ‡ ................. 3
(3) TV-142 Non-Linear Video Editing and Authoring ‡ ......... 3
(3) TV-144 Graphic Design for Video Integration ‡ .......... 3
(3) MKTG-118 Social Media Marketing ....................... 3
(3) MKTG-118 CAS-127 Creative Industry Business Practice ‡ ......... 3
(4) WEBDEV-119 Website Design Overview .................... 3
(4) EPROD-154 eProduction Integration ....................... 3
(4) EPROD-155 eProduction Advanced Techniques .......... 3

GENERAL STUDIES

ECON-195 Economics ............................................. 3
(5) Any 200-series ECON course
ENG-151 Communication Skills 1 ‡ ‡ ................................ 3
(5) ENG-152 Communication Skills 2 ‡ ‡ ......................... 3
(5) ENG-201 and any 200-series ENG or SPEECH course
MATH-107 College Mathematics ‡ ................................. 3
(5) Any 200-series MATH course
NATSCI-167 Science of Technology ................................... 3
(5) Any 200-series NATSCI course
PSYCH-199 Psychology of Human Relations ............... 3
(5) Any 200-series PSYCH course
SOCSCI-197 Contemporary American Society .................. 3
(5) Any 200-series HIST or SOCSCI course

TOTAL CREDITS: 69

(5) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the TV/Video Field Production Assistant technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Build a dynamic career in event management, meeting planning, special event marketing, corporate and convention sales, or hotel marketing.

Career Outlook
Festivals and events are among the fastest-growing segments of the hospitality/tourism industry; in addition, many associations and corporations hire people to plan and conduct meetings.

Program Learning Outcomes
• Apply project management strategies to a meeting or event
• Manage financial resources
• Design a meeting or event
• Promote a meeting or event
• Manage risk-management plan

Admission Requirements
• A high school diploma or GED
• Typing proficiency of 30 words per minute or concurrent enrollment in OFTECH-103 Keyboard and Keypad

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January
For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

milwaukee area technical college | 414-297-6395

matc.edu | 414-297-MATC | Wisconsin Relay System 711
ASSOCIATE DEGREE  Program Code: 10-104-4  Oak Creek Campus

Fashion/Retail Marketing

Prepares for a career marketing specialty shops, stores and boutiques. This program’s fashion marketing courses emphasize the creative aspects of selling apparel, and the retail management courses present the managerial and financial aspects of retailing.

Career Outlook
Trained fashion/retail applicants are continually recruited for supervisory and merchandising positions for many different types of retailers.

Program Learning Outcomes
• Develop a marketing mix strategy to use in the fashion industry
• Analyze business data/information to support decision making
• Execute a visual merchandising plan
• Plan retail/fashion business activities to enhance the customer experience
• Select textiles for appropriate end use in the fashion industry

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  School of BUSINESS

TECHNICAL STUDIES  Credits
(1) COMPSW-106 Introduction to MS Office^.........................3
(1) MKTG-102 Marketing Principles^.................................3
(1) MKTG-104 Selling Principles^...............................3
(1) MKTG-124 Fashion Merchandising and Marketing^.................3
(2) MGTDEV-191 Supervision*.......................................3
(2) MKTG-106 Retail and Consumer Marketing‡^*........3
(2) MKTG-107 Customer Experience^...............................3
(2) MKTG-125 Advertising: Brands and Campaigns........................3
(3) MKTG-119 Visual Merchandising^.................................3
(3) MKTG-175 Marketing Internship‡.................................1
(4) ACCTG-110 Financial Accounting.................................3
(4) BADM-110 Business Communications With Technology..................3

Students choose one emphasis:

RETAIL MANAGEMENT EMPHASIS
(3) BADM-145 Small Business Management‡........................3
(3) MKTG-118 Social Media Marketing.................................3

FASHION MARKETING EMPHASIS
(3) MKTG-140 Fashion Analysis^.................................3
(3) MKTG-145 Special Event Management.................................3

GENERAL STUDIES
ECON-195 Economics........................................3
(3) Any 200-series ECON course

ENG-151 Communication Skills 1‡ ................................3
(3) Communication Skills 2‡........................................3
(3) ENG-201‡ and any 200-series ENG or SPEECH course

MATH-123 Math With Business Applications‡........................3
(3) Any 200-series MATH course

PSYCH-199 Psychology of Human Relations........................3
(3) Any 200-series PSYCH course

ELECTIVES
(Six credits needed)..................................................6

TOTAL CREDITS: 61

( ) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Fashion Marketing Specialist technical diploma.
* Counts toward earning the Retail Marketing Specialist technical diploma.

Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
This program prepares you for employment in the fire service and for fire-related duties within private industry. The program also instructs current firefighters and officers on changes within the fire service. Students will have the opportunity to obtain three Wisconsin fire certifications.

Program Learning Outcomes

- Demonstrate professional conduct by displaying personal code of ethics, positive work ethics, flexibility, teamwork skills, physical fitness, safe procedures, and sensitivity to diverse cultures and individuals
- Perform fire prevention activities including preplanning, public education, inspection, and investigation
- Apply incident management skills to emergency incidents
- Meet professional fire and EMS credentialing standards
- Communicate clearly and effectively both verbally and through written documentation with clients, coworkers, other agencies, and supervisors

(For full description, see matc.edu.)

Admission Requirements

- Age 17 or older
- Background check
- Medical exam/immunizations
- Students entering the program must have an official high school or GED/HSED transcript, and an ACT or assessment score above the program minimum

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/atas
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES

414-297-6315
This program prepares you for a career as a licensed funeral director and embalmer in a profession that demands compassion, dedication and creativity. Our rigorous curriculum trains students to become among the best funeral directors in the expanding death-care profession. Once accepted into the program, they are immersed in all facets of the funeral profession. Coursework will include embalming, arranger training, grief studies, business management, religious funeral practices, law and more. Throughout the two-semester program, students are provided a variety of unique learning opportunities through lectures, hands-on labs, field trips, seminars, guest speakers and internships. Facilities include classrooms, state-of-the-art embalming and restorative art lab, arrangement conference room, merchandise selection room and funeral chapel. Students who complete the program will earn an associate degree and be eligible to take the National Board Exam for funeral directors (required for licensure).

Program Learning Outcomes
- Prepare the deceased human body for identification, viewing, including case analysis, embalming, cosmetizing and restorations
- Comply with OSHA Bloodborne Pathogen Standards
- Document and coordinate people and funeral related activities
- Anticipate and meet the needs of mourners in a tactful, discreet and compassionate manner

(For full description, see matc.edu.)

Admission Requirements
This program admits students through a petition selection process; see this program’s webpage at matc.edu to view petition process and all requirements.

A minimum of 57 college credits in areas specified by the State Board of Examiners are required for admission into the Funeral Service program. See an MATC program advisor for information.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Date: August

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Mortuary Science Aims
The MATC Funeral Service associate degree program has as its central aim recognition of the importance of funeral service personnel as:
- Members of a human services profession;
- Members of the community in which they serve;
- Participants in the relationship between bereaved families and those engaged in the funeral service profession;
- Professionals knowledgeable of and compliant with federal, state and local regulatory guidelines, as well as;
- Professionals sensitive to the responsibility for public health, safety and welfare in caring for human remains.

Mortuary Science Program Objectives
The Mortuary Science Program Objectives are:
- To enlarge the background and knowledge of students about the funeral service profession;
- To educate students in every phase of funeral service, and to help them to develop proficiency and skills necessary for the profession, as defined in the Preamble of the American Board of Funeral Service Education (ABFSE) Standards for Accreditation;
- To educate students concerning the responsibilities of the funeral service profession to the community at large;
- To emphasize high standards of ethical and moral conduct;
- To provide a curriculum at the postsecondary level of instruction;
- To encourage student and faculty research in the field of funeral service;
- To qualify students for professional licensure examination.

To view the program’s curriculum, visit matc.edu/health_sciences/degrees/funeral-services.cfm

The Funeral Service degree program at Milwaukee Area Technical College – West Allis Campus is accredited by the American Board of Funeral Service Education (ABFSE), 992 Mantua Pike, Suite 108, Woodbury Heights, NJ 08097; 816-233-3747; www.abfse.org.

The American Board of Funeral Service Education (ABFSE)–Committee on Accreditation (COA) has reaccredited this program for a period of seven years (through October 2021).

This Funeral Service degree program is recognized by the Wisconsin Funeral Directors Examining Board.

National Board Examination pass rates, graduation rates, and employment rates for this and other ABFSE-accredited programs are available at www.abfse.org.

The annual passage rate of first-time takers on the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE accredited funeral service education programs is posted on the ABFSE website, www.abfse.org.

To request a printed copy of this program’s rates, email jasperj@matc.edu.
**Graphic Design**

**ASSOCIATE DEGREE**  
Program Code: 10-201-1  
Downtown Milwaukee Campus

You will be introduced to the range of opportunities in this field: design of print-generated and computer-generated graphics for books, newspapers, magazines, web applications and marketing materials; and additional design applications for point-of-purchase, packaging and outdoor advertising.

**Career Outlook**
Today’s digital world reduces the geographic limits for finding clients. Employers include advertising agencies, corporations and nonprofit groups.

**Program Learning Outcomes**
- Apply the principles of design to develop strategic marketing and communication products and services
- Demonstrate proficiency in the use of design software, tools and technology
- Implement creative solutions from concept through completion using a formal process
- Apply effective legal and ethical business practices and project management skills
- Communicate artwork rationale in formal and informal settings

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Technical Studies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRDS-103</td>
<td>Design Elements and Principles ^ 3</td>
</tr>
<tr>
<td>GRDS-107</td>
<td>Digital Imaging: Adobe Photoshop ^ 3</td>
</tr>
<tr>
<td>GRDS-115</td>
<td>Typographic Fundamentals ^ 3</td>
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<tr>
<td>GRDS-122</td>
<td>Vector Graphics: Adobe Illustrator ^ 3</td>
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<tr>
<td>GRDS-104</td>
<td>Research and Concepting ‡ ^ 3</td>
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<tr>
<td>GRDS-128</td>
<td>Portfolio Pathway ^ 1</td>
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<tr>
<td>GRDS-110</td>
<td>Layout and Publishing: InDesign ‡ ^ 3</td>
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<tr>
<td>GRDS-111</td>
<td>Advertising Design ‡ ^ 3</td>
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<td>GRDS-117</td>
<td>Packaging Design ‡ ^ 3</td>
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<td>CAS-126</td>
<td>History of Advertising Media/Design ‡ ^ 3</td>
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<tr>
<td>GRDS-116</td>
<td>Interactive Media Design ‡ ^ 3</td>
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<tr>
<td>CAS-142</td>
<td>Brand and Media Strategies ^ 3</td>
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<tr>
<td>GRDS-121</td>
<td>Exhibition Design ^ 3</td>
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<td>GRDS-112</td>
<td>Graphic Design Workshop ^ 3</td>
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<td>GRDS-113</td>
<td>Digital Media Preparation ^ 3</td>
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<tr>
<td>CAS-127</td>
<td>Creative Industry Business Practices ^ 3</td>
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<td>GRDS-153</td>
<td>Portfolio Assessment ^ 3</td>
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**General Studies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics ^ 3</td>
</tr>
<tr>
<td>(or) Any 200-series ECON course</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡ ^ 3</td>
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<tr>
<td>(or) Any 200-series Eng or SPEECH course</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡ ^ 3</td>
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<tr>
<td>MATH-123</td>
<td>Math With Business Applications ‡ ^ 3</td>
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<tr>
<td>(or) Any 200-series MATH course</td>
<td></td>
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<tr>
<td>NATSCI-167</td>
<td>Science of Technology ^ 3</td>
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<tr>
<td>(or) Any 200-series NATSCI course</td>
<td></td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations ^ 3</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society ^ 3</td>
</tr>
<tr>
<td>(or) Any 200-series SOCSCI or HIST course</td>
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</tr>
</tbody>
</table>

**TOTAL CREDITS: 70**

(!) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Production Artist technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

**Start Dates:** August and January

For complete information, go to matc.edu/academic_programs/pathways

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**  
School of MEDIA and CREATIVE ARTS

matc.edu | 414-297-MATC | Wisconsin Relay System 711 | Page 71
Using the latest technology, health information technicians collect, analyze and report healthcare data. This requires knowledge of diseases, treatments, regulatory issues, computer systems and organizational skills. Many classes are taught at MATC’s Health Education Center (HEC), 1311 North Sixth Street, Milwaukee.

**Career Outlook**
The U.S. Bureau of Labor and Statistics cites health information technology as a growing occupational area.

**Program Learning Outcomes**
- Apply data governance principles to ensure the quality of health data
- Apply coding and reimbursement systems
- Model professional behaviors and ethics
- Apply informatics and analytics in data use
- Apply organizational management techniques

**Admission Requirements**
High school diploma or GED, and one year of high school-level chemistry required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.**

**Start Dates: August and January**

*For complete information, go to matc.edu/health_sciences*

To apply for financial aid, visit fafsa.gov. School Code: 003866

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**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>HEALTH-101</td>
<td>Medical Terminology</td>
</tr>
<tr>
<td>HIT-182</td>
<td>Human Disease for Health Professions</td>
</tr>
<tr>
<td>HIT-197</td>
<td>ICD Diagnosis Coding</td>
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<tr>
<td>HIT-199</td>
<td>ICD Procedure Coding</td>
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<tr>
<td>HEALTH-107</td>
<td>Digital Literacy for Healthcare</td>
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<tr>
<td>HEALTH-104</td>
<td>Culture of Healthcare</td>
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<td>HIT-162</td>
<td>Fundamentals of Health Information Management</td>
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<td>HIT-165</td>
<td>Intermediate Coding</td>
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<td>HIT-184</td>
<td>CPT Coding</td>
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<tr>
<td>HIT-185</td>
<td>Healthcare Reimbursement</td>
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<tr>
<td>HIT-163</td>
<td>Healthcare Stats and Analytics</td>
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<tr>
<td>HIT-164</td>
<td>Intro to Health Informatics</td>
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<tr>
<td>HIT-178</td>
<td>Healthcare Law and Ethics</td>
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<tr>
<td>HIT-196</td>
<td>Professional Practice</td>
</tr>
<tr>
<td>HIT-161</td>
<td>Health Quality Management</td>
</tr>
<tr>
<td>HIT-167</td>
<td>Management of HIM Resources</td>
</tr>
<tr>
<td>HIT-166</td>
<td>HIT Capstone</td>
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</tbody>
</table>

**GENERAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills</td>
</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills</td>
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<tr>
<td>NATSCI-177</td>
<td>General Anatomy and Physiology</td>
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<td>PSYCH-188</td>
<td>Developmental Psychology</td>
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<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies</td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 66**

*Semester order for full-time students.*

*Prerequisite required.*

*Counts toward earning the Medical Coding Specialist technical diploma.*

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866
## Healthcare Services Management

**ASSOCIATE DEGREE**  
Program Code: 10-530-3  
Downtown Milwaukee Campus

### TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>HEALTH-101</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HEALTH-104</td>
<td>Culture of Healthcare</td>
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<td>HEALTH-107</td>
<td>Digital Literacy for Healthcare</td>
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<tr>
<td>RBUS-102</td>
<td>Mathematics of Business</td>
<td>3</td>
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<td>BADM-155</td>
<td>Management Principles</td>
<td>3</td>
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<td>BADM-165</td>
<td>Legal Environment of Business</td>
<td>3</td>
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<td>HRMGT-193</td>
<td>Human Resources Management</td>
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<td>HSM-144</td>
<td>Introduction to the Business of Healthcare</td>
<td>3</td>
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<td>HSM-145</td>
<td>Healthcare Law, Ethics and Professional Standards</td>
<td>3</td>
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<tr>
<td>ACCTG-110</td>
<td>Financial Accounting</td>
<td>3</td>
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<td>BADM-104</td>
<td>Business Statistics</td>
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<td>HSM-143</td>
<td>Healthcare Quality Management</td>
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<td>HSM-146</td>
<td>Leadership in Healthcare Organizations</td>
<td>3</td>
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<td>BADM-126</td>
<td>Business Finance</td>
<td>3</td>
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<tr>
<td>HSM-140</td>
<td>Health Unit Coordinator Procedures 1</td>
<td>3</td>
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<tr>
<td>HSM-141</td>
<td>Health Unit Coordinator Procedures 2</td>
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<td>HSM-142</td>
<td>Health Unit Coordinator Clinical</td>
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<tr>
<td>CLABT-110</td>
<td>Basic Lab Skills</td>
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<tr>
<td>CLABT-111</td>
<td>Phlebotomy</td>
<td>2</td>
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<tr>
<td>MLABT-161</td>
<td>Computer Applications for the Medical Lab</td>
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<tr>
<td>MLABT-166</td>
<td>Phlebotomy Clinical Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

### GENERAL STUDIES

#### For Both Career Paths

- **ECON-195** Economics (or) Any 200-series ECON  
- **ENG-151** Communication Skills 1  
- **ENG-152** Communication Skills 2  
- **ENG-201** and any 200-series ENG or SPEECH course  
- **MATH-107** College Mathematics  
- **NATSCI-189** Basic Anatomy  
- **PSYCH-199** Psychology of Human Relations  
- **SOCSCI-197** Contemporary American Society  

### Admission Requirements

High school diploma or GED, and one year of high school-level biology and chemistry required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

( ) Semester order for full-time students.
^ Counts toward earning the Health Unit Coordinator technical diploma.
* Counts toward earning the Phlebotomy technical diploma.
‡ Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

### Start Dates: August and January

For complete information, go to [matc.edu/health_sciences](http://matc.edu/health_sciences)

To apply for financial aid, visit [fafs.gov](http://fafs.gov). School Code: 003866

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**Associate Degrees**

**School of HEALTH SCIENCES**

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Hotel/Hospitality Management

ASSOCIATE DEGREE  Program Code: 10-109-1  Downtown Milwaukee Campus

To enter the hotel/motel industry at mid-management or supervisory levels, you will attain the required skills and experience employers seek. Although this is a day program, selected courses are scheduled for evenings and weekends on a rotating basis.

Career Outlook
You will be prepared for employment in one of the fastest growing segments of the nation’s economy.

Program Learning Outcomes
- Plan the operations within a hospitality organization
- Organize hospitality resources to achieve the goals of the organization
- Direct individuals and/or processes to meet organizational goals
- Control hospitality processes/procedures

Admission Requirements
- A high school diploma or GED
- Students are to be actively involved in the hospitality industry on a part-time basis while attending MATC

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Hotel/Hospitality Management

Technical Diploma
- Foundations of Lodging and Hospitality Management, p. 147

Associate Degree
- Hotel/Hospitality Management, p. 74

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CULMGT-112</td>
<td>Food Service Sanitation</td>
<td>2</td>
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<tr>
<td>CULMGT-140</td>
<td>Food and Beverage Operations</td>
<td>3</td>
</tr>
<tr>
<td>MEET-151</td>
<td>Introduction to Hospitality/Tourism</td>
<td>3</td>
</tr>
<tr>
<td>HOTEL-105</td>
<td>Hospitality Marketing and Sales Revenue Strategy</td>
<td>3</td>
</tr>
<tr>
<td>HOTEL-110</td>
<td>Front Office Procedures and Management</td>
<td>3</td>
</tr>
<tr>
<td>HOTEL-122</td>
<td>Basic Hospitality Accounting</td>
<td>3</td>
</tr>
<tr>
<td>HOTEL-127</td>
<td>Catering, Weddings, Convention Sales and Contracts</td>
<td>3</td>
</tr>
<tr>
<td>HOTEL-120</td>
<td>Building Operations and Security</td>
<td>3</td>
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<td>CULMGT-117</td>
<td>Hospitality Law and Liability</td>
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<td>HOTEL-112</td>
<td>Front Office Computerized Procedures</td>
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<tr>
<td>HOTEL-150</td>
<td>Housekeeping Operations</td>
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<td>HOTEL-124</td>
<td>Managerial Accounting for the Hospitality Industry</td>
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<td>HOTEL-130</td>
<td>Internship in Hotel/Meeting Management</td>
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<td>CULMGT-102</td>
<td>Food and Beverage Procurement</td>
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<td>HOTEL-133</td>
<td>Supervision in the Hospitality Industry</td>
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<td>HOTEL-125</td>
<td>Culinary Skills for Baking/Hospitality</td>
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<td>HOTEL-111</td>
<td>Supervision in the Hospitality Industry</td>
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<td>Managerial Accounting for the Hospitality Industry</td>
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<td>ENG-151</td>
<td>Communication Skills 1</td>
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<td>ENG-152</td>
<td>Communication Skills 2</td>
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<td>MATH-123</td>
<td>Math With Business Applications</td>
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<tr>
<td>NATSCI-172</td>
<td>Basic Nutritional Science</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<tr>
<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies</td>
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<tr>
<td>ELECTIVES</td>
<td>(Three credits needed)</td>
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</table>

TOTAL CREDITS: 69

( ) Semester order for full-time students.
^ Prerequisite required.
Counts toward earning the Foundations of Lodging and Hospitality Management technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Gain entry-level skills in a variety of areas related to the human resources profession, including recruitment, selection, training and development, employee and labor relations, compensation and benefits.

Career Outlook
New legislation and court rulings are expected to increase demand for human resources personnel and labor relations experts.

Program Learning Outcomes
- Create an organizational workforce plan
- Develop training programs
- Examine organizational total rewards programs
- Incorporate employment law into business practices
- Facilitate effective employee relations

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866
### Human Service Associate

**Associate Degree**  Program Code: 10-520-3  Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Real-world experience will be part of your studies as you prepare for employment as a social service worker. Students can pursue special-interest areas such as working with youths, the elderly or people with addictions.

**Career Outlook**

Human service associates find careers with a range of agencies and programs that help people. Graduates work in community outreach programs, social agencies, counseling centers, educational institutions or correctional facilities.

**Program Learning Outcomes**

- Model a commitment to cultural competence
- Uphold the Ethical Standards and Values for Human Service Professionals
- Demonstrate professionalism
- Utilize community resources
- Apply human services interventions and best practices
- Cultivate professional relationships

**Admission Requirements**

- A high school diploma or GED
- Documentation of compliance with Wisconsin’s Caregiver Law

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**TECHNICAL STUDIES**

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<td>HUMSV-144</td>
<td>Ethics in the Human Service Professions ‡</td>
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<td>AODA-109</td>
<td>Drug Use and Abuse</td>
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<td>HUMSV-102</td>
<td>Interviewing Skills ‡</td>
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<td>HUMSV-103</td>
<td>Group Work Skills ‡</td>
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<td>HUMSV-113</td>
<td>Documentation and Record Keeping ‡</td>
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<td>HUMSV-118</td>
<td>Introduction to Gerontology</td>
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<td>HUMSV-142</td>
<td>Multicultural Competence in the Human Service Profession</td>
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<td>HUMSV-104</td>
<td>Field Preparation ‡</td>
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<td>HUMSV-115</td>
<td>Methods of Social Casework ‡</td>
<td>3</td>
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<td>HUMSV-127</td>
<td>Disabilities and the Helping Profession</td>
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<td>HUMSV-106</td>
<td>Advanced Field Experience ‡</td>
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<td>HUMSV-107</td>
<td>Field Experience Seminar ‡</td>
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<td>HUMSV-121</td>
<td>Family Issues and Interventions ‡</td>
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**GENERAL STUDIES**

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<td>Communication Skills 2 ‡</td>
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<tr>
<td>NATSCI-172</td>
<td>Basic Nutritional Science</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>SOCSCE-197</td>
<td>Contemporary American Society</td>
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<td>#1 MATH-107</td>
<td>College Mathematics ‡</td>
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<td>#2 ECON-195</td>
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<td>#3 PSYCH-188</td>
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</table>

**TOTAL CREDITS: 64**

(*) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.

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**Start Dates: August and January**

**For complete information, go to matc.edu/las**

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**  School of LIBERAL ARTS and SCIENCES  414-297-6584
Individualized Technical Studies

ASSOCIATE DEGREE Program Code: 10-825-1 All campuses

This associate degree program is designed to meet specific educational needs of students, business and industry not currently served by other degree programs. It is a customized program for students who need to combine skills and knowledge from different disciplines to be productive in tomorrow's workforce.

A Specialized Degree

The curriculum for an Individualized Technical Studies degree will be drawn from existing offerings at MATC. This degree may be earned through the Schools of Business, Health Sciences, Liberal Arts and Sciences, Media and Creative Arts, or Technology and Applied Sciences.

Admission Requirements

- A high school diploma or GED
- Interview with the program coordinator to evaluate career goals and determine if the program is appropriate
- Develop a formal portfolio to document the process
- Establish degree requirements and a timeline for degree completion

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

Milwaukee Area Technical College

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<tr>
<th>TECHNICAL STUDIES</th>
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<tr>
<td>INDVTS-102 Career Assessment and Portfolio Development</td>
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<td>ECON-195 Economics</td>
<td>3</td>
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<td>ENG-151 Communication Skills 1 ‡</td>
<td>3</td>
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<tr>
<td>(or) ENG-201‡ and any 200-series ENG or SPEECH course</td>
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<tr>
<td>ENG-152 Communication Skills 2 ‡</td>
<td>3</td>
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<tr>
<td>MATH-107 College Mathematics ‡</td>
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<tr>
<td>(or) MATH-113 Technical Mathematics 1A‡</td>
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<tr>
<td>(or) MATH-123 Math With Business Applications‡</td>
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<tr>
<td>(or) Any 200-series MATH course</td>
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<tr>
<td>NATSCI-167 Science of Technology</td>
<td>3</td>
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<td>(or) Any 200-series NATSCI course</td>
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<tr>
<td>PSYCH-199 Psychology of Human Relations</td>
<td>3</td>
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<td>(or) Any 200-series PSYCH course</td>
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<tr>
<td>SOCSCI-197 Contemporary American Society</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series HIST or SOCSCI course</td>
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</tr>
</tbody>
</table>

TOTAL CREDITS: 60

‡ Prerequisite required.

Curriculum requirements are subject to change.
A minimum of 25% of total program requirements must be earned at MATC.
This Associate in Applied Science program will transfer to one or more four-year institutions.
**Interior Design**

**ASSOCIATE DEGREE**  Program Code: 10-304-1  West Allis Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Interior designers use creativity, technical knowledge, and aesthetics to create solutions that improve the function and quality of interior environments. Coursework includes manual and computer-aided design (CAD) drawing, and commercial and residential planning.

**Career Outlook**
Demand is strongest in kitchen and bath design and remodeling, and in corporate and industrial facilities design.

**Program Learning Outcomes**
- Integrate the codes and standards that impact the interior environment
- Model professional practices of the Interior Design industry
- Validate the design process
- Evaluate design decisions within the parameters of the built environment

**Admission Requirements**
- A high school diploma or GED
- Demonstration of proficiency in basic computer skills or completion of COMPSW-106

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**TECHNICAL STUDIES**

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>INDSGN-100</td>
<td>Introduction to Interior Design</td>
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<tr>
<td>INDSGN-102</td>
<td>Basic Architectural Drawing</td>
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<tr>
<td>INDSGN-104</td>
<td>Interior Elements of Building Construction</td>
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<tr>
<td>INDSGN-106</td>
<td>Materials and Furniture Design</td>
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<tr>
<td>INDSGN-108</td>
<td>Residential Studio ‡</td>
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<td>INDSGN-110</td>
<td>Advanced Architectural Drawing ‡</td>
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<tr>
<td>INDSGN-112</td>
<td>Textiles: Science, Application and Design</td>
<td>2</td>
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<td>INDSGN-114</td>
<td>Color and Light ‡</td>
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<td>INDSGN-116</td>
<td>Kitchen and Bath Design ‡</td>
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<td>INDSGN-118</td>
<td>Commercial Studio ‡</td>
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<tr>
<td>INDSGN-120</td>
<td>Interior Design Internship ‡</td>
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<td>INDSGN-122</td>
<td>Styles of Furniture and Architecture ‡</td>
<td>3</td>
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<td>INDSGN-124</td>
<td>Advanced Commercial Studio ‡</td>
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</tr>
<tr>
<td>INDSGN-126</td>
<td>Trends in Interior Design ‡</td>
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<td>INDSGN-128</td>
<td>Designer/Client Relationships</td>
<td>3</td>
</tr>
<tr>
<td>INDSGN-130</td>
<td>Portfolio Development and Application ‡</td>
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<tr>
<td>ENG-151</td>
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<td>(or) ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>(or) ENG-201 and any 200-series ENG or SPEECH course</td>
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<td>MATH-107</td>
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<td>NATSCI-167</td>
<td>Science of Technology</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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**ELECTIVES**

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**TOTAL CREDITS: 68**

(‡) Semester order for full-time students.

Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

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**Start Dates: August and January**

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**
School of TECHNOLOGY and APPLIED SCIENCES

| 414-297-6315 |
### IT Computer Support Specialist

**ASSOCIATE DEGREE**  
Program Code: 10-154-3  
All campuses

#### Certificate
- IT Level 2 - Service Center Technician, p. 198  
- IT Microsoft Enterprise Desktop Support Specialist, p. 199  
- IT Service Center Technician, p. 200

#### Technical Diploma
- IT Computer Support Technician, p. 150  
- IT Help Desk Support Specialist, p. 152  
- IT User Support Technician, p. 154

#### Associate Degree
- IT Computer Support Specialist, p. 79

---

Computer support specialists are in high demand locally and throughout the United States. This program prepares you for industry-sought certifications, including CompTIA’s A+, Network+, Security+, and Mobility+ Device Administrators (iOS, Android, and Windows), Microsoft Certified Professional in Windows Desktop, Microsoft Enterprise Desktop Support Technician (MCITP), Apple OSX Certified Support Professional (ACSP), HDI-SCA, HDI-DST and ITIL Foundation.

**Program Learning Outcomes**
- Manage information technology hardware  
- Manage software  
- Support computer networks  
- Provide end-user support  
- Solve information technology problems  
- Demonstrate customer service skills as an IT professional

**Admission Requirements**
- A high school diploma or GED  
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates:** August and January

**For complete information, go to matc.edu/business**  
To apply for financial aid, visit fafsa.gov. School Code: 003866

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#### TECHNICAL STUDIES  
<table>
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<th>Course Code</th>
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<td>(1) ITSUP-109</td>
<td>Microsoft Office for IT Professionals * †</td>
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<td>(1) ITSUP-101</td>
<td>Computer Information Systems Fundamentals * †</td>
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<td>(1) ITSUP-140</td>
<td>Support Center Analyst (HDI-SCA, HDI-DST, ITIL) * †</td>
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<td>(1) ITSUP-108</td>
<td>Enterprise Desktop Support Technician * †</td>
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<td>(2) ITNET-101</td>
<td>Network Communications (Network+) * †</td>
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<td>(2) ITSUP-102</td>
<td>CompTIA A+ Essentials * †</td>
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<td>(2) ITSEC-124</td>
<td>Network Security (Security+) * †</td>
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<td>(2) ITNET-110</td>
<td>Managing Windows Desktop (Client OS) * †</td>
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<td>(3) ITSUP-155</td>
<td>IT Careers, Résumé Writing and Job Search * †</td>
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<td>(3) ITSUP-150</td>
<td>Mobile Device Repair and Support * †</td>
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<td>(3) ITSUP-152</td>
<td>Apple OSX Certified Support Professional (ACSP) * †</td>
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<td>(4) ITSUP-177</td>
<td>IT Projects, Teamwork and Self-Management * †</td>
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<td>(4) ITSUP-153</td>
<td>CompTIA Mobility+ (iOS, Android, Windows) * †</td>
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<td>(4) ITSUP-198</td>
<td>Computer Support Specialist Internship * †</td>
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<td>(4) ITSUP-199</td>
<td>Integrated Project – Computer Support Specialist * †</td>
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<tr>
<td>(or) Any 200-series SOCS or HIST course</td>
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</table>

**ELECTIVES** (Three credits needed): 3

**TOTAL CREDITS: 65**
Prepare for a career in computer network and internet security by learning to develop information security strategies, perform risk analyses, install security software, monitor network traffic and develop an emergency response plan. You will have hands-on coursework in securing MS Windows, Unix/Linux, Cisco, networks, servers and clients, and the enterprise network.

Career Outlook

Employment opportunities are growing due to the increased need for secure computer systems.

Program Learning Outcomes

- Identify security strategies
- Implement secure infrastructures
- Conduct security testing
- Analyze security data
- Mitigate risk
- Develop security documentation

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Microsoft Windows or Macintosh operating system skills

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6395

School of BUSINESS

TECHNICAL STUDIES

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<td>MS Server Administration 1</td>
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<td>Routing/switching Essentials (Cisco 2)</td>
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<td>Information Security Risk Management</td>
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<td>(3) ITNET-111</td>
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<td>(3) ITSEC-136</td>
<td>Unix/Linux Administration and Security</td>
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<td>(3) ITSEC-145</td>
<td>Perimeter Security</td>
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<td>(3) ITSEC-148</td>
<td>Securing Wireless Devices and Networks</td>
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<td>(4) ITSEC-122</td>
<td>Web/Application Security</td>
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<td>(4) ITSEC-126</td>
<td>Computer Forensics</td>
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<td>(4) ITSEC-146</td>
<td>Security Measures and Intrusion Detection</td>
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<td>(or) ENG-201 and any 200-series ENG or SPEECH course</td>
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<td>Science of Technology</td>
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</table>

ELECTIVES

(Three credits needed)                        | 3

TOTAL CREDITS: 66

( ) Semester order for full-time students.
# Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
## IT Mobile Application Developer

**ASSOCIATE DEGREE**  
Program Code: 10-152-8  
All campuses

### TECHNICAL STUDIES

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<td>Web Programming With Scripts</td>
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<td>Systems Analysis and Design</td>
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<td>ITDEV-181</td>
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<td>SOCSCI-197</td>
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<td>ELECTIVES</td>
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**TOTAL CREDITS: 69**

(‡) Semester order for full-time students.  
# Prerequisite required.  
Program curriculum requirements are subject to change.  
This Associate in Applied Science program will transfer to one or more four-year institutions.

---

Develop your skills in software development with an emphasis on creating mobile applications. You will learn essential programming skills while developing mobile applications for both iOS and Android platforms.

### Career Outlook

There is a growing need for qualified mobile application developers. Graduates of this program also may find employment in programming, or operations and systems analysis.

### Program Learning Outcomes

- Design software systems
- Integrate database technologies
- Develop software applications
- Develop technical documentation

### Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

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<th>414-297-6395</th>
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</thead>
</table>

matc.edu | 414-297-MATC | Wisconsin Relay System 711  
Page 81
**IT Network Specialist – Online Accelerated**

**ASSOCIATE DEGREE**  
Program Code: 10-150-2  
Offered entirely online

---

**IT Network Specialist**

**Technical Diploma**
- IT Networking and Infrastructure Administration, p. 153

**Associate Degree**
- IT Network Specialist – Online Accelerated, p. 82
- IT Network Specialist, p. 83

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**TECHNICAL STUDIES**

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<tr>
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<td>ITNET-134</td>
<td>Connecting Networks (Cisco 4)</td>
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<td>ITNET-139</td>
<td>Cloud Infrastructure Services</td>
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<td>COMPSW-106</td>
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<td>ELECTIVES</td>
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</table>

**TOTAL CREDITS:** 66

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This program is offered entirely online. The accelerated format enables students to complete the program’s Technical Studies courses in less than 18 months. Certification preparations in this degree include: VMware Certified Professional (VCP-DCV), Cisco Certified Networking Associate (CCNA), Microsoft Certified Solutions Associate (MCSA) Windows Client, Microsoft Certified Professional (MCP) Windows Server and CompTIA (A+, Network+ and Security+).

**Program Learning Outcomes**
- Implement computer networks
- Implement client systems
- Implement server operating systems
- Implement network security components
- Develop technical documentation
- Troubleshoot network systems

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- This online accelerated program also requires an interview, proof of broadband connection, and purchase of supplies to build a PC

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

---

**Start Date:** January

**For complete information, go to matc.edu/business**

To apply for financial aid, visit fafsa.gov. School Code: 003866

---

**Milwaukee Area Technical College**  
School of BUSINESS

---

matc.edu | 414-297-MATC | Wisconsin Relay System 711
## IT Network Specialist

### ASSOCIATE DEGREE  Program Code: 10-150-2  All campuses

**IT NETWORK SPECIALIST**
matc.edu/academic_programs/pathways

**Technical Diploma**
- IT Networking and Infrastructure Administration, p. 153

**Associate Degree**
- IT Network Specialist – Online Accelerated, p. 82
- IT Network Specialist, p. 83

Through hands-on coursework, you will set up network operating systems and work with emerging technologies. Certification preparations in this degree include: VMware Certified Professional (VCP-DCV), Cisco Certified Networking Associate (CCNA), Microsoft Certified Solutions Associate (MCSA) Windows Client, Microsoft Certified Professional (MCP) Windows Server and CompTIA (A+, Network+ and Security+).

**Program Learning Outcomes**
- Implement computer networks
- Implement client systems
- Implement server operating systems
- Implement network security components
- Develop technical documentation
- Troubleshoot network systems

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**ELECTIVES**  (Three credits needed)  3

**TOTAL CREDITS:**  66

( ) Semester order for full-time students.
^ Prerequisite required.
† Counts toward earning the IT Networking and Infrastructure Administration technical diploma.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.

### Start Dates: August and January

**For complete information, go to matc.edu/business**

To apply for financial aid, visit fafsa.gov. School Code: 003866

**MILWAUKEE AREA Technical College**  School of BUSINESS

matc.edu  | 414-297-MATC  | Wisconsin Relay System 711
IT Web and Software Developer

ASSOCIATE DEGREE Program Code: 10-152-7 All campuses

Develop software applications that can be deployed using a variety of platforms. You will learn essential programming skills while developing software that utilizes client and server processing, connects to databases and will run simultaneously on multiple devices.

Career Outlook
There is a growing need for qualified web and software developers. Program graduates also may pursue opportunities related to programming and database management.

Program Learning Outcomes
- Design software systems
- Integrate database technologies
- Develop software applications
- Develop technical documentation

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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<tr>
<td>NATSCI-167</td>
<td>Science of Technology</td>
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<td>(or) Any 200-series NATSCI course</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
<td></td>
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<tr>
<td>SOCSCE-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series SOCSCE or HIST course</td>
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</tbody>
</table>

ELECTIVES

(Three credits needed) .................................... 3

TOTAL CREDITS: 66

(*) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6395
For opportunities that require outdoor work, creativity and plant knowledge, check out horticulture/landscape careers. MATC offers three program tracks: Design; Landscape Construction; and Landscape Maintenance and Arboriculture. Coursework emphasizes hands-on learning.

**Career Outlook**

There is a steady demand for arborists, horticulturists, landscape designers and landscapers.

**Program Learning Outcomes**

- Analyze growing media
- Diagnose plant health
- Communicate as a horticulture professional
- Apply design principles
- Provide horticulture maintenance
- Apply the principles of plant science

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

() Semester order for full-time students.

# Prerequisite required.

^ Counts toward earning the Landscape Horticulture Technician technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

### TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course (Code)</th>
<th>Title</th>
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<tbody>
<tr>
<td>(1) HORT-111</td>
<td>Introduction to Horticulture</td>
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<td>(1) HORT-112</td>
<td>Horticulture Soils</td>
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<td>(1) HORT-114</td>
<td>Woody Ornamental Plants</td>
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<td>(1) HORT-116</td>
<td>Landscape Equipment</td>
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<tr>
<td>(2) HORT-113</td>
<td>Ornamental Plant Health Care</td>
<td>3</td>
</tr>
<tr>
<td>(2) HORT-118</td>
<td>Landscape Business Principles</td>
<td>3</td>
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<td>(2) HORT-122</td>
<td>Landscape Design I</td>
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<td>(2) HORT-126</td>
<td>Landscape Estimating and Bidding</td>
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<td>(2) HORT-159</td>
<td>Survey of Herbaceous Plants</td>
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<td>(2) HORT-113</td>
<td>Landscape Design II ‡</td>
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<td>Landscape Plants - Shrubs ‡</td>
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<td>Landscape Construction II</td>
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<td>(3) HORT-119</td>
<td>Landscape Construction 1</td>
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<tr>
<td>(3) HORT-121</td>
<td>Irrigation, Lighting and Ponds</td>
<td>3</td>
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<td>(4) HORT-124</td>
<td>Landscape Plants - Trees ‡</td>
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<td>(4) HORT-126</td>
<td>Landscape Estimating and Bidding</td>
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<tr>
<td>(4) HORT-160</td>
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<td>(3) HORT-127</td>
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<td>Turf Management and Related Equipment</td>
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<td>Landscape Plants - Shrubs ‡</td>
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<td>(4) HORT-171</td>
<td>Exterior Plant Pests</td>
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**GENERAL STUDIES**

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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<tr>
<td>NATSCI-112</td>
<td>Principles of Sustainability</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
<td></td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series HIST or SOCSCI course</td>
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**ELECTIVES**

(Six credits needed) [6]

**TOTAL CREDITS: 64**
MARKETING pathways
matc.edu/academic_programs/pathways

Technical Diploma
- Digital Marketing and Integrated Communications, p. 136
- Sales and Customer Experience, p. 176

Associate Degree
- Marketing – Online Accelerated, p. 86
- Marketing, p. 87

Formerly Marketing Management – Online Accelerated
Designed for the adult learner, you can complete this degree entirely online in 16 months of full-time study (fall, spring, summer, fall) by combining accelerated online Marketing courses with online support and General Studies courses.

Career Outlook
Marketing is a U.S. Department of Labor “Bright Outlook” career with expected growth of 5% to 9% through 2026.

Program Learning Outcomes
- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images, and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Prepare selling strategies

Admission Requirements
- A high school diploma or GED
- Demonstrated keyboarding skills through exam or taking OFTECH-103

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Date: August
For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

TECHNICAL STUDIES

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>BADM-106</td>
<td>MS Office for Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-102</td>
<td>Marketing Principles * +</td>
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<tr>
<td>MKTG-104</td>
<td>Selling Principles +</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-173</td>
<td>Marketing Research/Analytics *</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG-110</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-125</td>
<td>Advertising: Brands and Campaigns *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-198</td>
<td>Visual Media Marketing *</td>
<td>3</td>
</tr>
<tr>
<td>BADM-110</td>
<td>Business Communications With Technology</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-118</td>
<td>Social Media Marketing *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-165</td>
<td>Digital Marketing *</td>
<td>3</td>
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<tr>
<td>BADM-134</td>
<td>Business Organization and Management</td>
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<tr>
<td>MKTG-106</td>
<td>Retail and Consumer Marketing $ +</td>
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<td>MKTG-107</td>
<td>Customer Experience +</td>
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<tr>
<td>MKTG-144</td>
<td>Client Services * +</td>
<td>3</td>
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<tr>
<td>MKTG-134</td>
<td>Integrated Marketing Communications *</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-175</td>
<td>Marketing Internship $</td>
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GENERAL STUDIES

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<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>ECON-195</td>
<td>Economics</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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</table>

TOTAL CREDITS: 61

(1) Semester order for full-time students.
$ Prerequisite required.
* Counts toward earning the Digital Marketing and Integrated Communications technical diploma.
+ Counts toward earning the Sales and Customer Experience technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Marketing

ASSOCIATE DEGREE  Program Code: 10-104-3

Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)

Formerly Marketing Management
Develop a broad base of industry-required knowledge and abilities in advertising, sales, promotion, marketing research, digital marketing, social media, client services and customer experience planning.

Career Outlook
Marketing is a U.S. Department of Labor “Bright Outlook” career with expected growth of 5% to 9% through 2026.

Program Learning Outcomes
• Develop strategies to anticipate and satisfy market needs
• Promote products, services, images, and/or ideas to achieve a desired outcome
• Evaluate information through the market research process to make business decisions
• Prepare selling strategies

Admission Requirements
• A high school diploma or GED
• Demonstrated keyboarding skills through exam or taking OFTECH-103

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

School of BUSINESS

### TECHNICAL STUDIES

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<td>BADM-106</td>
<td>MS Office for Business Applications</td>
</tr>
<tr>
<td>MKTG-102</td>
<td>Marketing Principles +</td>
</tr>
<tr>
<td>MKTG-104</td>
<td>Selling Principles +</td>
</tr>
<tr>
<td>MKTG-173</td>
<td>Marketing Research/Analytics +</td>
</tr>
<tr>
<td>ACCTG-110</td>
<td>Financial Accounting</td>
</tr>
<tr>
<td>MKTG-125</td>
<td>Advertising: Brands and Campaigns +</td>
</tr>
<tr>
<td>MKTG-198</td>
<td>Visual Media Marketing +</td>
</tr>
<tr>
<td>BADM-110</td>
<td>Business Communications With Technology</td>
</tr>
<tr>
<td>MKTG-118</td>
<td>Social Media Marketing +</td>
</tr>
<tr>
<td>MKTG-165</td>
<td>Digital Marketing +</td>
</tr>
<tr>
<td>BADM-134</td>
<td>Business Organization and Management</td>
</tr>
<tr>
<td>MKTG-106</td>
<td>Retail and Consumer Marketing +</td>
</tr>
<tr>
<td>MKTG-107</td>
<td>Customer Experience +</td>
</tr>
<tr>
<td>MKTG-144</td>
<td>Client Services +</td>
</tr>
<tr>
<td>MKTG-134</td>
<td>Integrated Marketing Communications +</td>
</tr>
<tr>
<td>MKTG-175</td>
<td>Marketing Internship</td>
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### GENERAL STUDIES

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
</tr>
<tr>
<td>ENG-151 and 152</td>
<td>Communication Skills</td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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</tbody>
</table>

### TOTAL CREDITS: 61

( ) Semester order for full-time students.
+ Prerequisite required.
* Counts toward earning the Digital Marketing and Integrated Communications technical diploma.
+ Counts toward earning the Sales and Customer Experience technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
机械设计技术

工商管理

MECHANICAL DESIGN TECHNOLOGY
matc.edu/academic_programs/pathways

Technical Diploma
• Mechanical and Computer Drafting, p. 158

Associate Degree
• Mechanical Design Technology, p. 88

Career Outlook
The employment outlook is favorable for mechanical drafters/designers having current training involving CADD systems.

Program Learning Outcomes
• Prepare detail and assembly drawings for documentation of mechanical components and products
• Create CAD Geometry, parts, and assemblies
• Design mechanical components and products
• Analyze mechanical engineering problems
• Select purchased parts

Admission Requirements
• A high school diploma or GED
• One year of high school-level algebra or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES

Start Date: August

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES

414-297-6315
Medical Administrative Specialist

ASSOCIATE DEGREE  Program Code: 10-160-4  West Allis Campus

If you have an interest in the business or academic aspects of the health field, this program is a good fit for your career plans. Courses are offered in a blended format, which may include traditional classroom instruction and an online component.

Career Outlook
Work may include assisting with academic research, preparing electronic medical records or processing insurance claims. Employment opportunities are expected to increase.

Program Learning Outcomes
- Perform routine healthcare administrative procedures
- Process insurance claims
- Demonstrate effective workplace communications
- Apply technology skills to business and administrative tasks
- Maintain internal and external relationships
- Model professionalism in the workplace

Admission Requirements
- A high school diploma or GED
- Employers may require background checks, drug testing, immunizations, signed statements of confidentiality

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

TECHNICAL STUDIES  Credits
(1) OFTECH-122  Business English Essentials ^ .............. 3
(1) BRHLTH-124  Medical Office Terminology 1 ^ .............. 3
(1) OFTECH-136  Keyboarding Skill Development 1 ‡ ^ ............. 1
(1) RBUS-102  Mathematics of Business .................. 3
(2) ACCTG-102  Basic Office Accounting ^ ................. 3
(2) OFTECH-119  Information Management .................. 3
(2) BRHLTH-125  Medical Office Terminology 2 ‡ ^ ............ 3
(2) OFTECH-133  Business Document Production 1 ‡ .... 3
(2) BRHLTH-135  Medical Document Production ‡ ........ 3
(3) COMPSW-106  Introduction to MS Office ^ ................. 3
(3) BRHLTH-140  Electronic Health Records: Administrative Application ‡ ^ .................................. 3
(3) BRHLTH-142  Administrative Procedures for the Medical Office ‡ .................. 3
(3) BRHLTH-170  Medical Insurance Principles and Coding ‡ ^ .................. 3
(4) BRHLTH-174  Medical Claims Reimbursement ‡ ^ ........ 2
(4) BRHLTH-112  Computerized Medical Billing ‡ ^ .... 3
(4) RBUS-111  Business Communications ‡ ............... 3
(4) BRHLTH-197  Medical Office Career Investigation ‡ ^ .................................. 3

GENERAL STUDIES
ECON-195  Economics............................................ 3
(0) Any 200-series ECON course
ENG-151  Communication Skills 1 ‡ .................. 3
(0) ENG-201‡ and any 200-series ENG or SPEECH course
ENG-152  Communication Skills 2 ‡ .................. 3
NATSCI-189  Basic Anatomy ^ .................. 3
(0) Any 200-series Anatomy course
NATSCI-172  Basic Nutritional Science .................. 3
(0) Any 200-series NATSCI course
PSYCH-199  Psychology of Human Relations ............ 3
(0) Any 200-series PSYCH course
SOCSCI-197  Contemporary American Society ............. 3
(0) Any 200-series SOCSCL or HIST course

TOTAL CREDITS: 69

( ) Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the Medical Billing technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  School of BUSINESS

matc.edu  |  414-297-MATC  |  Wisconsin Relay System 711  Page 89
Begin a healthcare career as a Medical Laboratory Technician (MLT) in hospitals, clinics, and doctors’ offices. Opportunities also exist in commercial industries, scientific research and infection control. Students attend classes four to five days each week; clinical experiences near the program’s end are arranged at clinical laboratories. Upon completion of the program, the student is eligible to write national certifying examinations.

### Program Learning Outcomes
- Practice laboratory safety and regulatory compliance
- Collect and process biological specimens
- Monitor and evaluate quality control in the laboratory
- Apply modern clinical methodologies including problem solving and troubleshooting according to predetermined criteria
- Correlate laboratory results to diagnosis of clinical conditions and/or diseases
- Perform information processing in the clinical laboratory
- Model professional behaviors, communication, ethics, and appearance

### Admission Requirements
High school diploma or GED; one year of high school-level (or one college semester) algebra, biology, and chemistry required. This program admits students through a petition selection process. See the program’s webpage at matc.edu.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**ASSOCIATE DEGREE**

**Program Code: 10-513-1**

**Downtown Milwaukee Campus**

### TECHNICAL STUDIES

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<td>CLABT-111</td>
<td>Phlebotomy ‡</td>
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<td>CLABT-113</td>
<td>QA Lab Math ‡</td>
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<td>CLABT-114</td>
<td>Urinalysis ‡</td>
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<td>CLABT-115</td>
<td>Basic Immunology Concepts</td>
<td>2</td>
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<td>CLABT-120</td>
<td>Basic Hematology ‡</td>
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<td>CLABT-121</td>
<td>Coagulation ‡</td>
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<td>CLABT-109</td>
<td>Blood Bank ‡</td>
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<td>CLABT-116</td>
<td>Clinical Chemistry ‡</td>
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<td>CLABT-145</td>
<td>Pre-Clinical Experience 1 ‡</td>
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<tr>
<td>CLABT-170</td>
<td>Introduction to Molecular Diagnostics ‡</td>
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<td>CLABT-130</td>
<td>Advanced Hematology ‡</td>
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<td>CLABT-133</td>
<td>Clinical Microbiology ‡</td>
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<td>CLABT-140</td>
<td>Advanced Microbiology ‡</td>
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<td>CLABT-146</td>
<td>Pre-Clinical Experience 2 ‡</td>
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<td>CLABT-151</td>
<td>Clinical Experience 1 ‡</td>
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<td>CLABT-143</td>
<td>Seminar ‡</td>
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<td>CLABT-152</td>
<td>Clinical Experience 2 ‡</td>
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<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>NATSCI-177</td>
<td>General Anatomy and Physiology ‡</td>
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<td>NATSCI-186</td>
<td>Introductory Biochemistry ‡</td>
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<td>(or) NATSCI-209 Chemistry for the Health Sciences ‡</td>
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<td>NATSCI-197</td>
<td>Microbiology ‡</td>
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<tr>
<td>(or) Any 200-series HIST or SOCSCI course</td>
<td></td>
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</tr>
</tbody>
</table>

### ELECTIVES

(Three credits needed) 3

**TOTAL CREDITS: 67**

( ) Semester order for full-time students.

# Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

The clinical experiences near the program’s end are arranged at clinical laboratories. Service work cannot be substituted for the clinical experiences. Service work by students is non-compulsory outside of class hours. Students attending clinical cannot be used as staff replacement. Upon acceptance to the program and at the start of clinical, a formal faculty-led orientation will occur with all program students.
Prepare for a career in music by developing your skills as a well-rounded musician. Areas of study include theory fundamentals such as reading, analysis, composition, ear training and more. Students choose one area of emphasis: Performance or Composition.

Program Learning Outcomes

- Create an arrangement for an existing piece of music using genre-specific appropriate stylings
- Demonstrate collaborative musicianship skills in rehearsal and performance settings
- Demonstrate proficiency in the use of industry notation software for arranging and composition applications
- Perform music at a professional level
- Develop a marketing plan for musical career promotion that includes current social media trends
- Instruct music students in an individual lesson studio setting

Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

(1) Semester order for full-time students.
‡ Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.

For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of MEDIA and CREATIVE ARTS

Start Date: August

Technical Studies

<table>
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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>MUSIC-103 Major Instrument 1</td>
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<tr>
<td>MUSIC-150 Music Theory 1</td>
</tr>
<tr>
<td>MUSIC-140 Music Notation 1</td>
</tr>
<tr>
<td>MUSIC-177 Piano Lab 1</td>
</tr>
<tr>
<td>MUSIC-190 Choir 1</td>
</tr>
<tr>
<td>MUSIC-118 Music Analysis ‡</td>
</tr>
<tr>
<td>MUSIC-104 Major Instrument 2 ‡</td>
</tr>
<tr>
<td>MUSIC-151 Music Theory 2 ‡</td>
</tr>
<tr>
<td>MUSIC-178 Piano Lab 2 ‡</td>
</tr>
<tr>
<td>MUSIC-152 Composition 1 ‡</td>
</tr>
<tr>
<td>MUSIC-174 Ear Training 1 ‡</td>
</tr>
<tr>
<td>MUSIC-153 Composition 2 ‡</td>
</tr>
<tr>
<td>MUSIC-184 Ear Training 2 ‡</td>
</tr>
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</table>

Students choose one emphasis:

Performance Emphasis

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>MUSIC-162 Music Ensemble 1</td>
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<tr>
<td>MUSIC-189 Voice Lab 1</td>
</tr>
<tr>
<td>MUSIC-101 Music Business</td>
</tr>
<tr>
<td>MUSIC-120 Choir 2 ‡</td>
</tr>
<tr>
<td>MUSIC-163 Music Ensemble 2 ‡</td>
</tr>
<tr>
<td>MUSIC-105 Major Instrument 3 ‡</td>
</tr>
<tr>
<td>MUSIC-141 Music Ensemble 3 ‡</td>
</tr>
<tr>
<td>MUSIC-167 Improvisation 1 ‡</td>
</tr>
<tr>
<td>MUSIC-191 Performance Techniques 1 ‡</td>
</tr>
<tr>
<td>MUSIC-106 Major Instrument 4 ‡</td>
</tr>
<tr>
<td>MUSIC-119 Music Ensemble 4 ‡</td>
</tr>
<tr>
<td>MUSIC-125 Music Studio Teaching Methods ‡</td>
</tr>
<tr>
<td>MUSIC-175 Advanced Music Reading ‡</td>
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Composition Emphasis

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>AUDIO-100 Introduction to Audio Software</td>
</tr>
<tr>
<td>MUSIC-108 Film Scoring 1</td>
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<tr>
<td>MUSIC-142 Introduction to Composition</td>
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<tr>
<td>MUSIC-144 Music Notation 2</td>
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<tr>
<td>MUSIC-107 Songwriting 1 ‡</td>
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<tr>
<td>AUDIO-111 Advanced Audio Software ‡</td>
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<tr>
<td>MUSIC-147 Songwriting 2 ‡</td>
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<tr>
<td>MUSIC-158 Orchestration 1 ‡</td>
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<tr>
<td>MUSIC-182 Composition for Advertising</td>
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<tr>
<td>MUSIC-109 Film Scoring 2 ‡</td>
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<tr>
<td>MUSIC-181 Conducting ‡</td>
</tr>
<tr>
<td>MUSIC-159 Orchestration 2 ‡</td>
</tr>
<tr>
<td>MUSIC-183 Library Licensed Music ‡</td>
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General Studies

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<tbody>
<tr>
<td>ECON-195 Economics (or) Any 200-series ECON</td>
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<tr>
<td>ENG-151 Communication Skills 1</td>
</tr>
<tr>
<td>ENG-152 Communication Skills 2</td>
</tr>
<tr>
<td>(or) ENG-201 &amp; any 200-series ENG or SPEECH</td>
</tr>
<tr>
<td>MATH-107 College Mathematics ‡</td>
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<tr>
<td>(or) Any 200-series MATH course</td>
</tr>
<tr>
<td>MATH-123 Math With Business Applications ‡</td>
</tr>
<tr>
<td>(or) Any 200-series MATH course</td>
</tr>
<tr>
<td>PSYCH-199 Psychology of Human Relations</td>
</tr>
<tr>
<td>(or) Any 200-series PSYCH course</td>
</tr>
<tr>
<td>SOCSCL-197 Contemporary American Society</td>
</tr>
<tr>
<td>(or) Any 200-series HIST or SOCSCL course</td>
</tr>
</tbody>
</table>

Electives (Three credits needed) | 3 |

TOTAL CREDITS: 69
Occupational Therapy Assistant

ASSOCIATE DEGREE Program Code: 10-514-1 Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Use activities to help patients overcome difficulties with daily living, leisure and/or work skills, providing these services under the supervision of an occupational therapist. This program prepares you to become a Certified Occupational Therapy Assistant (COTA).

Program Learning Outcomes
- Demonstrate professional behaviors, ethical standards, values, and attitudes of the occupational therapy profession
- Practice within the distinct role and responsibility of the occupational therapy assistant
- Advocate for the profession, services, and consumers
- Value life-long learning and the need to keep current with best practice
- Apply occupational therapy principles and intervention tools to achieve expected outcomes
- Serve a diverse population in a variety of systems that are consistent with entry-level practice

Admission Requirements
High school diploma or GED, and one year of high school algebra, biology and chemistry are required. This program admits students through a petition selection process. See program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), c/o AOTA, P.O. Box 31220, Bethesda, MD 20824-1220; 301-652-2682; www.aota.org.

Start Date: August

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6263

School of HEALTH SCIENCES

TECHNICAL STUDIES Credits
(1) OTASST-171 Introduction to Occupational Therapy ‡ ............................................ 3
(1) OTASST-172 Medical and Psychosocial Conditions ‡ # ............................................. 3
(1) OTASST-173 Activity Analysis and Application ‡ ......................................................... 2
(2) OTASST-174 OT Performance Skills ‡ .......................................................... 4
(2) OTASST-176 OT Theory and Practice ‡ .............................................................. 3
(2) OTASST-177 Assistive Technology and Adaptations ‡ ............................................. 2
(2) OTASST-178 Geriatric Practice ‡ ........................................................................ 3
(3) OTASST-175 Psychosocial Practice ‡ ............................................................... 3
(3) OTASST-179 Community Practice ‡ ..................................................................... 2
(3) OTASST-182 Physical Rehabilitation Practice ‡ ................................................ 3
(3) OTASST-183 Pediatric Practice ‡ ........................................................................ 3
(3) OTASST-184 OTA Fieldwork ‡ ............................................................................. 2
(4) OTASST-185 OT Practice and Management ‡ ...................................................... 2
(4) OTASST-186 OTA Fieldwork 2A ‡ * ..................................................................... 5
(4) OTASST-187 OTA Fieldwork 2B ‡ * ..................................................................... 5

GENERAL STUDIES
ENG-151 Communication Skills 1 ‡ ........................................................................ 3
(8) ENG-152 Communication Skills 2 ‡ .................................................................. 3
(or) ENG-201 and any 200-series ENG or SPEECH course

NATSCI-177 General Anatomy and Physiology ‡ .................................................. 4
(or) NATSCI-201 Anatomy & Physiology 1 ‡ and NATSCI-202 Anatomy & Physiology 2 ‡

PSYCH-159 Abnormal Psychology ........................................................................ 3
(or) PSYCH-232 Abnormal Psychology ‡ ..............................................................

PSYCH-188 Developmental Psychology .................................................................. 3
(or) PSYCH-238 Lifespan Psychology

PSYCH-199 Psychology of Human Relations ............................................................ 3
(or) PSYCH-231 Introductory Psychology

SOCSCI-172 Introduction to Diversity Studies .......................................................... 3
(or) Any 200-series HIST or SOCSCL course

ELECTIVES
(Three credits needed) ......................................................................................... 3

TOTAL CREDITS: 70

# OTASST-172 and OTASST-185 are online courses.
* OTASST-186 and OTASST-187 must be completed within 18 months following academic coursework.
OTA program must be completed within four years.
( ) Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.
Paralegal

ASSOCIATE DEGREE  Program Code: 10-110-1  Downtown Milwaukee Campus

With coursework focused on the practical aspects of law, this program provides a broad background and prepares students to work as a paralegal in the legal community, in government, or in business and industry. Classes are offered face to face at the Downtown Milwaukee Campus. Selected courses are offered at MATC’s other campuses via interactive television. Online classes are available; at least 10 credits of legal specialty (PLEGAL) courses must be taken via face-to-face instruction.

Career Outlook
Although this is a growing profession, competition in the job market is keen. Paralegals are required to work under the supervision of an attorney to avoid the unauthorized practice of law.

Program Learning Outcomes
- Apply ethical principles in a legal environment
- Process legal documents
- Perform legal research
- Apply critical thinking skills to address legal issues
- Demonstrate professionalism in a legal environment

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is approved by the American Bar Association, 750 North Lakeshore Drive, Chicago, IL 60611; 312-988-5616; www.americanbar.org/groups/paralegals/.

Start Dates: August/January/June
For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BADM-165</td>
<td>Legal Environment of Business 3</td>
</tr>
<tr>
<td>COMPSW-106</td>
<td>Introduction to MS Office 3</td>
</tr>
<tr>
<td>OFTECH-103</td>
<td>Keyboard and Keypad 1</td>
</tr>
<tr>
<td>PLEGAL-101</td>
<td>Introduction to Paralegalism 3</td>
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<tr>
<td>ACCTG-110</td>
<td>Financial Accounting 3</td>
</tr>
<tr>
<td>PLEGAL-103</td>
<td>Legal Research 3</td>
</tr>
<tr>
<td>PLEGAL-105</td>
<td>Civil Procedure 3</td>
</tr>
<tr>
<td>PLEGAL-107</td>
<td>Legal Writing 3</td>
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<tr>
<td>PLEGAL-111</td>
<td>Litigation Practice Systems 3</td>
</tr>
<tr>
<td>PLEGAL-121</td>
<td>Domestic Relations and Divorce Practice Systems 3</td>
</tr>
<tr>
<td>PLEGAL-114</td>
<td>Trusts and Estates - Probate Systems 3</td>
</tr>
<tr>
<td>PLEGAL-116</td>
<td>Real Estate Law and Practice 3</td>
</tr>
<tr>
<td>PLEGAL-118</td>
<td>Criminal Practice 3</td>
</tr>
<tr>
<td>PLEGAL-123</td>
<td>Corporate Practice Systems 3</td>
</tr>
<tr>
<td>PLEGAL-127</td>
<td>Debtor-Creditor Law 3</td>
</tr>
<tr>
<td>PLEGAL-140</td>
<td>Legal Interviewing/Investigation 3</td>
</tr>
</tbody>
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GENERAL STUDIES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics 3</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 3</td>
</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 3</td>
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<tr>
<td>MATH-123</td>
<td>Math With Business Applications 3</td>
</tr>
<tr>
<td>NATSCI-167</td>
<td>Science of Technology 3</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations 3</td>
</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society 3</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 64

( ) Semester order for full-time students.
‡ Prerequisite required.

It is recommended that PLEGAL-103 be taken before PLEGAL-107, and that PLEGAL-105 be taken before PLEGAL-111.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
Use professional equipment and methods to master the skills necessary for this highly visual, creative and exacting profession. MATC’s laboratory/studio areas have state-of-the-art traditional and digital cameras, lighting, processing and finishing equipment. Program requirements include an internship for real-world experience.

**Program Learning Outcomes**
- Apply the principles of design and storytelling to develop media products and services
- Demonstrate proficiency in the use of media software, tools and technology
- Implement creative solutions from concept through completion
- Communicate creative rationale in formal and informal settings
- Implement project management skills to meet customer and market demands

*(For full description, see matc.edu.)*

**Admission Requirements**
- A high school diploma or GED
- Demonstration of basic computer skills in the Mac OS
- Sight ability without impairment
- Must have the ability to lift, bend, and move equipment
- Must own a DSLR camera

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Start Dates:** August and January

**For complete information, go to matc.edu/media_creative_arts**

**To apply for financial aid, visit fafsa.gov. School Code: 003866**

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### TECHNICAL STUDIES

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<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>PHOTO-101</td>
<td>Digital Fundamental Photography ^</td>
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<tr>
<td>PHOTO-141</td>
<td>Photoshop for Photographers 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>PHOTO-107</td>
<td>Photographic Trends ^</td>
<td>1</td>
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<tr>
<td>PHOTO-108</td>
<td>Photographic Lighting ‡</td>
<td>3</td>
</tr>
<tr>
<td>PHOTO-130</td>
<td>Photographic Composition ^</td>
<td>3</td>
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<td>PHOTO-139</td>
<td>Measurement Techniques ^</td>
<td>3</td>
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<tr>
<td>PHOTO-142</td>
<td>Photoshop for Photographers 2 ‡</td>
<td>3</td>
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<tr>
<td>PHOTO-103</td>
<td>Digital Photography ‡</td>
<td>3</td>
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<tr>
<td>PHOTO-121</td>
<td>Commercial Photography ‡</td>
<td>3</td>
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<tr>
<td>PHOTO-124</td>
<td>Portraiture ‡</td>
<td>3</td>
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<tr>
<td>PHOTO-106</td>
<td>View Camera Techniques ‡</td>
<td>3</td>
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<td>PHOTO-114</td>
<td>Photographic Portfolio ‡</td>
<td>3</td>
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<td>PHOTO-166</td>
<td>Photographic Management ‡</td>
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<td>PHOTO-173</td>
<td>Photojournalism ‡</td>
<td>3</td>
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<td>PHOTO-180</td>
<td>Industrial Photography ‡</td>
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<tr>
<td>PHOTO-190</td>
<td>Photographic Internship ‡</td>
<td>1</td>
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### GENERAL STUDIES

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
<td>3</td>
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<tr>
<td>ENG-151</td>
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<td>ENG-152</td>
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<td>MATH-123</td>
<td>Math With Business Applications ^</td>
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<td>NATSCI-167</td>
<td>Science of Technology</td>
<td>3</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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</tr>
</tbody>
</table>

**ELECTIVES**

(Six credits needed) ............................ 6

**TOTAL CREDITS: 69**

( ) Semester order for full-time students.

‡ Prerequisite required.

^ Counts toward earning the Digital Imaging technical diploma.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
Physical Therapist Assistant

ASSOCIATE DEGREE  Program Code: 10-524-1  Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Work with physical therapy patients in a hospital, rehabilitation center, school, clinic or other healthcare setting. Under the supervision of a physical therapist, duties include implementing treatment programs, teaching patients to perform exercises and daily living activities, and reporting the patient’s progress.

Program Learning Outcomes

- Demonstrate clear and collaborative communication with patients, families, and healthcare team
- Exhibit behaviors and conduct that reflect respect and sensitivity according to physical therapy practice standards
- Function under the supervision of a physical therapist in a safe, legal, ethical manner to ensure the safety of patients, self, and others throughout the clinical interaction
- Produce documentation to support the delivery of physical therapy services

(For full description, see matc.edu.)

Admission Requirements

High school diploma or GED, and one year of high school-level algebra, biology and chemistry or physics are required. This program admits students through a petition selection process. See program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, VA 22314-1488; 703-684-2782; www.capteonline.org.

Start Date: January

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

TECHNICAL STUDIES

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<td>PTA Patient Interventions ‡</td>
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<td>PTASST-140</td>
<td>PTA Professional Issues 1 ‡</td>
<td>2</td>
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<tr>
<td>PTASST-156</td>
<td>PTA Applied Kinesiology 1 ‡</td>
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<tr>
<td>PTASST-142</td>
<td>PTA Therapeutic Exercise ‡</td>
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<tr>
<td>PTASST-143</td>
<td>PTA Therapeutic Modalities ‡</td>
<td>4</td>
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<td>PTASST-145</td>
<td>PTA Principles of Musculoskeletal Rehabilitation ‡</td>
<td>4</td>
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<tr>
<td>PTASST-157</td>
<td>PTA Applied Kinesiology 2 ‡</td>
<td>3</td>
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<td>PTASST-144</td>
<td>PTA Principles of Neuromuscular Rehabilitation ‡</td>
<td>4</td>
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<td>PTASST-146</td>
<td>PTA Management of Cardiopulmonary and Integumentary Conditions ‡</td>
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<td>PTA Clinical Practice 1 ‡</td>
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<td>PTA Clinical Practice 2 ‡</td>
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<td>PTASST-149</td>
<td>PTA Rehabilitation Across the Lifespan ‡</td>
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<td>PTASST-150</td>
<td>Professional Issues 2 ‡</td>
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<td>PTA Clinical Practice 3 ‡</td>
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GENERAL STUDIES

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<td>ENG-151</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
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<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td>NATSCI-177</td>
<td>General Anatomy and Physiology ‡</td>
<td>4</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<td>PSYCH-159</td>
<td>Abnormal Psychology</td>
<td>3</td>
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<tr>
<td>SOCSCI-172</td>
<td>Introduction to Diversity Studies</td>
<td>3</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td>(Three credits needed)</td>
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</table>

TOTAL CREDITS: 70

() Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
### Practical Nursing – LPN-RN Educational Progression

**ASSOCIATE DEGREE** Program Code: 10-543-10 Downtown Milwaukee, Mequon campuses

Through this program, an LPN can prepare for a registered nursing career, followed by options for RN-BSN programs. Contact an MATC advisor for information.

If you are a Licensed Practical Nurse interested in a career as a Registered Nurse, this program is for you. Your work experience may earn you advanced-standing credits. Graduates are eligible to take the RN Licensure Exam (NCLEX-RN).

Employers will expect graduates to have a plan for completing a Bachelor of Science in Nursing (BSN). Some BSN courses may be taken concurrently with associate degree courses.

**Program Learning Outcomes**
- Implement one’s role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy and quality care
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts

(For full description, see matc.edu.)

**Admission Requirements**
Licensure as LPN required; one year of current practice experience recommended. This program admits students through a petition selection process. See program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; 404-975-5000; fax 404-975-5020; email: info@acenursing.org; www.acenursing.org.

**Start Dates: August and January**

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRSAD-109</td>
<td>Nursing: Complex Health Alterations ‡</td>
<td>3</td>
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<tr>
<td>NRSAD-110</td>
<td>Nursing: Mental Health Community Concepts ‡</td>
<td>2</td>
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<tr>
<td>NRSAD-111</td>
<td>Nursing: Intermediate Clinical Practice ‡</td>
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<tr>
<td>NRSAD-112</td>
<td>Nursing: Advanced Skills ‡</td>
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<td>NRSAD-113</td>
<td>Nursing: Complex Health Alterations 2 ‡</td>
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<td>NRSAD-114</td>
<td>Nursing: Management Concepts ‡</td>
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<tr>
<td>NRSAD-115</td>
<td>Nursing: Advanced Clinical Practice ‡</td>
<td>3</td>
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<tr>
<td>NRSAD-116</td>
<td>Nursing: Clinical Transition ‡</td>
<td>2</td>
</tr>
<tr>
<td>NRSAD-117</td>
<td>Nursing: Clinical Skill Development ‡</td>
<td>2</td>
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**GENERAL STUDIES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>NATSCI-177</td>
<td>General Anatomy and Physiology ‡</td>
<td>4</td>
</tr>
<tr>
<td>NATSCI-179</td>
<td>Advanced Anatomy and Physiology ‡</td>
<td>4</td>
</tr>
<tr>
<td>NATSCI-186</td>
<td>Introductory Biochemistry ‡</td>
<td>4</td>
</tr>
<tr>
<td>NATSCI-197</td>
<td>Microbiology ‡</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-188</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
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</tbody>
</table>

**TOTAL CREDITS:** 49

Note: Licensure as LPN required for this program.
‡ Prerequisite required.

Program curriculum requirements are subject to change.

This Associate in Applied Science program will transfer to one or more four-year institutions.
Radiography

ASSOCIATE DEGREE  Program Code: 10-526-1  Downtown Milwaukee Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

Became part of the healthcare team as a radiographer working in medical imaging departments in medical clinics, hospitals and private offices. This is a full-time program with course sequencing that encompasses four semesters, a six-week summer session and six-week externship. Graduates are eligible for certification through American Registry of Radiologic Technologists (ARRT).

Career Outlook
Typical emphases in the field include diagnostic radiology, bedside and trauma procedures, and pediatric radiography.

Program Learning Outcomes
• Carry out the production and evaluation of radiographic images
• Practice radiation safety principles
• Provide quality patient care
• Model professional and ethical behavior consistent with the ARRT Code of Ethics
• Apply critical thinking and problem solving skills in the practice of diagnostic radiography

Admission Requirements
High school diploma or GED, and one year of high school-level biology, chemistry (or physics) and algebra required. This program admits students through a petition selection process. See program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 2850, Chicago, IL 60606-3182; 312-704-5300; www.jrcert.org.

Technical Studies

<table>
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<tr>
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<tr>
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<tr>
<td>RADT-158 Introduction to Radiography ‡</td>
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<tr>
<td>RADT-159 Radiographic Imaging 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>RADT-168 Radiography Clinical Practice 1 ‡</td>
<td>2</td>
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<tr>
<td>RADT-170 Radiographic Imaging 2 ‡</td>
<td>3</td>
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<tr>
<td>RADT-191 Radiographic Anatomy and Procedures 2 ‡</td>
<td>5</td>
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<tr>
<td>RADT-192 Radiography Clinical Practice 2 ‡</td>
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<td>RADT-193 Radiography Clinical Practice 3 ‡</td>
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<tr>
<td>RADT-194 Imaging Equipment Operation ‡</td>
<td>3</td>
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<tr>
<td>RADT-196 Modalities ‡</td>
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<td>RADT-199 Radiography Clinical Practice 4 ‡</td>
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<tr>
<td>RADT-189 Radiographic Pathology ‡</td>
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<td>RADT-190 Radiography Clinical Practice 5 ‡</td>
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<td>RADT-195 Radiographic Quality Analysis ‡</td>
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General Studies

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<tr>
<td>MATH-107 College Mathematics ‡</td>
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<td>NATSCI-177 General Anatomy and Physiology ‡</td>
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<td>PSYCH-199 Psychology of Human Relations</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
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<td>SOCSCI-197 Contemporary American Society</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series HIST or SOCSCI course</td>
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Total Credits: 70

() Semester order for full-time students.
S = Summer.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
### Technical Studies

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<tr>
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<td>Introduction to MS Office</td>
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<tr>
<td>RLEST-180</td>
<td>Principles of Real Estate ^ * +</td>
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</tr>
<tr>
<td>RLEST-182</td>
<td>Real Estate Law ^ +</td>
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<tr>
<td>RLEST-189</td>
<td>Introduction to Home Inspection</td>
<td>3</td>
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<tr>
<td>RLEST-190</td>
<td>Intro to Property Management *</td>
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<tr>
<td>ACCTG-110</td>
<td>Financial Accounting</td>
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Select one of the following areas of emphasis:

#### Building and Home Inspection Emphasis

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<tr>
<td>RLEST-192</td>
<td>UDC: Construction for Inspectors</td>
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<tr>
<td>RLEST-194</td>
<td>UDC: HVAC for Inspectors ‡</td>
<td>3</td>
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<tr>
<td>RLEST-197</td>
<td>Commercial Building Code for Inspectors</td>
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#### Real Estate Sales and Broker Emphasis

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<tr>
<td>RLEST-187</td>
<td>Broker Management ‡ ^</td>
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</tr>
<tr>
<td>RLEST-188</td>
<td>Listing, Selling and Sales Tools</td>
<td>3</td>
</tr>
<tr>
<td>RLEST-181</td>
<td>Principles of Commercial Real Estate ‡</td>
<td>3</td>
</tr>
<tr>
<td>RLEST-185</td>
<td>Real Estate Investment Principles</td>
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#### General Studies

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<td>ECON-195</td>
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<tr>
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</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills ‡</td>
<td>3</td>
</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
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<tr>
<td>(or) ENG-201‡ and any 200-series</td>
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<tr>
<td>MATH-123</td>
<td>Math With Business Applications ‡</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series MATH course</td>
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<tr>
<td>NATSCI-167</td>
<td>Science of Technology</td>
<td>3</td>
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<tr>
<td>(or) Any 200-series NATSCI course</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series PSYCH course</td>
<td></td>
<td></td>
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<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series SOCSCI or HIST course</td>
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### Electives

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>(Three credits needed)</td>
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</table>

**Total Credits: 60**

(*) Semester order for full-time students.

^ Prerequisite required.

Counts toward earning the Real Estate Broker Associate technical diploma.

* Counts toward earning the Property Management certificate.

+ Counts toward earning the Real Estate Salesperson certificate.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.

---

**Real Estate**

**ASSOCIATE DEGREE**  [Program Code: 10-194-1]  West Allis Campus

**Career Outlook**

Options include working for real estate companies or as a self-employed real estate specialist. A willingness to work evenings and weekends is important.

**Program Learning Outcomes**

- Prepare real estate contracts and documents in accordance with applicable laws
- Apply mathematical, financing and investment principles to real estate transactions
- Apply concepts of property valuation to real estate transactions
- Identify building construction and environmental issues in real estate transactions
- Manage real property consistent with applicable laws
- Apply real estate sales and marketing strategies

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

---

**Start Dates: August and January**

**For complete information, go to matc.edu/business**

To apply for financial aid, visit fafsa.gov. School Code: 003866

---

**REAL ESTATE**

matc.edu/academic_programs/pathways

**Certificate**

- Property Management, p. 202
- Real Estate Salesperson, p. 203

**Technical Diploma**

- Real Estate Broker Associate, p. 172

**Associate Degree**

- Real Estate, p. 98

---

This comprehensive, state-approved program prepares you for a range of careers in the real estate field, including sales and brokerage, building inspection and property management. Courses that meet educational requirements to qualify for state licensing exams are part of the curriculum.

---

This program is approved by the State of Wisconsin Department of Safety and Professional Services, 1400 East Washington Avenue, P.O. Box 8935, Madison, WI 53708; 608-266-2112.
Registered Nursing
ASSOCIATE DEGREE  Program Code: 10-543-1  Downtown Milwaukee, Mequon campuses

 Prepare for a registered nursing career at MATC. Theory and lab courses on campus set the foundation for your clinical practice. Simulation and guided practice in clinical settings further prepare you for practice as an RN. Graduates are eligible to take the RN licensure exam (NCLEX-RN). Employers will expect graduates to have plans to earn a Bachelor of Science in Nursing (BSN). Some BSN courses may be taken concurrently with associate degree courses.

Program Learning Outcomes

• Implement one’s role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy and quality care
• Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts
• Integrate social, mathematical, and physical sciences, pharmacology, and pathophysiology in clinical decision-making
(For full description, see matc.edu.)

Admission Requirements

High school diploma or GED, and one year of high school biology and chemistry are required. This program admits students through a petition selection process. See program’s webpage at matc.edu to view the petition process and all requirements. Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; 404-975-5000; fax 404-975-5020; email: info@acenursing.org; www.acenursing.org.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

This Associate in Applied Science program will transfer to one or more four-year institutions.
Official Wisconsin Technical College System program title: Nursing Associate Degree.

TECHNICAL STUDIES

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>NRSAD-101</td>
<td>Nursing Fundamentals</td>
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<td>NRSAD-102</td>
<td>Nursing Skills</td>
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</tr>
<tr>
<td>NRSAD-103</td>
<td>Nursing Pharmacology</td>
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<tr>
<td>NRSAD-104</td>
<td>Nursing: Introduction to Nursing Practice</td>
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</tr>
<tr>
<td>NRSAD-105</td>
<td>Nursing: Health Alterations</td>
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<tr>
<td>NRSAD-106</td>
<td>Nursing: Health Promotion</td>
<td>3</td>
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<tr>
<td>NRSAD-107</td>
<td>Nursing: Clinical Care Across the Lifespan</td>
<td>2</td>
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<tr>
<td>NRSAD-108</td>
<td>Nursing: Introduction to Clinical Management</td>
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<tr>
<td>NRSAD-109</td>
<td>Nursing: Complex Health Alterations</td>
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<td>NRSAD-110</td>
<td>Nursing: Mental Health Community Concepts</td>
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<td>Nursing: Intermediate Clinical Practice</td>
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<td>Nursing: Complex Health Alterations</td>
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<td>Nursing: Management Concepts</td>
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<td>NRSAD-115</td>
<td>Nursing: Advanced Clinical Practice</td>
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<tr>
<td>NRSAD-116</td>
<td>Nursing: Clinical Transition</td>
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GENERAL STUDIES

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<td>3</td>
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<tr>
<td>ENG-152</td>
<td>Communication Skills</td>
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<tr>
<td>NATSCI-177</td>
<td>General Anatomy and Physiology</td>
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<td>NATSCI-179</td>
<td>Advanced Anatomy and Physiology</td>
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<td>NATSCI-186</td>
<td>Introductory Biochemistry</td>
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<td>Microbiology</td>
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<td>PSYCH-188</td>
<td>Developmental Psychology</td>
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<tr>
<td>SOCSI-197</td>
<td>Contemporary American Society</td>
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TOTAL CREDITS: 66

( ) Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change.
Respiratory Therapist

ASSOCIATE DEGREE  Program Code: 10-515-1  Downtown Milwaukee Campus

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HEALTH-101</td>
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<td>RESPC-111</td>
<td>Respiratory Survey ‡</td>
<td>........3</td>
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<td>RESPC-171</td>
<td>Respiratory Therapeutics 1 ‡</td>
<td>........3</td>
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<td>RESPC-112</td>
<td>Respiratory Airway Management ‡</td>
<td>........2</td>
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<td>RESPC-172</td>
<td>Respiratory Therapeutics 2 ‡</td>
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<td>RESPC-173</td>
<td>Respiratory Pharmacology ‡</td>
<td>........3</td>
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<td>RESPC-174</td>
<td>Respiratory Cardiac Physiology ‡</td>
<td>........3</td>
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<tr>
<td>RESPC-175</td>
<td>Respiratory Clinical 1 ‡</td>
<td>........2</td>
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<tr>
<td>RESPC-113</td>
<td>Respiratory Life Support ‡</td>
<td>........3</td>
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<td>RESPC-176</td>
<td>Respiratory Disease ‡</td>
<td>........3</td>
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<td>RESPC-178</td>
<td>Respiratory Clinical 2 ‡</td>
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<td>RESPC-180</td>
<td>Respiratory Neonatal and Pediatric Care ‡</td>
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<td>RESPC-181</td>
<td>Respiratory/Cardio Diagnostics ‡</td>
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GENERAL STUDIES

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<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<td>NATSCI-197</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>ELECTIVES</td>
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TOTAL CREDITS: 70

Start Date: August

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  | 414-297-6263

This program is fully accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, TX 76021-4244; 812-283-2835; fax 817-354-8519; www.coarc.com. Accreditation is based on recommendation of the Commission on Accreditation for Respiratory Care.

Enhance patient care by evaluating and treating people with lung and heart disease. Respiratory therapists’ duties include administering treatments, recommending therapeutic interventions and operating life support systems. Graduates are qualified to sit for the National Board for Respiratory Care (NBRC) examinations.

Career Outlook

Respiratory therapists work in acute and subacute hospitals, diagnostic laboratories, rehabilitation facilities, clinics and home care.

Program Learning Outcomes

• Apply respiratory therapy concepts to patient care situations
• Demonstrate technical proficiency required to fulfill the role of a Respiratory Therapist
• Practice respiratory therapy according to established professional and ethical standards

Admission Requirements

High school diploma or GED, and one year of high school-level biology and chemistry are required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  | 414-297-6263

This program is fully accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, TX 76021-4244; 812-283-2835; fax 817-354-8519; www.coarc.com. Accreditation is based on recommendation of the Commission on Accreditation for Respiratory Care.
If you want to pursue a career in logistics, transportation, distribution, purchasing, production or inventory control, this program will interest you. Areas of study include supply chains and quality management. The program’s blended format is 50 percent online and 50 percent classroom.

Career Outlook
The projected employment outlook is steady for the field of supply chain management. Positions may require travel and overtime.

Program Learning Outcomes
- Define (plan) operations, transportation, procurement and distribution
- Measure operations, transportation, procurement and distribution
- Analyze operations, transportation, procurement and distribution
- Improve operations, transportation, procurement and distribution
- Control operations, transportation, procurement and distribution

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGMGT-146</td>
<td>Operations Management ^ *</td>
<td>3</td>
</tr>
<tr>
<td>LOGMGT-164</td>
<td>Supply Chain Management ^ *</td>
<td>3</td>
</tr>
<tr>
<td>BADM-106</td>
<td>MS Office for Business Applications^ *</td>
<td>3</td>
</tr>
<tr>
<td>INDVTS-102</td>
<td>Career Assessment/Portfolio Development ^ *</td>
<td>3</td>
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<tr>
<td>LOGMGT-170</td>
<td>Procurement ^</td>
<td>3</td>
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<tr>
<td>LOGMGT-190</td>
<td>Logistics *</td>
<td>3</td>
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<tr>
<td>MKTG-107</td>
<td>Customer Experience</td>
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<tr>
<td>(or) ACCTG-111</td>
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<tr>
<td>(or) BADM-165</td>
<td>Legal Environment of Business</td>
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<td>LOGMGT-105</td>
<td>Enterprise Resource Planning</td>
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<td>LOGMGT-144</td>
<td>Production Planning and Inventory Control ^</td>
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<td>LOGMGT-184</td>
<td>International Logistics – Transportation/Documentation *</td>
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<td>LOGMGT-185</td>
<td>Negotiation Skills for Business</td>
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<td>(or) ACCTG-113</td>
<td>Accounting 2 ‡</td>
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<td>(or) ACCTG-126</td>
<td>Accounting for Managers</td>
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<td>LOGMGT-106</td>
<td>eCommerce Logistics</td>
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<td>LOGMGT-191</td>
<td>Integrated Supply Chain Management ‡</td>
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<td>QETECH-134</td>
<td>Six Sigma Green Belt 2 ‡</td>
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<td>(or) ACCTG-125</td>
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<tr>
<td>(or) BADM-104</td>
<td>Business Statistics ‡</td>
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GENERAL STUDIES

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<thead>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
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<tr>
<td>(or) ENG-201‡ and any 200-series ENG or SPEECH course</td>
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</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series MATHEMATICS course</td>
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<td>MATH-123</td>
<td>Math With Business Applications ‡</td>
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<tr>
<td>(or) Any 200-series PSYCH course</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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<td>(or) Any 200-series PSYCH course</td>
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ELECTIVES

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<td>(Three credits needed)</td>
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<td>3</td>
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</table>

TOTAL CREDITS: 60

(‡) Semester order for full-time students.
(§) Prerequisite required.
Program curriculum requirements are subject to change.
^ Counts toward earning the Supply Management technical diploma.
* Counts toward earning the Transportation – Logistics technical diploma.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Surgical technologists work under direct supervision to facilitate safe, effective invasive surgical procedures. You will learn the application of sterile and aseptic technique to help ensure that the operating room environment is safe and equipment functions properly. Graduates are eligible to write the certification examination given by the National Board of Surgical Technology and Surgical Assisting to become a Certified Surgical Technologist.

Program Learning Outcomes

- Apply healthcare and technological science principles to the perioperative environment
- Maintain principles of sterile technique in the surgical environment
- Provide a safe, efficient, and supportive environment for the patient
- Prepare the patient, operating room and surgical team for the preoperative phase
- Perform intraoperative case management in the scrub role
- Perform postoperative case management
- Function as an ethical, legal, and professional member of the healthcare team as determined by governing bodies

Admission Requirements

High school diploma or GED, and one year of high school-level algebra, biology and chemistry (or college equivalent) are required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; 727-210-2350; www.caahep.org. Accreditation is based on recommendation of the Accreditation Review Committee on Education in Surgical Technology.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6263
MATC’s Technical Studies: Apprentice associate degree program is for students who have completed apprenticeships registered through the Wisconsin Bureau of Apprenticeship Standards. Advanced standing for this degree is based solely on your apprenticeship experience. Applicants must possess a Wisconsin Certificate of Apprenticeship. You also may be considered if you possess documentation of having served an apprenticeship recognized by the U.S. Department of Labor. With proper documentation, 36 selected credits will be awarded toward the associate degree.

Admission Requirements
- A high school diploma or GED
- Minimum of 400 hours of related apprenticeship instruction in a Wisconsin Technical College System college or other accredited institution
- Interview with program coordinator

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### TECHNICAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDVTS-102</td>
<td>Career Assessment and Portfolio Development</td>
<td>3</td>
</tr>
<tr>
<td>APPRENTICESHIP</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

A Wisconsin journey-level certificate from an apprenticeship program that included a minimum of 400 hours of paid, related instruction in a Wisconsin technical college or other accredited institution.

### GENERAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON-195</td>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series ECON course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-152 Communication Skills 2 ‡</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(or) ENG-201 ‡ and any 200-series ENG or SPEECH course</td>
<td></td>
<td></td>
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<tr>
<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) MATH-113 College Technical Mathematics 1A ‡</td>
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<td></td>
</tr>
<tr>
<td>(or) Any 200-series MATH course</td>
<td></td>
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</tr>
<tr>
<td>NATSCI-167</td>
<td>Science of Technology</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series NATSCI course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series PSYCH course</td>
<td></td>
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<tr>
<td>SOCSCE-197</td>
<td>Contemporary American Society</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series HIST or SOCSCE course</td>
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<td></td>
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</tbody>
</table>

**TOTAL CREDITS: 60**

‡ Prerequisite required.

Curriculum requirements are subject to change.

A minimum of 25% of total program requirements must be earned at MATC.

This Associate in Applied Science program will transfer to one or more four-year institutions.

---

**Start Dates: August and January**

For complete information, go to matc.edu/ tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

**MILWAUKEE AREA Technical College**

School of TECHNOLOGY and APPLIED SCIENCES

| 414-297-6315 |
Prepare for a career in the production, operation and programming areas of broadcast television, cable, or corporate and commercial video. You will gain hands-on experience in the high-definition studios of Milwaukee PBS, a leader in HDTV production.

**Career Outlook**
Graduates have an excellent entry-level employment history in a competitive field. Potential employers are TV stations, cable systems, advertising agencies, private industry, educational institutions and video production houses.

**Program Learning Outcomes**
- Apply the principles of design and storytelling to develop media products and services
- Demonstrate proficiency in the use of media software, tools and technology
- Implement creative solutions from concept through completion
- Communicate creative rationale in formal and informal settings
- Implement project management skills to meet customer and market demands
- Apply effective and ethical business practices

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level algebra
- Ability to work outside normal school hours

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV-101</td>
<td>TV/Video Studio Production Techniques</td>
<td>4</td>
</tr>
<tr>
<td>TV-113</td>
<td>Television Lighting and Set Construction</td>
<td>3</td>
</tr>
<tr>
<td>TV-181</td>
<td>Video in Society</td>
<td>1</td>
</tr>
<tr>
<td>TV-121</td>
<td>TV and Video Production Workshop 1</td>
<td>3</td>
</tr>
<tr>
<td>TV-105</td>
<td>TV/Video Field Production Techniques</td>
<td>4</td>
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<tr>
<td>TV-112</td>
<td>Storytelling Via Post-Production</td>
<td>3</td>
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<tr>
<td>TV-107</td>
<td>Script Writing for Visual Media</td>
<td>3</td>
</tr>
<tr>
<td>TV-110</td>
<td>Advanced Production Techniques</td>
<td>4</td>
</tr>
<tr>
<td>TV-122</td>
<td>TV/Video Production Workshop 2</td>
<td>3</td>
</tr>
<tr>
<td>WEBDEV-102</td>
<td>Introduction to Digital Media</td>
<td>3</td>
</tr>
</tbody>
</table>

(1) T V-115 | Advanced Broadcast Program Production | 4 |
(2) TV-119 | Operational Broadcast Engineering | 3 |

Students choose 3 credits in the second semester and 3 credits in the third semester from this list: 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>TV-123</td>
<td>TV and Video Production Co-Op 1</td>
<td>1</td>
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<tr>
<td>AUDIO-120</td>
<td>Audio Production for Visual Media</td>
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<tr>
<td>TV-124</td>
<td>TV and Video Production Co-Op 2</td>
<td>1</td>
</tr>
<tr>
<td>TV-142</td>
<td>Non-Linear Video Editing and Authoring</td>
<td>1</td>
</tr>
<tr>
<td>TV-143</td>
<td>Interactive Content</td>
<td>1</td>
</tr>
<tr>
<td>TV-144</td>
<td>Graphic Design for Video Integration</td>
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</tbody>
</table>

**GENERAL STUDIES**

<table>
<thead>
<tr>
<th>Course</th>
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<td>Communication Skills 2</td>
<td>3</td>
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<td>NATSCI-167</td>
<td>Science of Technology</td>
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<td>College Mathematics</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td>SOCSOC-197</td>
<td>Contemporary American Society</td>
<td>3</td>
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</tbody>
</table>

**TOTAL CREDITS: 68**

() Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the TV/Video Studio Production Assistant technical diploma.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
MATC’s coursework in interface design, responsive web design, user experience, and website development through coding with HTML, CSS, JavaScript, PHP/MySQL, etc., offer a comprehensive background in web design and front-end web development.

**Career Outlook**
Skills in web design, front-end web development and user experience are in demand and are projected to continue to grow rapidly in the next decade.

**Program Learning Outcomes**
- Apply the principles of design to develop strategic marketing and communication products and services
- Demonstrate proficiency in the use of design software, tools and technology
- Implement creative solutions from concept through completion using a formal process
- Apply effective legal and ethical business practices and project management skills
- Communicate artwork rationale in formal and informal settings

**Admission Requirements**
- A high school diploma or GED
- Demonstration of basic computer skills in operating systems, word processing and the internet

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**WEB & DIGITAL MEDIA DESIGN**
matc.edu/academic_programs/pathways

**Technical Diploma**
- Front-End Web Developer, p. 148

**Associate Degree**
- Web & Digital Media Design, p. 105

**TECHNICAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WEBDEV-102</td>
<td>Introduction to Digital Media</td>
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<tr>
<td>WEBDEV-114</td>
<td>Web Development With HTML/CSS</td>
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<td>WEBDEV-119</td>
<td>Web Design Overview</td>
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<td>ITDEV-117</td>
<td>Logic and Problem-Solving</td>
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<td>WEBDEV-120</td>
<td>Audio and Video Production for the Web</td>
<td>3</td>
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<tr>
<td>WEBDEV-123</td>
<td>Interactive Design</td>
<td>3</td>
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<tr>
<td>WEBDEV-124</td>
<td>Database Web Design With PHP and MySQL</td>
<td>3</td>
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<td>CAS-143</td>
<td>User Experience UE 2.0</td>
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<td>WEBDEV-132</td>
<td>Rich Media for the Web</td>
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<td>WEBDEV-133</td>
<td>Content Management Systems</td>
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<td>WEBDEV-134</td>
<td>Responsive Web Design</td>
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<td>User Experience for the Web</td>
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<td>WEBDEV-140</td>
<td>Web Development With JavaScript and jQuery</td>
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<td>WEBDEV-198</td>
<td>Internship</td>
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<td>WEBDEV-199</td>
<td>Portfolio</td>
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<tr>
<td>MKTG-165</td>
<td>Digital Marketing</td>
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**GENERAL STUDIES**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENG-151</td>
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<td>3</td>
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<td>ENG-201‡</td>
<td>and any 200-series ENG or SPEECH course</td>
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<tr>
<td>MATH-123</td>
<td>Math With Business Applications</td>
<td>3</td>
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<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
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</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society</td>
<td>3</td>
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</tbody>
</table>

**TOTAL CREDITS:** **61**

(‡) Semester order for full-time students.

‡ Prerequisite required.

^ Counts toward earning the Front-End Web Developer technical diploma.

Program curriculum requirements are subject to change. This Associate in Applied Science program will transfer to one or more four-year institutions.

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**Start Dates: August and January**

For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6433

matc.edu | 414-297-MATC | Wisconsin Relay System 711
The Welding Technology program combines practical, theoretical and technical training in welding fabrication. Advanced courses deal with application of welding codes to develop the expertise needed to become a Certified Associate Welding Inspector or Certified Welding Inspector. Demand is high for welders with current skills.

Program Learning Outcomes

- Demonstrate industry-recognized safety practices
- Interpret welding drawings
- Produce gas metal arc welds (GMAW)
- Produce flux core arc welds (FCAW)
- Produce gas tungsten arc welds (GTAW)
- Produce shielded metal arc welds (SMAW)
- Produce welds using robotic arc welding equipment
- Maintain robotic arc welding cells and equipment
- Form materials to detailed drawings
- Cut materials to detailed drawings
- Join materials to detailed drawings

(For full description, see matc.edu.)

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

| MILWAUKEE AREA Technical College | 414-297-6315 |
| School of TECHNOLOGY and APPLIED SCIENCES |

TECHNICAL STUDIES

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tr>
<td>WELDTC-101</td>
<td>Welding Theory 1</td>
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<tr>
<td>WELDTC-107</td>
<td>Fabrication Graphics</td>
<td>3</td>
</tr>
<tr>
<td>WELDTC-111</td>
<td>Welding Practice 1</td>
<td>4</td>
</tr>
<tr>
<td>WELDTC-181</td>
<td>Welding Technology Orientation</td>
<td>1</td>
</tr>
<tr>
<td>WELDTC-102</td>
<td>Welding Theory 2</td>
<td>3</td>
</tr>
<tr>
<td>WELDTC-105</td>
<td>Weldability of Materials ‡</td>
<td>3</td>
</tr>
<tr>
<td>WELDTC-112</td>
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<td>MATRLS-102</td>
<td>Material Testing</td>
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<tr>
<td>WELDTC-113</td>
<td>Welding Techniques 1 ‡</td>
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<td>WELDTC-140</td>
<td>Manufacturing Applications for Robots</td>
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<td>WELDTC-114</td>
<td>Welding Techniques 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>WELDTC-135</td>
<td>Automated Welding Processes ‡</td>
<td>4</td>
</tr>
</tbody>
</table>

GENERAL STUDIES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON-195</td>
<td>Economics (or) Any 200-series ECON course</td>
<td>3</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>ENG-152</td>
<td>Communication Skills 2 ‡ (or) ENG-201‡ and any 200-series ENG or SPEECH course</td>
<td>3</td>
</tr>
<tr>
<td>MATH-115</td>
<td>College Technical Mathematics 1 ‡ (or) MATH-113 College Technical Mathematics 1A‡ and MATH-114 College Technical Mathematics 1B ‡</td>
<td>5</td>
</tr>
<tr>
<td>MATH-116</td>
<td>College Technical Mathematics 2 ‡</td>
<td>4</td>
</tr>
<tr>
<td>NATSCI-137</td>
<td>Comprehensive Technical Physics</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations (or) Any 200-series PSYCH course</td>
<td>3</td>
</tr>
<tr>
<td>SOCSCI-197</td>
<td>Contemporary American Society (or) Any 200-series HIST or SOCSCI course</td>
<td>3</td>
</tr>
</tbody>
</table>

ELECTIVES (Three credits needed) 3

TOTAL CREDITS: 68

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
This Associate in Applied Science program will transfer to one or more four-year institutions.
Official Wisconsin Technical College System program title: Industrial Welding Technician.
TECHNICAL DIPLOMAS

If you are interested in preparing for a specific occupation or upgrading your job skills, MATC offers the following programs that lead to a technical diploma. Most technical diploma programs can be completed within one year of full-time study; some programs require one semester and others are two-year programs.
## Accounting Assistant

**TECHNICAL DIPLOMA**  
Program Code: 31-101-1  
Downtown Milwaukee, Oak Creek, West Allis campuses (Also offered online)

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### CAREER pathways

Accounting Assistant  
[link](matc.edu/academic_programs/pathways)

### Certificate
- Accounting Bookkeeper Trainee, p. 188

### Technical Diploma
- Accounting Assistant, p. 108

### Associate Degree
- Accounting, p. 32

---

### COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) ACCTG-111</td>
<td>4</td>
<td>Accounting 1 (\wedge)</td>
</tr>
<tr>
<td>(1) BADM-165</td>
<td>3</td>
<td>Legal Environment of Business</td>
</tr>
<tr>
<td>(1) ENG-151</td>
<td>3</td>
<td>Communication Skills 1 ‡</td>
</tr>
<tr>
<td>(or) ENG-201</td>
<td>1 ‡</td>
<td>English 1 ‡</td>
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<tr>
<td>(1) MATH-107</td>
<td>3</td>
<td>College Mathematics ‡</td>
</tr>
<tr>
<td>(1) ACCTG-113</td>
<td>4</td>
<td>Accounting 2 ‡</td>
</tr>
<tr>
<td>(2) ACCTG-121</td>
<td>4</td>
<td>Income Taxation</td>
</tr>
<tr>
<td>(2) ACCTG-122</td>
<td>3</td>
<td>Accounting Software Applications (\wedge)</td>
</tr>
<tr>
<td>(2) ACCTG-130</td>
<td>3</td>
<td>Computerized Accounting (\wedge)</td>
</tr>
</tbody>
</table>
| (2) ACCTG-142 | 2      | Payroll Accounting |}

**TOTAL CREDITS: 29**

- ( ) Semester order for full-time students.
- ‡ Prerequisite required.
- \(\wedge\) Counts toward earning the Accounting Bookkeeper Trainee certificate.
- Program curriculum requirements are subject to change.

---

### Career Outlook

Qualified accounting applicants continue to be in demand. Employment opportunities exist in banking, business and industry, government offices and nonprofit organizations.

### Program Learning Outcomes

- Process financial transactions throughout the accounting cycle
- Analyze basic financial and business information to support planning and decision-making
- Perform payroll preparation, reporting, and analysis tasks

### Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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### Start Dates: August and January

For complete information, go to matc.edu/business  
To apply for financial aid, visit fafsa.gov. School Code: 003866

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**MILWAUKEE AREA TECHNICAL COLLEGE**  
School of BUSINESS  
| 414-297-6395 |
The Advanced Metal Fabrication Technical Diploma prepares students for careers in the metal fabrication industry. This program focuses on developing advanced skills in welding, metal forming, and cutting techniques using computer-controlled machines. Students will learn to operate press brakes, shears, punch, and plasma/laser arc cutting machines, as well as produce parts using new techniques and materials.

### Program Learning Outcomes
- Demonstrate industry recognized safety practices
- Form materials to detailed drawings
- Cut materials to detailed drawings
- Join materials to detailed drawings
- Layout components/assemblies
- Inspect product

### Admission Requirement
- A high school diploma or GED
- Interest in working with metal is recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### Program Requirements

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>WELD-313</td>
<td>Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>WELD-314</td>
<td>Gas Tungsten Arc Welding</td>
</tr>
<tr>
<td>WELD-350</td>
<td>GTAW Processes</td>
</tr>
<tr>
<td>WELD-351</td>
<td>Shielded Metal Arc Welding Processes</td>
</tr>
<tr>
<td>WELD-360</td>
<td>Blueprint Reading for Welders</td>
</tr>
<tr>
<td>WELD-380</td>
<td>Welding Trades Mathematics</td>
</tr>
<tr>
<td>WELD-315</td>
<td>Gas Metal Arc Welding Practices</td>
</tr>
<tr>
<td>WELD-316</td>
<td>Layout and Setup Practices</td>
</tr>
<tr>
<td>WELD-352</td>
<td>Gas-Shielded Arc Welding Processes</td>
</tr>
<tr>
<td>WELD-354</td>
<td>Layout and Print Reading Practices</td>
</tr>
<tr>
<td>ENG-340</td>
<td>Workplace Communication</td>
</tr>
<tr>
<td>MTLFAB-300</td>
<td>Metal Fabrication 1</td>
</tr>
<tr>
<td>MTLFAB-301</td>
<td>Metal Forming and Press Brake</td>
</tr>
<tr>
<td>MTLFAB-302</td>
<td>Advanced Cutting Techniques and Applications</td>
</tr>
<tr>
<td>MTLFAB-303</td>
<td>Metal Fabrication 2</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 55**

( ) Semester order for full-time students.
^ Prerequisite required.
‡ Prerequisite required.

Counts toward earning the Welding technical diploma. Program curriculum requirements are subject to change.
Learn advanced skin care techniques and work with clients at Skyn – the Spa at MATC Mequon, the state-of-the-art facility on campus. This two-semester program is in compliance with the Wisconsin Department of Safety and Professional Services. You will become eligible to take the state board aesthetician licensing examination, and work in upscale spas or alongside medical professionals.

**Career Outlook**

Employment opportunities include day spas, salons, resorts and fitness centers.

**Program Learning Outcomes**

- Perform consultations and skin analysis
- Perform facial and body treatments
- Perform hair removal services
- Perform microdermabrasion and chemical exfoliation
- Recommend products to clients

(For full description, see matc.edu.)

**Admission Requirements**

- A high school diploma or GED
- Must attend the Aesthetician Program Orientation to register for courses

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is being developed as a pathway. Contact an MATC advisor for information.

## COURSES Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) BARCOS-101</td>
<td>Introduction to Guest Services: Professional Practices ‡</td>
<td>2</td>
</tr>
<tr>
<td>(1) BARCOS-108</td>
<td>Facial Treatments ‡</td>
<td>3</td>
</tr>
<tr>
<td>(1) BARCOS-109</td>
<td>Hair Removal Treatments ‡</td>
<td>1</td>
</tr>
<tr>
<td>(1) BARCOS-317</td>
<td>Barber/Cosmetology Theory</td>
<td>1</td>
</tr>
<tr>
<td>(1) BARCOS-330</td>
<td>Business Management Skills for Barbers/Cosmetologists</td>
<td>2</td>
</tr>
<tr>
<td>(1) BARCOS-355</td>
<td>Spa Sciences ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) BARCOS-102</td>
<td>Guest Services 2: Spa Operations ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) BARCOS-104</td>
<td>Spa Treatments ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) BARCOS-106</td>
<td>Advanced Makeup Techniques ‡</td>
<td>1</td>
</tr>
<tr>
<td>(2) BARCOS-107</td>
<td>Advanced Spa Treatments ‡</td>
<td>1</td>
</tr>
<tr>
<td>(2) BARCOS-110</td>
<td>Aesthetician Board Prep ‡</td>
<td>2</td>
</tr>
<tr>
<td>(2) ENG-340</td>
<td>Workplace Communication</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 24**

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

For information about the program, contact:
Amy Poshepny, Aesthetician Program Coordinator, poshepna@matc.edu, 414-297-7282.
As household electrical appliances become more complex, a greater degree of knowledge is required to service them. This two-semester program combines coursework with hands-on lab experience. Classes are held at the MATC Education Center at Walker’s Square, 816 West National Avenue, Milwaukee.

Career Outlook
Trained appliance service technicians are in demand.

Program Learning Outcomes
• Diagnose mechanical and electrical appliance issues
• Repair mechanical and electrical malfunctions in appliances
• Interact with customers

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES Credits
(1) APPSVC-308 Electricity for Appliance Servicing ‡ ...........4
(1) APPSVC-310 Laundry Equipment ‡ ...................5
(1) APPSVC-316 Kitchen Equipment 1 ‡ ..............4
(1) APPSVC-329 Related Business for Appliance Servicing ‡..............................1
(1) CONSTR-302 OSHA Safety/CPR for the Trades ‡ ......1
(1) CONSTR-380 Mathematics for Construction Trades ...........................................1
(2) APPSVC-324 Refrigeration 1 (Theory and Techniques) ‡.................................4
(2) APPSVC-340 Kitchen Equipment 2 ‡ ....................4
(2) APPSVC-342 Refrigeration 2 (Servicing) ‡................5
(2) ENG-340 Workplace Communication ......................2

TOTAL CREDITS: 31

() Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
Attain the skills needed to work in cabinet shops, millwork shops, furniture factories, display shops and maintenance shops through this two-semester program. The curriculum includes how to read blueprints, make detailed drawings and use machinery.

**Career Outlook**
The employment outlook is favorable for workers with current training.

**Program Learning Outcomes**
- Read blueprints
- Set up machinery
- Operate saws, joiners, planers, shapers, sanders and other woodworking machinery
- Assemble parts

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Date:** August

For complete information, go to matc.edu/utas
To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**
School of Technology and Applied Sciences | 414-297-6315
Plan now for a sound future. You will learn to work with live sound at concerts, stage and church settings; studio recordings and studio engineering; field recordings; production of beats; and audio for gaming. This two-semester program prepares you for entry-level positions in the audio engineering field.

**Program Learning Outcomes**
- Apply technical and artistic skills for entry-level employment in the audio production industry
- Apply critical listening and post-production mastering skills to final audio mixes
- Demonstrate the process of digitally blending multiple sources of audio using a mixing console
- Set up and prepare audio equipment for proper sound reinforcement during performances
- Utilize post-production mixing skills to mix studio recordings

**Admission Requirements**
- A high school diploma or GED
- Demonstration of basic computer skills in the Mac OS
- Ability to hear without impairment
- Must have the ability to lift, bend, and move equipment

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Auto Collision Repair and Finish Technician

TECHNICAL DIPLOMA  Program Code: 31-405-1  Oak Creek Campus

COURSES Credits
(1) AUTOBY-300 Introduction to Auto Body Fundamentals.......................... 3
(1) AUTOBY-301 Plastic and Composites Repair.......................... 1
(1) AUTOBY-303 Masking, Prep and Detailing.......................... 1
(1) AUTOBY-304 Basic Auto Mechanical Systems.......................... 1
(1) AUTOBY-305 Auto Body 1 ‡ .................................... 5
(1) WELD-340 Welding for Auto Body Technicians .... 2
(1) ENG-340 Workplace Communication ................................ 2
(2) AUTOBY-310 Automobile Body Fundamentals ‡ ...... 4
(2) AUTOBY-311 Automobile Frame Straightening ‡ ...... 3
(2) AUTOBY-312 Electrical Servicing for Auto Body Repairing.......................... 1
(2) AUTOBY-313 Surface Preparation/ Color Matching ‡.......................... 1
(2) AUTOBY-314 Front-End Alignment.......................... 1
(2) AUTOBY-315 Auto Body 2 ‡ .................................... 5

TOTAL CREDITS: 32

(†) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Get started in an auto repair career. This two-semester program prepares you for employment with automobile dealerships, body shops, and manufacturing jobs requiring spray painting ability. With instructor’s consent, portions of this program may be taken off campus for co-op credit.

Career Outlook
Employment prospects are good for trained technicians.

Program Learning Outcomes
• Straighten collision-damaged sheet metal
• Refinish automobile body parts
• Replace non-structural panels and parts
• Perform collision repair welding procedures

Admission Requirement
• High school diploma or GED recommended
Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College
School of TECHNOLOGY and APPLIED SCIENCES  |  414-297-6315
Automated Building Systems

TECHNICAL DIPLOMA  Program Code: 30-481-1

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

Learn about emerging technologies and gain the entry-level skills required for careers as technicians and specialists in building automation and controls. This industry encompasses a broad range of technologies used to efficiently control electrical and mechanical systems in commercial, industrial and institutional buildings. Courses are taught in the new Automated Building Systems (ABS) Lab.

Career Outlook
In this field, there is potential for advancement, progressing from entry-level installation work to troubleshooting and programming duties to facility management.

Program Learning Outcomes
• Perform building and energy use assessments
• Install equipment and materials
• Service building automation systems

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>(1) ABS-140 Building Systems 1</td>
<td>3</td>
</tr>
<tr>
<td>(1) ABS-141 Building Systems 2</td>
<td>2</td>
</tr>
<tr>
<td>(1) ABS-142 Measurement and Verification for ABS</td>
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</tr>
<tr>
<td>(1) ABS-143 Electrical Concepts/Control Theory 1 for ABS</td>
<td>2</td>
</tr>
<tr>
<td>(1) ABS-144 Control Theory 2 for ABS ‡</td>
<td>2</td>
</tr>
<tr>
<td>(1) ABS-150 Energy Auditing for ABS</td>
<td>2</td>
</tr>
<tr>
<td>(2) ABS-145 Control Theory 3 for ABS ‡</td>
<td>2</td>
</tr>
<tr>
<td>(2) ABS-148 Automated Building Control Systems ‡</td>
<td>4</td>
</tr>
<tr>
<td>(2) ABS-149 Networking Automated Building Systems</td>
<td>4</td>
</tr>
<tr>
<td>(2) ABS-151 Commissioning Automated Building Systems</td>
<td>2</td>
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<tr>
<td>(2) ABS-153 ABS Capstone Project Course ‡</td>
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</tbody>
</table>

TOTAL CREDITS: 25

(‡) Semester order for full-time students.
#Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August and January

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of TECHNOLOGY and APPLIED SCIENCES  |  414-297-6315
Expand your employment options by gaining skills to service and repair the drive train, and electrical and mechanical systems of automobiles through this one-year program. Co-op credit may be an option.

**Career Outlook**
Job duties may include new car predelivery inspection; wheel alignment and balancing; electrical systems, engine and transmission repair.

**Program Learning Outcomes**
- Practice safe techniques when servicing automobiles
- Estimate automotive repair and order replacement parts
- Communicate and respond to customers’ needs
- Use tools and equipment to diagnose and service automobile systems

**Admission Requirement**
- High school diploma or GED recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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### COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) AUTO1-300</td>
<td>Express Service ^</td>
<td>2</td>
</tr>
<tr>
<td>(1) AUTO1-302</td>
<td>Powertrain Maintenance and Light Repair Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>(1) AUTO1-304</td>
<td>Powertrain Maintenance and Light Repair Lab ‡</td>
<td>4</td>
</tr>
<tr>
<td>(1) AUTO1-306</td>
<td>Heating and Air Conditioning Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>(1) AUTO1-308</td>
<td>Brakes, Steering, Suspension Fundamentals ^</td>
<td>2</td>
</tr>
<tr>
<td>(1) AUTO1-310</td>
<td>Brakes, Steering, Suspension Lab 1 ‡ ^</td>
<td>4</td>
</tr>
<tr>
<td>(1) AUTO1-312</td>
<td>Brakes, Steering, Suspension Lab 2 ‡ ^</td>
<td>2</td>
</tr>
<tr>
<td>(2) AUTO1-314</td>
<td>Electrical and Electronics Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>(2) AUTO1-316</td>
<td>Electrical and Electronics Lab ‡</td>
<td>4</td>
</tr>
<tr>
<td>(2) AUTO1-318</td>
<td>Auto Instrumentation and Accessories ‡</td>
<td>2</td>
</tr>
<tr>
<td>(2) AUTO1-322</td>
<td>Engine Control Systems 1 Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>(2) AUTO1-324</td>
<td>Engine Control Systems 1 Lab ‡</td>
<td>4</td>
</tr>
<tr>
<td>(2) AUTO1-326</td>
<td>Engine Control Systems 2 Fundamentals/Lab ‡</td>
<td>2</td>
</tr>
<tr>
<td>(2) ENG-340</td>
<td>Workplace Communication</td>
<td>2</td>
</tr>
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</table>

**TOTAL CREDITS: 36**

^ Counts toward earning the Automotive Express Lube Technician certificate.

Program curriculum requirements are subject to change.

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This program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Road NE, Suite 401, Leesburg, VA 20176; 703-669-6650; fax 703-669-6125; www.aseeducationfoundation.org.
Get your career started quickly with the skills employers seek for light-duty repair technicians. You will learn to perform basic maintenance and repairs on automotive electrical, brake, steering, suspension and climate control systems.

**Career Outlook**
Entry-level technicians are in demand at automotive dealerships and repair garages.

**Program Learning Outcomes**
- Demonstrate professionalism appropriate for the auto service industry
- Perform diagnosis, service, and repair of automotive steering and suspension systems
- Perform diagnosis, service, and repair of automotive brake systems
- Perform diagnosis, service, and repair of automotive electrical and electronic systems
- Perform diagnosis, service, and repair of automotive heating and air conditioning systems

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
## COURSES

### Credits

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>GENERAL COMPONENT: AVIATION TECHNICIAN</strong></td>
<td></td>
</tr>
<tr>
<td>(1) AVITEC-323 Aircraft Ground Operation and Servicing ^ ................</td>
<td>3</td>
</tr>
<tr>
<td>(1) AVITEC-380 Basic Physics ^</td>
<td>1</td>
</tr>
<tr>
<td>(1) AVITEC-381 Basic Electricity ^</td>
<td>3</td>
</tr>
<tr>
<td>(1) AVITEC-382 Aircraft Materials and Their Inspection ^ ...............</td>
<td>3</td>
</tr>
<tr>
<td>(1) AVITEC-383 Aircraft Maintenance Publications, Records and Mechanics Regulations ^</td>
<td>1</td>
</tr>
<tr>
<td>(1) AVITEC-393 Mathematics for Aviation Technicians ^ ....................</td>
<td>2</td>
</tr>
<tr>
<td>(1) ENG-340 Workplace Communication ^ ....................................</td>
<td>2</td>
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<tr>
<td><strong>TOTAL CREDITS: 15</strong></td>
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</tbody>
</table>

### AVIATION TECHNICIAN – AIRFRAME

<table>
<thead>
<tr>
<th>COURSES</th>
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<tbody>
<tr>
<td>(2) AVITEC-320 Aircraft Electrical Systems ................................</td>
<td>4</td>
</tr>
<tr>
<td>(2) AVITEC-340 Aircraft Welding</td>
<td>1</td>
</tr>
<tr>
<td>(2) AVITEC-367 Composite Structures</td>
<td>3</td>
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<tr>
<td>(2) AVITEC-368 Aircraft Structures</td>
<td>3</td>
</tr>
<tr>
<td>(2) AVITEC-370 Aircraft Instrument, Control, and Warning Systems 1</td>
<td>5</td>
</tr>
<tr>
<td>(2) AVITEC-372 Hydraulic and Pneumatic Power Systems</td>
<td>4</td>
</tr>
<tr>
<td>(2) AVITEC-371 Aircraft Instrument, Control, and Warning Systems 2 ‡</td>
<td>1</td>
</tr>
<tr>
<td>(2) AVITEC-376 Airframe Maintenance</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL CREDITS: 25</strong></td>
<td></td>
</tr>
</tbody>
</table>

( ^ Counts toward earning the Aviation Maintenance Technician – General certificate. 
‡ Prerequisite required.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is certified by the Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; www.faa.gov; FAA (Federal Aviation Administration) CFR (Code of Federal Regulations) Part 147 Aviation Maintenance Technician School.

### Career Outlook

Skilled aviation mechanics with versatile knowledge are in demand.

### Program Learning Outcomes

- Read and comprehend aircraft maintenance manuals
- Pinpoint aircraft malfunctions using schematics and diagnostic equipment
- Repair airframe structures and return aircrafts to service

### Admission Requirements

- Completion of the Aviation Technician General Component or instructor approval
- A high school diploma or GED
- Background in mathematics and the physical sciences recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### Start Date: January

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

**MILWAUKEE AREA Technical College**

School of TECHNOLOGY and APPLIED SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
This specialized, high-demand training program concentrates on aircraft engine and propeller systems. (A companion program in Airframe maintenance also is offered.) MATC’s Aviation Center is at 422 East College Avenue, east of the Oak Creek Campus.

Career Outlook
Aircraft propulsion mechanics remain in high demand.

Program Learning Outcomes
• Read and comprehend aircraft maintenance manuals
• Analyze and repair powerplant malfunctions
• Maintain aircraft powerplant subsystems and determine their airworthiness

Admission Requirements
• Completion of the Aviation Technician General Component or instructor approval
• A high school diploma or GED
• Background in mathematics and the physical sciences recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is certified by the Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; www.faa.gov; FAA (Federal Aviation Administration) CFR (Code of Federal Regulations) Part 147 Aviation Maintenance Technician School.
Baking Production

TECHNICAL DIPLOMA  Program Code: 31-314-2  Downtown Milwaukee Campus

Baking and Pastry Arts
matc.edu/academic_programs/pathways

Technical Diploma
- Baking Production, p. 120

Associate Degree
- Baking and Pastry Arts, p. 48

Learn to produce and prepare pies, cookies, cakes, breads and other goods in a variety of baking environments, such as in-store and independent bakeries, large commercial bakeries and restaurants.

Career Outlook
Employers will expect graduates to safely use equipment, to mix batters and doughs, and to skillfully decorate baked goods.

Program Learning Outcomes
- Safe use of hand and power tools in the bakery
- Scaling ingredients for accurate portioning
- Mixing and handling batters and doughs
- Applying icing to baked products
- Preparation of fancy breads, dinner rolls, layer cakes, tortes, petit fours and cookies
- Converting standard recipes and portion control formulas

Admission Requirements
- A high school diploma or GED
- Ability to lift up to 50 pounds, and the purchase of pastry tool kit and uniform also required for this program

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) BAKING-120 Basic Baking .................................... 3</td>
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<tr>
<td>(1) BAKING-122 Baking Principles and Ingredient Functions ............. 3</td>
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<tr>
<td>(1) BAKING-123 Cake Decorating, Icing and Pastry Bags ................... 3</td>
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<tr>
<td>(1) CULMGT-112 Food Service Sanitation .................................... 2</td>
<td></td>
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<tr>
<td>(1) BAKING-124 Scratch Baking ............................................ 3</td>
<td></td>
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<tr>
<td>(1) ENG-151 Communication Skills 1 ‡ .................................... 3</td>
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<tr>
<td>(or) ENG-201 English 1 ‡ ....................................................</td>
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<tr>
<td>(1) NATSCI-172 Basic Nutritional Science .................................... 3</td>
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<td>(or) Any 200-series NATSCI course ........................................</td>
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<tr>
<td>(2) BAKING-129 Healthy and Natural Baking ‡ ............................ 2</td>
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<tr>
<td>(2) BAKING-101 Specialty Baking and Pastry Techniques 1 ‡ ................ 3</td>
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<tr>
<td>(2) BAKING-125 Artisan Breads ‡ ............................................ 3</td>
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<td>(2) CULMGT-105 Culinary Math and Cost Control ............................ 3</td>
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<tr>
<td>(2) BAKING-130 Field Experience in Baking and Pastry Arts ‡ .............. 1</td>
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<tr>
<td>(2) ENG-152 Communication Skills 2 ‡ .................................... 3</td>
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<td>(or) Any 200-series ENG or SPEECH course ..................................</td>
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<td>(2) MATH-107 College Mathematics ‡ ..................................... 3</td>
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<td>(or) Any 200-series MATH course .............................................</td>
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TOTAL CREDITS: 38

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
This program prepares you to work in the barbering profession, in compliance with the Wisconsin Department of Safety and Professional Services. You will learn shampooing, cutting and hairstyling techniques, shaving, beard trimming, hair coloring and other services. The program can be completed in two semesters; graduates are eligible to take the state board licensing exam.

**Career Outlook**

Employment prospects for licensed barbers are excellent. Many barbers are self-employed, either owning their business or leasing booth space.

**Program Learning Outcomes**

- Apply safety and sanitation procedures
- Adhere to the current Wisconsin administrative codes and statutes for barbers
- Demonstrate interpersonal skills for success
- Identify hair and scalp disorders
- Perform hair cutting services
- Demonstrate shaving and other facial hair removal techniques
- Perform male facial procedures

(For full description, see matc.edu.)

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is in compliance with the State of Wisconsin Department of Safety and Professional Services, 1400 East Washington Avenue, P.O. Box 8935, Madison, WI 53708; 608-266-2112.

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### COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>(1) BARCOS-300 Shampoo and Scalp Treatments ‡</td>
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<tr>
<td>(1) BARCOS-324 Business Skills for Barbers/Cosmetologists</td>
<td>1</td>
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<tr>
<td>(1) BARCOS-336 Barber Theory 1</td>
<td>1</td>
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<tr>
<td>(1) BARCOS-337 Barber Haircut 1</td>
<td>2</td>
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<tr>
<td>(1) BARCOS-338 Barber Chemical Services 1</td>
<td>1</td>
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<tr>
<td>(1) BARCOS-341 Shaving/Facials</td>
<td>2</td>
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<tr>
<td>(1) BARCOS-344 Barber Theory 2 ‡</td>
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<td>(1) BARCOS-345 Barber Haircut 2 ‡</td>
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<td>(1) BARCOS-346 Barber Chemical Services 2 ‡</td>
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<tr>
<td>(1) BARCOS-347 Barber Hairstyling 1</td>
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<tr>
<td>(1) BARCOS-348 Introduction to Client Services ‡</td>
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<tr>
<td>(2) BARCOS-318 Barber Theory 3 ‡</td>
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<tr>
<td>(2) BARCOS-319 Natural Hair Care and Braiding ‡</td>
<td>1</td>
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<td>(2) BARCOS-320 Client Services 1 ‡</td>
<td>1</td>
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<tr>
<td>(2) BARCOS-323 Client Services 2 ‡</td>
<td>1</td>
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<tr>
<td>(2) BARCOS-330 Business Management Skills for Barbers/Cosmetologists</td>
<td>2</td>
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<tr>
<td>(2) BARCOS-349 Barber Haircut 3 ‡</td>
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<tr>
<td>(2) BARCOS-350 Barber Chemical Services 3 ‡</td>
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<td>(2) BARCOS-351 Barber Hairstyling 2 ‡</td>
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<td>(2) BARCOS-352 Barber State Board Review ‡</td>
<td>2</td>
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<tr>
<td>(2) BARCOS-353 Barber Haircut 4 ‡</td>
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**TOTAL CREDITS: 30**

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.
### COURSES Credits

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<td>FLANG-123</td>
<td>Intermediate Spanish ‡ *</td>
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<td>OFTECH-103</td>
<td>Keyboard and Keypad</td>
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<tr>
<td>OFTECH-119</td>
<td>Information Management</td>
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<td>OFTECH-183</td>
<td>Bilingual Customer Service Skills</td>
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<tr>
<td>OFTECH-184</td>
<td>MS Office: Word, Excel, Access, PowerPoint ‡</td>
<td>3</td>
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<tr>
<td>RBUS-180</td>
<td>Business Career Planning</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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<tr>
<td>OFTECH-102</td>
<td>Office Technologies ‡</td>
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<tr>
<td>OFTECH-133</td>
<td>Business Document Production 1 ‡</td>
<td>3</td>
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<tr>
<td>OFTECH-136</td>
<td>Keyboarding Skill Development 1 ‡</td>
<td>1</td>
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<tr>
<td>OFTECH-165</td>
<td>Administrative Office Procedures</td>
<td>3</td>
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<tr>
<td>OFTECH-185</td>
<td>MS Office – Intermediate ‡</td>
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<tr>
<td>OFTECH-190</td>
<td>Bilingual Office Assistant Internship ‡</td>
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<tr>
<td>ACCTG-102</td>
<td>Basic Office Accounting</td>
<td>3</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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</table>

### TOTAL CREDITS: 37

(‡) Semester order for full-time students.

* Another foreign language course may be substituted for this course. The student must earn a minimum 2.5 GPA in the program’s foreign language coursework.

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**Career Outlook**

There is a strong need for bilingual office workers to serve diverse communities.

**Program Learning Outcomes**

- Perform accurate workplace communications
- Use technology skills for business tasks
- Perform routine office procedures
- Demonstrate professionalism and effective workplace relations

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Bricklaying

TECHNICAL DIPLOMA  Program Code: 30-408-2  MATC Education Center at Walker’s Square

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tr>
<td>(1) MASON-300</td>
<td>Fundamental Bricklaying.............. 5</td>
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<tr>
<td>(1) MASON-303</td>
<td>Advanced Bricklaying ‡................... 5</td>
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<tr>
<td>(1) MASON-308</td>
<td>Job Safety and Layout.................. 1</td>
</tr>
<tr>
<td>(1) MASON-356</td>
<td>Methods 1 - Fundamentals ‡............. 2</td>
</tr>
<tr>
<td>(1) MASON-190</td>
<td>Current Topics in Masonry............... 1</td>
</tr>
<tr>
<td>(1) CONSTR-302</td>
<td>OSHA Safety/CPR for the Trades ‡....... 1</td>
</tr>
<tr>
<td>(1) CONSTR-380</td>
<td>Mathematics for Construction Trades.. 1</td>
</tr>
<tr>
<td>(1) ENG-340</td>
<td>Workplace Communication............... 2</td>
</tr>
<tr>
<td>(1) CIVIL-308</td>
<td>Computer Applications for the Trades.. 1</td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 19

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Designed to prepare you to enter the masonry trade, this one-semester program teaches the fundamentals of laying block and brick. Classes are at the MATC Education Center at Walker’s Square, 816 West National Avenue, Milwaukee.

Career Outlook
Increased building construction has resulted in a need for bricklayers.

Program Learning Outcomes
• Lay brick and block
• Examine residential, commercial and industrial methods of construction
• Apply required OSHA safety standards in construction work
• Demonstrate a professional demeanor as it applies to the trade

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/tas
Move forward toward your career goals with a strong foundation of business knowledge including management, business law, office technologies, accounting and risk management, through this two-semester program.

**Career Outlook**
Graduates possess skills to begin a career in many business settings. Self-employed business owners also will profit from this program.

**Program Learning Outcomes**
- Plan the operations of a business across functional areas
- Organize resources to achieve the goals of the organization
- Direct individuals and/or processes to meet organizational goals
- Control business processes

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**COURSES**

<table>
<thead>
<tr>
<th>COURSES</th>
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<tr>
<td>(1) BADM-134 Business Organization and Management ^ ...........................</td>
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<tr>
<td>(1) BADM-106 MS Office for Business Applications ^ ................................</td>
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<td>(1) ACCTG-110 Financial Accounting ^ ...........................................</td>
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<td>(1) ENG-151 Communication Skills 1 ‡ .............................................</td>
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<tr>
<td>(2) BADM-192 Risk Management and Insurance .......................................</td>
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<tr>
<td>(2) BADM-145 Small Business Management ‡ ........................................</td>
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<td>(2) MATH-107 College Mathematics ‡ ................................................</td>
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<tr>
<td>(2) BADM-120 Business Analysis ‡ (Career Track) ..................................</td>
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<tr>
<td>(2) BADM-165 Legal Environment of Business ^ ....................................</td>
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**TOTAL CREDITS:** 27

^ Counts toward earning the Business Management Trainee certificate.

Program curriculum requirements are subject to change.
This two-semester program prepares you for working on residential and commercial structures. Students will learn about reading construction blueprints, the various materials and fasteners used, and the fundamental techniques used in wood-frame construction.

**Career Outlook**
As residential and commercial structures continue to be built and remodeled, there is a steady demand for carpenters.

**Program Learning Outcomes**
- Use hand and power tools and equipment
- Apply industry-recognized safety practices and procedures
- Analyze sustainable building practices
- Interpret construction drawings
- Interpret building codes
- Demonstrate industry building practices and material application

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

For complete information, go to matc.edu/atas

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**
School of TECHNOLOGY and APPLIED SCIENCES

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**COURSES**

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<td>(1) CABMIL-340</td>
<td>Millwork for Carpenters ‡ ...............</td>
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<tr>
<td>(1) CARP-301</td>
<td>House Framing ‡ ..................................</td>
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<td>(1) CARP-304</td>
<td>House Framing Fundamentals ‡ ............</td>
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<td>(1) CARP-351</td>
<td>Building Materials ‡ ..................</td>
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<td>(1) CARP-385</td>
<td>Blueprint Reading 1 ‡ ....................</td>
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<td>OSHA Safety/CPR for the Trades ‡ ......</td>
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<td>Mathematics for Construction Trades ...</td>
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<td>(1) ENG-340</td>
<td>Workplace Communication ..................</td>
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<tr>
<td>(2) CABMIL-341</td>
<td>Millwork Techniques ‡ ..............</td>
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<td>(2) CARP-303</td>
<td>Roof Framing ......................................</td>
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<td>(2) CARP-306</td>
<td>Exterior and Interior Finishing ‡ ......</td>
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<tr>
<td>(2) CARP-315</td>
<td>Energy Efficiency in Residential Construction ......................................</td>
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<td>(2) CARP-383</td>
<td>Quantity Survey ‡ .......................</td>
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<tr>
<td>(2) CARP-387</td>
<td>Commercial Blueprint Reading ‡ ........</td>
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**TOTAL CREDITS: 33**

( ) Semester order for full-time students.
‡ Prerequisite required.

Program curriculum requirements are subject to change.

MATC Education Center at Walker’s Square is located at 816 West National Avenue, Milwaukee.
Central service technicians are essential for maintaining the quality of medical products that are processed, packaged and sterilized at a hospital or clinic. These products range from hospital equipment to surgical instruments that are needed in operating rooms, emergency rooms and patient rooms.

The program’s courses are offered in traditional and blended (online and in-classroom) formats.

Career Outlook

Employment opportunities are available in hospitals and ambulatory surgery centers.

Program Learning Outcomes

- Apply principles of infection control in the role of the Central Service Technician
- Decontaminate instruments and equipment
- Prepare instruments, equipment and supplies
- Apply sterilization techniques
- Perform inventory control and distribution
- Function as an ethical, legal, and professional member of the healthcare team

Admission Requirements

High school diploma or GED, one year of high school-level biology, and criminal background check required for admission; medical records required after acceptance. This program admits students through a petition selection process. See program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Chemical Processing Technician

TECHNICAL DIPLOMA Program Code: 31-603-1 Downtown Milwaukee Campus

Apply your interests in preparing chemical solutions and using chemical apparatus to the work performed in industrial operations. Through this program, you will gain skills required for working in industrial chemical processing and pilot plant operations.

Career Outlook
Employment prospects are strong, locally and nationally. Success in the workplace requires the ability to work independently and accurately, with a minimal level of supervision.

Program Learning Outcomes
- Apply knowledge of chemical apparatus, equipment and procedures in various production, research and control operations
- Communicate and receive precise chemical data and procedures
- Use software for process control and chemical inventory
- Practice plant safety procedures
- Utilize safety data sheets and global harmonization system
(For full description, see matc.edu.)

Admission Requirements
- A high school diploma or GED
- One year of high school chemistry, or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES Credits
(1) CHEMT-101 Chemical Laboratory/Process Safety ‡ 2
(1) CHEMT-103 Introduction to Chemical Technology ‡ 2
(1) CHEMT-105 Introduction to Instrumental Methods ‡ 3
(1) CHEMT-111 General Chemistry 1 ‡ 5
(1) ENG-151 Communication Skills 1 ‡ 3
(1) ENG-201 English 1 ‡
(1) CHEMT-112 General Chemistry 2 ‡ 5
(1) NATSCI-137 Comprehensive Technical Physics ‡ 4
(2) MATH-197 College Algebra and Trigonometry With Applications ‡ 5
(2) MATH-230 College Algebra and Trigonometry ‡
(2) NATSCI-274 Calculus-Based Physics 1 ‡

TOTAL CREDITS: 29

(1) Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August and January
For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College
School of LIBERAL ARTS and SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Child development, nutrition, creative activities, and practical experience with young children are emphasized. Graduates work in child care centers, as well as serve as family child care providers. All courses are offered in English; a bilingual mode is offered at the West Allis Campus.

Program Learning Outcomes

- Relate knowledge of child development to practice
- Create relationships with children, family, and the community
- Apply observation, documentation, and assessment strategies
- Implement developmentally appropriate teaching and learning activities
- Demonstrate professionalism
- Follow health, safety, and nutrition practices

Admission Requirements

- A high school diploma or GED
- Documentation of compliance with Wisconsin's Caregiver Law; proper immunizations and good health as evidenced by a medical examination; practicum placement is contingent upon results of criminal background check

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/las
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6584
MATC’s equipment includes industrial-based CNC machining centers and turning centers, and computer-aided design/computer-aided manufacturing (CAD/CAM) workstations. Students gain hands-on experience in all phases of programming and operations.

Program Learning Outcomes
- Apply basic safety practices in the machine shop
- Interpret industrial/engineering drawings
- Apply precision measuring methods to part inspection
- Perform basic machine tool equipment set-up and operation
- Perform programming, set-up and operation of CNC machine tools
- Perform advanced CNC machining operations

Admission Requirements
- A high school diploma or GED
- Completion of Machine Tool Operations CNC technical diploma program and two years of hands-on CNC machine tool experience

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

‡ Prerequisite required.
* Counts toward earning the Machine Tool Operations technical diploma (CNC Swiss Turning Center Setup and Operation).

Program curriculum requirements are subject to change.

This program is accredited by The National Institute for Metalworking Skills, 10565 Fairfax Boulevard, Suite 10, Fairfax, VA 22030; 703-352-4971; www.nims-skills.org.

Start Dates: August and January

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

MATC's equipment includes industrial-based CNC machining centers and turning centers, and computer-aided design/computer-aided manufacturing (CAD/CAM) workstations. Students gain hands-on experience in all phases of programming and operations.

Program Learning Outcomes
- Apply basic safety practices in the machine shop
- Interpret industrial/engineering drawings
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Start Dates: August and January

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866
Use your talents to work in the cosmetology profession. This program, which is in compliance with the Wisconsin Department of Safety and Professional Services, can be completed in one year to 18 months, including attendance in summer. Graduates are eligible to take the state board licensing examination.

### Career Outlook

Employment prospects for cosmetologists are excellent. With additional training and licensing, you could become a salon manager or cosmetology instructor.

### Program Learning Outcomes

- Perform shampoo, haircut, and style services
- Perform skin care services
- Perform chemical services
- Perform nail services
- Develop business practices for industry success

### Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is in compliance with the State of Wisconsin Department of Safety and Professional Services, 1400 East Washington Avenue, P.O. Box 8935, Madison, WI 53708; 608-266-2112.

### COURSES Credits

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1  BARCOS-300</td>
<td>Shampoo and Scalp Treatments ‡</td>
<td>2</td>
</tr>
<tr>
<td>1  BARCOS-301</td>
<td>Men's Haircut 1 ‡</td>
<td>2</td>
</tr>
<tr>
<td>1  BARCOS-302</td>
<td>Women's Haircut 1 ‡</td>
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<tr>
<td>1  BARCOS-304</td>
<td>Permanent Wave ‡</td>
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<td>1  BARCOS-306</td>
<td>Esthetics 1 ‡</td>
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<td>Esthetics 2 ‡</td>
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<td>1  BARCOS-309</td>
<td>Chemical Relaxing ‡</td>
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<td>1  BARCOS-310</td>
<td>Hair Tinting ‡</td>
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<td>1  BARCOS-314</td>
<td>Hairstyle 1 ‡</td>
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<td>1  BARCOS-315</td>
<td>Hairstyle 2 ‡</td>
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<td>2  BARCOS-303</td>
<td>Men's Haircut 2 ‡</td>
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<td>2  BARCOS-312</td>
<td>Advanced Color ‡</td>
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<td>2  BARCOS-313</td>
<td>Hair Color Correction ‡</td>
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<td>2  BARCOS-317</td>
<td>Barber/Cosmetology Theory</td>
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<td>2  BARCOS-319</td>
<td>Natural Haircare and Braiding ‡</td>
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<td>Hair Extensions ‡</td>
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<td>Client Services 3 ‡</td>
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<td>2  BARCOS-329</td>
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<td>Business Management Skills for Barbers/Cosmetologists</td>
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<td>Nail Services ‡</td>
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<td>3  BARCOS-316</td>
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<td>3  BARCOS-327</td>
<td>Client Services 4 ‡</td>
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<td>Client Services 5 ‡</td>
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<td>3  BARCOS-335</td>
<td>State Board Review ‡</td>
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<td>3  MATH-304</td>
<td>Math Principles 1 ‡</td>
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</tr>
</tbody>
</table>

**TOTAL CREDITS: 44**

(‡) Semester order for full-time students.

Prerequisite required.

Program curriculum requirements are subject to change.

Note: In addition to tuition and textbooks, students must purchase a tool/equipment kit.
Culinary Assistant

TECHNICAL DIPLOMA  Program Code: 31-316-1  Downtown Milwaukee Campus

You will learn basic theory and techniques of food production and service through a combination of lecture, demonstration and hands-on experience. The program is designed to prepare students for entry-level employment in the food service industry.

Career Outlook
Graduates are in demand for positions as cooks and management trainees. With experience, opportunities exist for advancement to chef and/or manager.

Program Learning Outcomes
• Apply principles of safety and sanitation in food service operations
• Apply basic principles of nutrition
• Demonstrate basic culinary skills
• Assist in food service management
• Plan menus
• Explore food service financial information

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

School of BUSINESS

Technical College  |  414-297-6395

CULINARY ASSISTANT
matc.edu/academic_programs/pathways

Technical Diploma
• Food Service Assistant, p. 146
• Culinary Assistant, p. 131

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) CULMGT-112 Food Service Sanitation</td>
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<tr>
<td>(1) CULMGT-105 Culinary Math and Cost Control</td>
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<tr>
<td>(1) CULART-121 Mise en Place/Culinary Fundamentals</td>
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<tr>
<td>(1) CULART-100 Introduction to Culinary Arts</td>
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<tr>
<td>(1) CULART-118 Sustainable Food Communities</td>
<td>1</td>
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<td>(1) CULART-119 Culinary Science</td>
<td>1</td>
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<tr>
<td>(1) ENG-151 Communication Skills</td>
<td>3</td>
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<tr>
<td>(or) ENG-201 English</td>
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<tr>
<td>(2) CULMGT-102 Food and Beverage Procurement</td>
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<tr>
<td>(2) CULART-122 Stocks, Soups and Sauces</td>
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<tr>
<td>(2) CULART-124 Meat Identification and Fabrications</td>
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<tr>
<td>(2) CULART-126 Seafood/Shelffish Cookery</td>
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<td>(2) CULART-127 Center of the Plate—Meat Cookery</td>
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<tr>
<td>(2) CULART-123 Vegetables, Starches and Grains</td>
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<tr>
<td>(2) CULART-112 Business and Industry Food Service/Catering</td>
<td>5</td>
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<tr>
<td>(2) CULART-134 American Regional Cuisine</td>
<td>1</td>
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<tr>
<td>(2) CULART-135 European and Mediterranean Cuisine</td>
<td>1</td>
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<tr>
<td>(2) CULART-136 Asian Cuisine</td>
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<td>(2) CULART-137 South and Central American Cuisine</td>
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<tr>
<td>(2) MATH-107 College Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series MATH course</td>
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</table>

TOTAL CREDITS: 33

( ) Semester order for full-time students.
# Prerequisite required.
^ Counts toward earning the Food Service Assistant technical diploma.

Program curriculum requirements are subject to change.
This program prepares students to perform a variety of patient care responsibilities while under the direction and supervision of a dentist during the examination and treatment of patients. Coursework includes academic and clinical competencies, and students will have clinical experience in a dental practice. Students have the option of completing the program in one or two semesters. MATC also offers bilingual (Spanish) courses for this program.*

Career Outlook

Employment opportunities for trained dental assistants are plentiful in private offices, hospitals and clinic settings.

Program Learning Outcomes

- Perform a variety of entry-level supportive dental procedures
- Manage infection and hazard control
- Produce diagnostic radiographs
- Perform basic dental laboratory procedures
- Demonstrate professional behaviors, ethics and appearance

Admission Requirements

High school diploma or GED required, and biology or chemistry recommended. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) DENHYG-101 Dental Health Safety</td>
<td>1</td>
</tr>
<tr>
<td>(1) DENHYG-113 Dental Materials</td>
<td>2</td>
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<tr>
<td>(1) DENAST-302 Dental Chairside</td>
<td>5</td>
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<tr>
<td>(1) DENAST-304 Dental and General Anatomy</td>
<td>2</td>
</tr>
<tr>
<td>(1) DENAST-305 Applied Dental Radiography</td>
<td>2</td>
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<tr>
<td>(or) DENHYG-103 Dental Radiography</td>
<td>2</td>
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<tr>
<td>(1) DENAST-306 Dental Assistant – Clinical</td>
<td>3</td>
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<tr>
<td>(1) DENAST-307 Dental Assistant Professionalism</td>
<td>1</td>
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</table>

TOTAL CREDITS: 16

(*) Semester order for full-time students.
Program curriculum requirements are subject to change.
For more career information, visit the Dental Assisting National Board, danb.org, or the American Dental Assistants Association website, adaausa.org.

*Bilingual program start date is August only.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences
Gain the knowledge and skills needed to fabricate dental restorations, including metal and ceramic crowns and bridges, and complete dentures. The curriculum also includes dental terminology, dental anatomy, occlusion, and computer-aided design (CAD) processes. Students will acquire skills through hands-on experience in MATC’s well-equipped dental laboratory.

**Program Learning Outcomes**
- Relate concepts of oral anatomy, morphology and occlusion to dental laboratory procedures
- Perform laboratory techniques and procedures for dentures
- Assume the role of the dental laboratory technician as a member of the dental healthcare team
- Observe infection control and environmental safety procedures

**Admission Requirements**
This program admits students through a petition selection process. See the program’s webpage at matc.edu to view petition process and all requirements, including health requirements and criminal background check. High school juniors and seniors are eligible to apply.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES | Credits
--- | ---
(1) DLABT-102 Dental Anatomy ‡ ............................ 5
(1) DLABT-111 Introduction to Complete Dentures ‡ ..................... 5
(2) DLABT-121 Introduction to Crown and Bridge ‡ .... 5
(2) DLABT-128 All Ceramic Techniques ....................... 4
(2) NATSCI-167 Science of Technology ......................... 3

**TOTAL CREDITS:** 22

‡ Prerequisite required.
Program curriculum requirements are subject to change.

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Start Date: August
Diesel and Powertrain Servicing

TECHNICAL DIPLOMA

Program Code: 31-412-3

Oak Creek Campus

This program features exploratory courses that count toward a credential. Contact an MATC advisor for information.

This one-year program prepares you for servicing equipment powered by gas or diesel engines, such as construction equipment and marine applications, with emphasis on the heavy truck field.

Career Outlook

There is steady demand for truck and heavy equipment mechanics in the transportation and construction equipment industries.

Program Learning Outcomes

- Demonstrate preventive maintenance skills relative to checking, lubricating and making necessary adjustments and minor repairs
- Apply skills in specialized test equipment and machine tools
- Demonstrate accuracy in identifying component parts and assemblies
- Apply skills in troubleshooting and repairing engines, drive components and electrical components

Admission Requirement

- High school diploma or GED recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Road NE, Suite 401, Leesburg, VA 20176; 703-669-6650; fax 703-669-6125; www.aseeducationfoundation.org.

COURSES

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<thead>
<tr>
<th>COURSES</th>
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<tbody>
<tr>
<td>(1) DIESEL-301 Diesel Fuel Systems</td>
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<td>(1) DIESEL-306 Engine Construction</td>
<td>5</td>
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<tr>
<td>and Installation ‡</td>
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<tr>
<td>(1) DIESEL-307 Electrical/Electronics Shop</td>
<td>5</td>
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<tr>
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<tr>
<td>(1) DIESEL-308 CNG for Heavy-Duty Applications</td>
<td>1</td>
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<tr>
<td>(1) DIESEL-338 Emission Control Systems</td>
<td>2</td>
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<td>(2) WELD-305 Fundamentals of Oxyfuel Welding</td>
<td>1</td>
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<tr>
<td>(2) DIESEL-307 Driveline Components</td>
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<tr>
<td>(2) DIESEL-333 Heavy Truck HVAC Systems</td>
<td>2</td>
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<tr>
<td>(2) DIESEL-341 Front-End, Brake and Suspension Systems</td>
<td>5</td>
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<td>(2) DIESEL-345 Preventive Maintenance</td>
<td>2</td>
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<td>(2) ENG-340 Workplace Communication</td>
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</table>

TOTAL CREDITS: 32

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August and January

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College

School of TECHNOLOGY and APPLIED SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Focus on photography techniques and industry trends for composition, lighting and image manipulation as you prepare to enter the digital imaging field with the skills attained in this program.

**Program Learning Outcomes**
- Apply pre-planning skill in proper conceptual development, photo equipment choices, and lighting design before executing their plan
- Demonstrate proficiency in a variety of industry software tools and techniques including graphic software, digital video and color management software
- Demonstrate proficiency in evaluating a variety of web creation sites and developing appropriate content for it
(For full description, see matc.edu.)

**Admission Requirements**
- A high school diploma or GED
- Demonstration of basic computer skills in the Mac OS
- Sight ability without impairment
- Must have the ability to lift, bend, and move equipment
- Must own a DSLR camera

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Technical Diplomas

Technical Diplomas

COURSES Credits

(1) MKTG-102
Marketing Principles ................. 3

(1) MKTG-118
Social Media Marketing .............. 3

(1) MKTG-165
Digital Marketing .................... 3

(1) MKTG-173
Marketing Research/Analytics ....... 3

(2) MKTG-125
Advertising: Brands and Campaigns ... 3

(2) MKTG-134
Integrated Marketing Communications .................................. 3

(2) MKTG-144
Client Services .......................... 3

(2) MKTG-198
Visual Media Marketing .............. 3

TOTAL CREDITS: 24

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Formerly Marketing Specialist

Develop a broad cross-section of knowledge, skills, and abilities in digital marketing, advertising, marketing research, analytics, social media, client services, and integrated marketing communications.

Career Outlook

Digital marketing is a U.S. Department of Labor “Bright Outlook” career with expected growth of 5% to 9% through 2026.

Program Learning Outcomes

• Develop strategies to anticipate and satisfy market needs
• Promote products, services, images and/or ideas to achieve a desired outcome
• Evaluate information through the market research process to make business decisions
• Prepare integrated content strategies utilizing various digital marketing tools and analytics

Admission Requirement

• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

School of BUSINESS

Start Dates: August and January
For complete information, go to matc.edu/business

TECHNICAL DIPLOMA
Program Code: 30-104-9

Digital Marketing and Integrated Communications

Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)

Associate Degree
• Digital Marketing and Integrated Communications, p. 96
• Marketing – Online Accelerated, p. 86

Admission Requirement

• A high school diploma or GED

Total Credits: 24

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.
Technical Diplomas

COURSES Credits
(1) ELECTY-318 Electrical Power Distribution 1A ‡ ....... 5
(1) ELECTY-319 Electrical Power Distribution 1B ‡ ...... 4
(1) ELECTY-320 Electrical Principles and Applied Math 1 ‡ ............................................. 4
(1) ELECTY-321 Line Mechanic Rescue and Safety ‡ .... 2
(2) ELECTY-322 Electrical Power Distribution 2A ‡ ....... 5
(2) ELECTY-323 Electrical Power Distribution 2B ‡ ...... 4
(2) ELECTY-324 Electrical Principles and Applied Math 2 ‡ ............................................. 4
(2) ENG-340 Workplace Communication .................. 2

TOTAL CREDITS: 30

(‡) Semester order for full-time students.

Prerequisite required. Program curriculum requirements are subject to change.

This two-semester program prepares students for entry-level electrical line worker positions in industry. Although completion of this program does not substitute for an electrical apprenticeship, it does offer the basic knowledge needed to begin working for some electrical utilities, contractors and in related trades.

Career Outlook
Some graduates use the training as a step toward apprenticeship. Other positions available to graduates include line worker, substation electrician and cable installer.

Program Learning Outcomes
- Apply electrical theory
- Construct overhead electrical distribution systems
- Disassemble overhead electrical distribution systems
- Construct underground electrical distribution systems
- Disassemble underground electrical distribution systems
- Construct overhead electrical transmission system
- Disassemble overhead electrical transmission system
- Maintain electrical systems

Admission Requirements
- A high school diploma or GED
- Ability to drive and a valid driver’s license

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Date: August

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College
School of TECHNOLOGY and APPLIED SCIENCES  |  414-297-6315
This two-semester program prepares you for entry-level electrician positions in industry and the building trades. The program does not substitute for an electrical apprenticeship, but does offer you the basic knowledge needed to begin working for some electrical contractors.

**Career Outlook**
Some graduates use the training as a step toward an electrician apprenticeship.

**Program Learning Outcomes**
- Apply electrical theory
- Install electrical equipment in a residential setting
- Install electrical equipment in a commercial setting
- Analyze industrial equipment

**Admission Requirements**
- A high school diploma or GED
- Ability to drive and a valid driver’s license

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ELECTY-308</td>
<td>Basic Skills for Electrical Wiring</td>
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<tr>
<td>ELECTY-310</td>
<td>Cable Wiring</td>
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<td>ELECTY-312</td>
<td>Electrical Raceway Installation</td>
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<tr>
<td>ELECTY-340</td>
<td>Electrical Code Fundamentals 1</td>
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<tr>
<td>ELECTY-378</td>
<td>Construction Blueprint Reading</td>
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<td>ELECTY-392</td>
<td>Principles of Electricity</td>
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<td>ELECTY-314</td>
<td>Electrical Service Installation</td>
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<td>ELECTY-328</td>
<td>Electrical Motor Control Wiring</td>
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<td>Electrical Code Fundamentals 2</td>
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<td>ELECTY-382</td>
<td>Electrical Equipment Circuit Analysis</td>
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<td>ELECTY-384</td>
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<td>ENG-340</td>
<td>Workplace Communication</td>
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</table>

**TOTAL CREDITS: 28**

(1) Semester order for full-time students.

# Prerequisite required.

Program curriculum requirements are subject to change.
Gain the core competencies of electronics, such as DC/AC principles, digital electronics and microprocessors, through coursework that emphasizes hands-on learning. These skills provide entry-level opportunities for employment, or the base knowledge to pursue further education in electronics.

**Program Learning Outcomes**
- Apply the practical and theoretical foundations of electronics technology to solve problems
- Integrate and repair electronic circuits and systems
- Apply critical thinking skills necessary to install and maintain electronic systems and equipment
- Write technical reports and process documentation

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level geometry and one year of high school-level algebra, or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Prepare to enter the emergency services field, which involves working with other healthcare professionals to deliver critical, prehospital emergency medical care. This program also is designed to enhance existing skills of individuals working in the field. Completing the program with a grade of C or higher prepares you to take the National Registry Examination, required for certification and licensure in Wisconsin.

**Program Learning Outcomes**
- Prepare for incident response and EMS operations
- Integrate pathophysiological principles and assessment findings to provide appropriate patient care
- Demonstrate EMT skills associated with established standards and procedures for a variety of patient encounters
- Communicate effectively with others
- Demonstrate professional behavior
- Meet state competencies for EMT certification

**Admission Requirements**
- Age 17 or older (Must be at least 18 at time of National Registry testing)
- Background check
- Students entering the program must have an official high school or GED/HSED transcript, and an ACT or assessment score above the program minimum

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
The Emergency Medical Technician – Advanced coursework builds upon the skills acquired in the Emergency Medical Technician program. Students learn advanced patient assessment skills and technical skills such as IV access, fluid therapy and administration of dextrose and Narcan. Advanced emergency medical technicians perform emergency patient care, basic life support, and limited advanced life support in the field, transporting injured and ill patients to hospital emergency rooms. This program meets Wisconsin licensure requirements.

Program Learning Outcomes

• Prepare for incident response and EMS operations
• Integrate pathophysiological principles and assessment findings to provide appropriate patient care
• Demonstrate AEMT skills associated with established standards and procedures for a variety of patient encounters
• Communicate effectively with others
• Demonstrate professional behavior
• Meet state competencies for AEMT certification

Admission Requirements

• Age 18 or older
• State of Wisconsin Emergency Medical Technician – Basic License (current)
• American Heart Association CPR, healthcare provider level (current)
• Medical exam, including verification of immunizations and TB testing
• Criminal background check

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSE Credits
EMS-311 Advanced Intermediate Technician ‡ ............ 4

TOTAL CREDITS: 4

180 hours total
Clinical hours consist of time in hospital settings or with sponsoring fire department/ambulance providers that use approved preceptors to oversee.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
Official Wisconsin Technical College System program title: Advanced EMT.

Start Dates: August and January
For complete information, go to matc.edu/tas
Emergency Medical Technician – Paramedic

TECHNICAL DIPLOMA

Program Code: 31-531-1
Downtown Milwaukee Campus

Become an integral member of a prehospital emergency care team, providing medical intervention to the ill or injured and continuing that care during transport to a medical facility. You will learn advanced-level prehospital care and techniques as performed by ambulance service providers.

Program Learning Outcomes
- Prepare for incident response and EMS operations
- Integrate pathophysiological principles and assessment findings to provide appropriate patient care
- Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters

(For full description, see matc.edu.)

Admission Requirements
- 18 years of age or older; high school diploma or GED; assessment score above the program minimum; current Wisconsin EMT-Basic license (or above) and current CPR certification at Healthcare Provider or Professional Rescuer level
- After admitted into program, criminal background check and medical exam required

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Accreditation of this program is pending: Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP), 8301 Lakeview Parkway, Suite 111-312, Rowlett, TX 75088; 214-703-8445; fax 214-703-8992; www.coaemsp.org.

Start Dates: August and January

For complete information, go to matc.edu/tes

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College
School of TECHNOLOGY and APPLIED SCIENCES
This program will prepare you to unite your passion for your work with a viable business model. It also benefits those with a desire to own and operate their own business, and is useful for individuals seeking new skills in their current jobs, career advancement or a job change.
MATC’s Entrepreneurship Center is on the Downtown Milwaukee Campus in Room M319.

Career Outlook
As the global economy shifts to a leaner, faster environment, opportunities will be especially favorable for entrepreneurs.

Program Learning Outcomes
- Demonstrate an entrepreneurial mindset
- Develop a business canvas and/or plan
- Outline business operational plan
- Develop a business marketing plan

Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
### COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>MKTG-102</td>
<td>Marketing Principles</td>
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<tr>
<td>MKTG-124</td>
<td>Fashion Merchandising and Marketing</td>
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<td>MKTG-119</td>
<td>Visual Merchandising</td>
<td>3</td>
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<td>MKTG-140</td>
<td>Fashion Analysis</td>
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<tr>
<td>MKTG-107</td>
<td>Customer Experience</td>
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<td>MKTG-104</td>
<td>Selling Principles</td>
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<tr>
<td>COMPSW-106</td>
<td>Introduction to MS Office</td>
<td>3</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
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</tr>
<tr>
<td>or ENG-201</td>
<td>English 1 ‡</td>
<td></td>
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</tbody>
</table>

**TOTAL CREDITS: 24**

(‡) Semester order for full-time students.
*Prerequisite required.
Program curriculum requirements are subject to change.

Design a career that combines your interests in fashion, merchandise trends, sales and marketing. Coursework covers visual merchandising, customer service, marketing and selling principles, communication and basic computer software skills.

**Career Outlook**

Retail management positions are projected to remain steady in Wisconsin and throughout the United States.

**Program Learning Outcomes**

- Develop a marketing mix strategy to use in the fashion industry
- Execute a visual merchandising plan
- Plan retail/fashion business activities to enhance the customer experience

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

*For complete information, go to matc.edu/business*

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**

School of BUSINESS

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Begin your business career by learning accounting and financial principles for entry-level employment in banks, credit unions, insurance and consumer finance companies, and corporate finance departments.

**Career Outlook**
Program graduates will have a solid foundation for a range of career opportunities within the industry.

**Program Learning Outcomes**
- Create reports
- Analyze investments
- Sell financial products and services

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

---

### COURSES

<table>
<thead>
<tr>
<th></th>
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<th>Credits</th>
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<tr>
<td>(1)</td>
<td>FIN-110</td>
<td>Principles of Banking</td>
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<td>BADM-106</td>
<td>MS Office for Business Applications ^</td>
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<td>(1)</td>
<td>ACCTG-111</td>
<td>Accounting 1 ^</td>
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<td>Mathematics of Business</td>
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<td>(1)</td>
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<td>Introduction to Money, Banking and Financial Markets ^</td>
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<td>Communication Skills 1 ‡</td>
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<td>Investment Principles ‡</td>
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<td>Credit Management Procedures ...</td>
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<td>Risk Management and Insurance</td>
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<td>MKTG-104</td>
<td>Selling Principles ^</td>
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</table>

**TOTAL CREDITS: 31**

() Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Financial Services Trainee certificate.
Program curriculum requirements are subject to change.
Here’s your recipe for learning to prepare and cook a variety of foods that require a short preparation time. This one-semester program focuses on developing skills to begin a career in the food-service industry.

**Career Outlook**

Graduates will have entry-level skills for taking orders and serving patrons, and performing a variety of food preparation duties.

**Program Learning Outcomes**

- Demonstrate the ability to clean food-preparation areas, cooking surfaces and utensils according to industry standards
- Differentiate proper handling of prepared-to-order food compared to food that is kept warm until sold
- Assist cooks and kitchen staff with various tasks as needed
- Cut, slice or grind meat, poultry and seafood to prepare for cooking

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
Enter the growing hospitality industry and prepare for a career managing hotels and other facilities that offer accommodations.

**Career Outlook**
Employment opportunities in this diverse industry are increasing, but are also competitive as more job candidates enter this field.

**Program Learning Outcomes**
- Apply fundamentals to the operations within a hospitality organization
- Demonstrate entry-level use of hospitality technology
- Identify processes to meet organizational goals
- Identify the various components that make up the hospitality industry
- Identify resources used in the hospitality industry for problem solving

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**COURSES**

<table>
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<tr>
<td>MEET-151</td>
<td>Introduction to Hospitality/Tourism</td>
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<td>HOTEL-105</td>
<td>Hospitality Marketing and Sales Revenue Strategy</td>
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<td>HOTEL-110</td>
<td>Front Office Procedures and Management</td>
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<td>HOTEL-122</td>
<td>Basic Hospitality Accounting</td>
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<td>HOTEL-112</td>
<td>Front Office Computerized Procedures ‡</td>
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<td>CULMGT-117</td>
<td>Hospitality Law and Liability</td>
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<td>HOTEL-150</td>
<td>Housekeeping Operations</td>
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<td>HOTEL-120</td>
<td>Building Operations and Security</td>
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<tr>
<td>HOTEL-127</td>
<td>Catering, Weddings, Convention Sales and Contracts</td>
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</table>

**TOTAL CREDITS: 34**

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
To prepare for this field’s ever-changing technology, you will attain in-depth skills in web design, design tools and web development languages. Coursework includes web marketing, and the designing and publishing of several websites using multiple web-development languages.

Career Outlook
Demand for web designers and web developers is growing steadily as more businesses and organizations rely on functional and flexible websites.

Program Learning Outcomes
• Design websites or applications
• Utilize essential data technologies
• Develop user interfaces

Admission Requirements
• A high school diploma or GED
• Demonstration of basic computer skills in operating systems, word processing and the internet

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TOTAL CREDITS: 33
(1) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

To apply for financial aid, visit fafsa.gov. School Code: 003866

For complete information, go to matc.edu/media_creative_arts

Start Dates: August and January

WEB & DIGITAL MEDIA DESIGN
cmatc.edu/academic_programs/pathways
Technical Diploma
• Front-End Web Developer, p. 148
Associate Degree
• Web & Digital Media Design, p. 105

COURSES Credits
(1) WEBDEV-102 Introduction to Digital Media ........... 3
(1) WEBDEV-114 Web Development With HTML/CSS .... 3
(1) WEBDEV-119 Web Design Overview ...................... 3
(1) MKTG-165 Digital Marketing .............................. 3
(1) ITDEV-117 Logic and Problem-Solving ................. 3
(1) ENG-151 Communication Skills 1 ‡ .................... 3
( or ) ENG-201 English 1 ‡
(2) WEBDEV-123 Interactive Design ‡ ...................... 3
(2) WEBDEV-124 Database Web Design With PHP and MySQL ‡ .............................................. 3
(2) WEBDEV-133 Content Management Systems ‡ ...... 3
( or ) WEBDEV-132 Rich Media for the Web ‡
(2) WEBDEV-134 Responsive Web Design ‡ ............. 3
(2) WEBDEV-140 Web Development With JavaScript and jQuery ‡ ............................................. 3

For complete information, go to matc.edu/media_creative_arts

Start Dates: August and January

For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6433
School of MEDIA and CREATIVE ARTS

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Health Unit Coordinator

TECHNICAL DIPLOMA  Downtown Milwaukee Campus

Enter the healthcare field in a non-direct patient care role. This program prepares you for responsibilities such as order transcription, clerical support functions and customer service interactions. Technical courses are offered via flexible hybrid (in-class/online) instructional format.

Career Outlook
Positions are available in hospitals, long-term care facilities and clinics.

Program Learning Outcomes
• Manage multiple sources of client information
• Function as an integrated member of the healthcare team
• Coordinate operational processes
• Communicate professionally utilizing multiple modalities
• Process healthcare orders

Admission Requirements
High school diploma or GED required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES

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<th>COURSE</th>
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<td>HEALTH-104</td>
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<td>HEALTH-107</td>
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<td>HSM-140</td>
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<td>HSM-141</td>
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<td>HSM-142</td>
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TOTAL CREDITS: 16

( ) Semester order for full-time students.
‡ Prerequisite required.
* Must be taken prior to entering the program.
^ Counts toward earning the Healthcare Customer Service certificate.

Program curriculum requirements are subject to change.

For complete information, go to matc.edu/health_sciences
Coursework in this two-semester program prepares you for industry-sought certifications, including CompTIA’s A+, Network+, Security+, Microsoft Certified Professional in Windows Desktop, Microsoft Enterprise Desktop Support Technician (MCITP), HDI-SCA, HDI-DST, ITIL Foundation and more.

**Career Outlook**

Employment opportunities are expected to increase greatly.

**Program Learning Outcomes**
- Provide entry-level end-user support
- Manage operating systems and application software
- Support information technology hardware
- Provide basic network support for existing network installations

**Admission Requirements**
- A high school diploma or GED
- One year of high school-level algebra
- Knowledge of computer fundamentals

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

<table>
<thead>
<tr>
<th>COURSES</th>
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<td>(1) ITSUP-109 Microsoft Office for IT Professionals..........................3</td>
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<td>(1) ITSUP-101 Computer Information Systems Fundamentals ^..........................3</td>
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<tr>
<td>(1) ITSUP-108 Enterprise Desktop Support Technician †..........................3</td>
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<tr>
<td>(1) ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL) ^ † ......3</td>
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<td>(1) ENG-151 Communication Skills †..........................................................3</td>
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<tr>
<td>(or) ENG-201 English † ........................................................................2</td>
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<tr>
<td>(2) ITNET-110 Managing Windows Desktop (Client) OS †..........................3</td>
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<tr>
<td>(2) ITNET-101 Network Communications (Network+) * ................................3</td>
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<tr>
<td>(2) ITSEC-124 Network Security (Security+) * .........................................3</td>
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<tr>
<td>(2) ITSUP-102 CompTIA A+ Essentials ^ ...........................................3</td>
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</tbody>
</table>

**TOTAL CREDITS: 27**

( ) Semester order for full-time students.

* Prerequisite required.

^ Counts toward earning the IT Service Center Technician certificate.

† Counts toward earning the IT Microsoft Enterprise Desktop Support Specialist certificate.

Program curriculum requirements are subject to change.
Enter the growing field of digital and computer forensics investigation. The comprehensive coursework includes material from basic networking, basic security, network security, information systems auditing, risk management, and security policy and procedures. Several courses cover specialized areas of forensics, such as mobile forensics and internet forensics. You can work toward earning several industry certifications.

Due to increases in cyber-crimes, this is projected to be a high-demand occupation.

**Program Learning Outcomes**

- Analyze a cyber-crime scene to choose appropriate best-practice procedures for retrieval recovery and preservation of digital evidence
- Apply digital forensics tools to collect, analyze and evaluate evidence data
- Recover files on various types of storage devices, using different operating systems and network systems
- Discuss the legal and ethical issues related to acquisition and analysis of digital evidence

(For full description, see matc.edu.)

**Admission Requirements**

- A high school diploma or GED
- High school-level algebra
- Student also needs to meet one of these requirements: Be currently working in the IT security field or related field (or) be currently enrolled in the IT Information Systems Security Specialist associate degree program (or) receive approval from the program chairperson

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

---

**Start Dates: August and January**

*For complete information, go to matc.edu/business*

To apply for financial aid, visit fafsa.gov. School Code: 003866

**MILWAUKEE AREA TECHNICAL COLLEGE**

School of BUSINESS

matc.edu | 414-297-MATC | Wisconsin Relay System 711
### IT Help Desk Support Specialist

**TECHNICAL DIPLOMA**  
Program Code: 31-154-7  
All campuses

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Technical Diploma</th>
<th>Associate Degree</th>
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<tbody>
<tr>
<td>IT Level 2 - Service Center Technician, p. 198</td>
<td>IT Computer Support Technician, p. 150</td>
<td>IT Computer Support Specialist, p. 79</td>
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<tr>
<td>IT Microsoft Enterprise Desktop Support Specialist, p. 199</td>
<td>IT Help Desk Support Specialist, p. 152</td>
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<tr>
<td>IT Service Center Technician, p. 200</td>
<td>IT User Support Technician, p. 154</td>
<td></td>
</tr>
</tbody>
</table>

Prepare for industry-sought certifications including CompTIA's A+, Network+, Security+, and Mobility+ Device Administrators (iOS, Android and Windows), Microsoft Certified Professional in Windows Desktop, Microsoft Enterprise Desktop Support Technician (MCITP), Apple OSX Certified Support Professional (ACSP), HDI-SCA, HDI-DST and ITIL Foundation.

### Career Outlook

Employment opportunities are expected to increase greatly.

### Program Learning Outcomes

- Manage information technology hardware
- Support computer networks
- Provide end-user support

### Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITSUP-101</td>
<td>Computer Information Systems Fundamentals ^</td>
<td>3</td>
</tr>
<tr>
<td>ITSUP-108</td>
<td>Enterprise Desktop Support Technician †</td>
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</tr>
<tr>
<td>ITSUP-140</td>
<td>Support Center Analyst (HDI-SCA, HDI-DST, ITIL) * †</td>
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<td>ITSUP-109</td>
<td>Microsoft Office for IT Professionals....</td>
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<tr>
<td>ENG-151</td>
<td>Communication Skills †</td>
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<td>(or) ENG-201</td>
<td>English 1 ‡</td>
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<td>ITNET-101</td>
<td>Network Communications (Network+) *</td>
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<td>ITSUP-102</td>
<td>CompTIA A+ Essentials ^</td>
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<td>ITSUP-150</td>
<td>Mobile Device Repair and Support.....</td>
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<td>ITSUP-152</td>
<td>Apple OSX Certified Support Professional (ACSP)</td>
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<td>ITSUP-155</td>
<td>IT Careers, Résumé Writing and Job Search.......</td>
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<td>CompTIA Mobility+ (iOS, Android, Windows).........</td>
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<td>ITSUP-199</td>
<td>Integration Project – Computer Support Specialist</td>
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**TOTAL CREDITS: 44**

( ) Semester order for full-time students.
† Prerequisite required.
^ Counts toward earning the IT Service Center Technician certificate.
* Counts toward earning the IT Level 2 - Service Center Technician certificate.
† Counts toward earning the IT Microsoft Enterprise Desktop Support Specialist certificate.

Program curriculum requirements are subject to change.

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### Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

*MILWAUKEE AREA Technical College*  
School of BUSINESS

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matc.edu | 414-297-MATC | Wisconsin Relay System 711
IT Networking and Infrastructure Administration

TECHNICAL DIPLOMA  Program Code: 31-150-2  All campuses

CAREER pathways

IT NETWORK SPECIALIST
matc.edu/academic_programs/pathways

Technical Diploma
- IT Networking and Infrastructure Administration, p. 153

Associate Degree
- IT Network Specialist – Online Accelerated, p. 82
- IT Network Specialist, p. 83

COURSES Credits
(1) ITNET-101 Network Communications (Network+) 3
(1) ITNET-131 Introduction to Networks (Cisco 1) 3
(1) ITNET-110 Managing Windows Desktop (Client) Operating System 3
(2) ITNET-132 Routing/Switching Essentials (Cisco 2) ‡ 3
(2) ITNET-112 MS Server Administration 1 3
(2) ITNET-157 Emerging IT Technologies ‡ 3
(2) MATH-123 Math With Business Applications ‡ 3
(3) ITNET-111 MS Server Administration 2 3
(3) ITNET-133 Scaling Networks (Cisco 3) ‡ 3
(3) ITNET-134 Connecting Networks (Cisco 4) ‡ 3

TOTAL CREDITS: 30

() Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Through hands-on coursework, you will set up network operating systems and work with emerging technologies. Certification preparations in this program include: VMware Certified Professional (VCP-DCV), Cisco Certified Networking Associate (CCNA), Microsoft Certified Solutions Associate (MCSA) Windows Server and Client, and CompTIA (A+, Network+ and Security+).

Program Learning Outcomes
- Implement network security, firewalls, ACLs and VLANs
- Install network/server hardware, software and operating systems
- Support, monitor and maintain computers and computer networks
- Utilize emerging technologies such as machine virtualization, wireless networking and cloud computing

Admission Requirements
- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College  |  414-297-6395
Receive Apple support training, along with mobile device repair and administration, through this 12-credit program. The coursework prepares you for Apple ACSP, CompTIA’s Mobility+ and HDI-SCA, HDI-DST and ITIL Foundation industry-standard certifications.

Career Outlook
According to the Bureau of Labor Statistics, employment of IT computer support specialists is projected to grow 17% in the years 2012 through 2022.

Program Learning Outcomes
• Support and maintain computer and mobile hardware
• Support and maintain computer operating systems
• Manage computer network connected devices
• Demonstrate customer service skills as an IT professional

Admission Requirements
• A high school diploma or GED
• One year of high school-level algebra
• Knowledge of computer fundamentals

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
Land an entry-level position that meets your desire to work outdoors. This program prepares students for positions such as groundskeepers, greenhouse workers and landscape construction workers.

### Career Outlook
Locally the job growth for entry-level landscaping positions indicates a high demand for skilled workers.

### Program Learning Outcomes
- Utilize growing media
- Examine plant health
- Communicate as a horticulture professional
- Provide horticulture maintenance
- Apply the principles of plant science

### Admission Requirement
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates:** August and January

*For complete information, go to matc.edu/tas*

To apply for financial aid, visit fafsa.gov. School Code: 003866

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**COURSES**

<table>
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</tr>
</tbody>
</table>

**TOTAL CREDITS:** 29

(*) Semester order for full-time students.
Program curriculum requirements are subject to change.
Students will choose one of the two groups of courses: Computer Numerical Control (CNC) machine setup and operation, or CNC Swiss turning center setup and operation.

**Career Outlook**

CNC machine tool operators with up-to-date experience are in demand.

**Program Learning Outcomes**

- Apply basic safety practices in the machine shop
- Interpret industrial/engineering drawings
- Apply precision measuring methods to part inspection
- Perform basic machine tool equipment set-up and operation
- Perform programming, set-up and operation of CNC machine tools

**Admission Requirement**

- A high school diploma or GED

Note: Students will need a tablet or mobile device to complete course requirements. Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACHTL-360</td>
<td>Metrology</td>
<td>1</td>
</tr>
<tr>
<td>MACHTL-367</td>
<td>Machine Tool Technology</td>
<td>1</td>
</tr>
<tr>
<td>MACHTL-384</td>
<td>Machine Trades Mathematics 1</td>
<td>1</td>
</tr>
<tr>
<td>MDRAFT-385</td>
<td>Machine Blueprint Reading 1</td>
<td>1</td>
</tr>
<tr>
<td>MACHTL-304</td>
<td>Introduction to CNC Programming ‡</td>
<td>1</td>
</tr>
<tr>
<td>MACHTL-385</td>
<td>Machine Trades Mathematics 2 ‡</td>
<td>1</td>
</tr>
<tr>
<td>MDRAFT-386</td>
<td>Machine Blueprint Reading 2 ‡</td>
<td>1</td>
</tr>
<tr>
<td>MACHTL-391</td>
<td>Quality Control ‡</td>
<td>1</td>
</tr>
<tr>
<td>ENG-340</td>
<td>Workplace Communication</td>
<td>2</td>
</tr>
</tbody>
</table>

Select one of the following groups of courses:

**CNC MACHINE SETUP AND OPERATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACHTL-300</td>
<td>Engine Lathe 1</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-301</td>
<td>Engine Lathe 2</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-309</td>
<td>Manual Vertical Milling Machine 1</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-310</td>
<td>Manual Vertical Milling Machine 2</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-320</td>
<td>Introduction to CNC Turning Centers</td>
<td>4</td>
</tr>
<tr>
<td>MACHTL-322</td>
<td>Introduction to CNC Vertical Machining Centers</td>
<td>4</td>
</tr>
<tr>
<td>MACHTL-325</td>
<td>Surface Grinding</td>
<td>4</td>
</tr>
</tbody>
</table>

**CNC SWISS TURNING CENTER SETUP AND OPERATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACHTL-347</td>
<td>Single-Spindle Auto Screw Machine 1</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-348</td>
<td>Single-Spindle Auto Screw Machine 2</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-361</td>
<td>Multiple-Spindle Auto Screw Machine 1</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-362</td>
<td>Multiple-Spindle Auto Screw Machine 2</td>
<td>3</td>
</tr>
<tr>
<td>MACHTL-371</td>
<td>CNC Swiss Turning Center 1</td>
<td>4</td>
</tr>
<tr>
<td>MACHTL-372</td>
<td>CNC Swiss Turning Center 2</td>
<td>4</td>
</tr>
<tr>
<td>MACHTL-373</td>
<td>CNC Swiss Turning Center 3</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 34**

(*) Semester order for full-time students.
# Prerequisite required.

Program curriculum requirements are subject to change.
Find your future in the manufacturing industry, with a role in the fast-growing field of manufacturing maintenance. Through this program, you will gain hands-on, practical experience related to installing, maintaining, diagnosing and repairing equipment used in manufacturing industries, as well as develop the skills for maintaining manufacturing facilities/building systems.

**Career Outlook**
There is strong demand for maintenance workers at manufacturing sites.

**Program Learning Outcomes**
- Demonstrate safe work procedures
- Install industrial equipment and systems
- Maintain industrial equipment and systems
- Troubleshoot industrial equipment and systems
- Repair industrial equipment and systems
- Communicate technical information

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVACI-300</td>
<td>Basic Refrigeration/System Operation 4</td>
</tr>
<tr>
<td>HVACI-325</td>
<td>Oil Furnace Service and Maintenance 3</td>
</tr>
<tr>
<td>ELECTY-308</td>
<td>Basic Skills for Electrical Wiring 2</td>
</tr>
<tr>
<td>ELECTY-390</td>
<td>Principles of Electricity 1 3</td>
</tr>
<tr>
<td>QLTYIN-103</td>
<td>MSSC Safety 1</td>
</tr>
<tr>
<td>QLTYIN-104</td>
<td>MSSC Quality 1</td>
</tr>
<tr>
<td>MACHTL-360</td>
<td>Metrology 1</td>
</tr>
<tr>
<td>CONSTR-302</td>
<td>OSHA Safety/CPR for the Trades 1</td>
</tr>
<tr>
<td>ENG-340</td>
<td>Workplace Communication 2</td>
</tr>
<tr>
<td>HVACI-301</td>
<td>Introduction to Refrigeration Service/Applications 4</td>
</tr>
<tr>
<td>HVACI-326</td>
<td>Gas Furnace Servicing and Maintenance 3</td>
</tr>
<tr>
<td>ELECTY-328</td>
<td>Electric Motor Control Wiring 2</td>
</tr>
<tr>
<td>ELECTY-391</td>
<td>Principles of Electricity 2 2</td>
</tr>
<tr>
<td>MDRAFT-385</td>
<td>Machine Blueprint Reading 1 1</td>
</tr>
<tr>
<td>MATH-113</td>
<td>College Technical Mathematics 1A 3</td>
</tr>
<tr>
<td>QLTYIN-105</td>
<td>MSSC Process 1</td>
</tr>
<tr>
<td>QLTYIN-106</td>
<td>MSSC Maintenance 1</td>
</tr>
<tr>
<td>HYDPNU-330</td>
<td>Basic Hydraulics/Pneumatics 5</td>
</tr>
<tr>
<td>HYDPNU-338</td>
<td>Mechanical Systems 4</td>
</tr>
<tr>
<td>WELD-300</td>
<td>Fundamentals of Arc Welding 1</td>
</tr>
<tr>
<td>WELD-301</td>
<td>General Arc Welding 2</td>
</tr>
<tr>
<td>MFGMNT-352</td>
<td>Mechanical Drives 1 2</td>
</tr>
<tr>
<td>HYDPNU-336</td>
<td>Fluid Power Circuits 4</td>
</tr>
<tr>
<td>MACHTL-346</td>
<td>Machine Shop for Related Trades 2</td>
</tr>
<tr>
<td>MFGMNT-332</td>
<td>Rigging and Lifting 2</td>
</tr>
<tr>
<td>MFGMNT-353</td>
<td>Mechanical Drives 2 2</td>
</tr>
<tr>
<td>MFGMNT-359</td>
<td>Mechanical Fabrication 2</td>
</tr>
<tr>
<td>WELD-305</td>
<td>Fundamentals of Oxyfuel Welding 1</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 62**

(1) Semester order for full-time students.
# Prerequisite required.
Prerequisite requirements are subject to change.
This program prepares you to be a detail drafter in the mechanical drafting field. For a new product to become reality, it must exist in the mind of the engineer, designer or drafter; then it is the detail drafter, working from design layouts, sketches and handbooks, who creates working drawings that aid in manufacturing the product.

**Career Outlook**

The employment outlook is favorable for mechanical drafters with current training in computer-aided design and drafting (CADD) systems.

**Program Learning Outcomes**

- Prepare detail and assembly drawings for documentation of mechanical components and products
- Create CAD Geometry, parts, and assemblies
- Design mechanical components and products
- Select purchased parts

**Admission Requirements**

- A high school diploma or GED
- One year of high school-level algebra or equivalent

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVIL-102</td>
<td>Introduction to AutoCAD</td>
<td>2</td>
</tr>
<tr>
<td>CIVIL-105</td>
<td>Computer Applications</td>
<td>2</td>
</tr>
<tr>
<td>MCDES-162</td>
<td>Engineering Materials</td>
<td>2</td>
</tr>
<tr>
<td>MCDES-102</td>
<td>Technical Drafting 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH-115</td>
<td>College Technical Mathematics 1 ‡</td>
<td>5</td>
</tr>
<tr>
<td>MCDES-104</td>
<td>Technical Drafting 2 With CAD ‡</td>
<td>3</td>
</tr>
<tr>
<td>MCDES-114</td>
<td>SolidWorks 1 ‡</td>
<td>2</td>
</tr>
<tr>
<td>MCDES-106</td>
<td>Advanced Engineering Graphics ‡</td>
<td>3</td>
</tr>
<tr>
<td>MCDES-124</td>
<td>SolidWorks 2 ‡</td>
<td>2</td>
</tr>
<tr>
<td>MCDES-163</td>
<td>Machining Processes ‡</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 26**

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.
Enter the healthcare field with skills to perform various clinical, laboratory and administrative procedures. During the clinical practicum, you have an opportunity to acquire additional healthcare experience while performing a 176-hour unpaid externship held at partnering healthcare facilities. Graduates are eligible to register for American Association of Medical Assistants (AAMA) exam and qualify to become a Certified Medical Assistant (CMA). Classes held at MATC’s Health Education Center (HEC), 1311 North Sixth Street, Milwaukee.

Program Learning Outcomes
- Perform medical office administrative functions
- Provide patient care in accordance with regulations, policies, laws, and patient rights
- Perform medical laboratory procedures
- Demonstrate professionalism in a healthcare setting
- Demonstrate safety and emergency practices in a healthcare setting

Admission Requirements
High school diploma or GED required; biology coursework recommended. This program admits students through a petition selection process. See the program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH-101</td>
<td>Medical Terminology *</td>
</tr>
<tr>
<td>HEALTH-107</td>
<td>Digital Literacy for Healthcare *</td>
</tr>
<tr>
<td>MEDAST-301</td>
<td>Medical Assistant Administrative Procedures ‡</td>
</tr>
<tr>
<td>MEDAST-302</td>
<td>Human Body in Health and Disease ‡</td>
</tr>
<tr>
<td>MEDAST-303</td>
<td>Medical Assistant Lab Procedures 1 ‡</td>
</tr>
<tr>
<td>MEDAST-304</td>
<td>Medical Assistant Clinical Procedures 1 ‡</td>
</tr>
<tr>
<td>MEDAST-309</td>
<td>Medical Law, Ethics and Professionalism</td>
</tr>
<tr>
<td>MEDAST-305</td>
<td>Medical Assistant Laboratory Procedures 2 ‡</td>
</tr>
<tr>
<td>MEDAST-306</td>
<td>Medical Assistant Clinical Procedures 2 ‡ **</td>
</tr>
<tr>
<td>MEDAST-307</td>
<td>Medical Office Insurance and Finance ‡</td>
</tr>
<tr>
<td>HEALTH-308</td>
<td>Pharmacology for Allied Health ‡</td>
</tr>
<tr>
<td>MEDAST-310</td>
<td>Medical Assistant Practicum ‡ **</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
</tr>
<tr>
<td>OR ENG-201</td>
<td>English 1 ‡</td>
</tr>
</tbody>
</table>

** TOTAL CREDITS: 33 **

( ) Semester order for full-time students.
‡ Prerequisite required.
* May be taken prior to entering the program.
** MEDAST-306 and MEDAST-310 must be taken in the same semester.

All MEDAST courses must be completed within 18 months of starting technical courses in the program.
Program curriculum requirements are subject to change.
MATC’s Medical Assistant program has an average job placement rate of 85% for the past five years (2012-2016), which exceeds the Medical Assisting Education Review Board threshold of >=60%. For 2016, our employer satisfaction surveys for Medical Assisting graduates were 100%. Overall, student retention for the Medical Assisting program increased to 91% in 2015 and 93% in 2016.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6263
To perform essential functions of healthcare administration, you will gain knowledge of office accounting, medical insurance, efficient office practices, and basic human anatomy. Courses are offered in a blended format, which may include traditional classroom and online instruction.

### Career Outlook

Employment opportunities are expected to increase. In addition to healthcare facilities, medical billers work in medical schools and government agencies.

### Program Learning Outcomes

- Perform routine healthcare administrative procedures
- Process insurance claims
- Apply technology skills to business and administrative tasks
- Maintain internal and external relationships
- Model professionalism in the workplace

### Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### Courses and Credits

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) ACCTG-102</td>
<td>3</td>
</tr>
<tr>
<td>(1) BRHLTH-124</td>
<td>3</td>
</tr>
<tr>
<td>(1) COMPsw-106</td>
<td>3</td>
</tr>
<tr>
<td>(1) OFTECH-122</td>
<td>3</td>
</tr>
<tr>
<td>(1) OFTECH-136</td>
<td>3</td>
</tr>
<tr>
<td>(1) OFTECH-112</td>
<td>1</td>
</tr>
<tr>
<td>(1) OFTECH-125</td>
<td>3</td>
</tr>
<tr>
<td>(2) BRHLTH-170</td>
<td>3</td>
</tr>
<tr>
<td>(2) BRHLTH-174</td>
<td>2</td>
</tr>
<tr>
<td>(2) BRHLTH-197</td>
<td>3</td>
</tr>
<tr>
<td>(2) NATSCI-189</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 30**

(*) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.
### Medical Coding Specialist

**TECHNICAL DIPLOMA  Program Code: 31-530-2**  Downtown Milwaukee Campus

#### COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH-101</td>
<td>Medical Terminology ^</td>
<td>3</td>
</tr>
<tr>
<td>HEALTH-107</td>
<td>Digital Literacy for Healthcare ^</td>
<td>2</td>
</tr>
<tr>
<td>HIT-182</td>
<td>Human Disease for Health Professions ‡</td>
<td>3</td>
</tr>
<tr>
<td>HIT-197</td>
<td>ICD Diagnosis Coding</td>
<td>3</td>
</tr>
<tr>
<td>HIT-199</td>
<td>ICD Procedure Coding</td>
<td>2</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(or) ENG-201 English 1 ‡</td>
<td></td>
</tr>
<tr>
<td>HIT-199</td>
<td>ICD Procedure Coding</td>
<td>2</td>
</tr>
<tr>
<td>HIT-184</td>
<td>CPT Coding ‡</td>
<td>3</td>
</tr>
<tr>
<td>HIT-185</td>
<td>Healthcare Reimbursement ‡</td>
<td>2</td>
</tr>
<tr>
<td>HIT-162</td>
<td>Fundamentals of Health Information Management</td>
<td>3</td>
</tr>
<tr>
<td>HIT-165</td>
<td>Intermediate Coding ‡</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 33**

( ) Semester order for full-time students.

^ Counts toward earning the Healthcare Customer Service certificate.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

You will be prepared as an entry-level coding specialist after learning medical diagnosis and procedure codes using two coding systems for billing and data collection. Graduates can be certified through the American Health Information Management Association and the American Academy of Professional Coders. Classes are taught at MATC’s Health Education Center (HEC), 1311 North Sixth Street, Milwaukee.

**Program Learning Outcomes**

- Collect health data
- Model professional behaviors and ethics
- Use electronic applications to support coding and data collection
- Apply coding and reimbursement systems

**Admission Requirements**

High school diploma or GED, and one year of high school-level chemistry required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fsa.gov. School Code: 003866

**Milwaukee Area Technical College  School of HEALTH SCIENCES**

| matc.edu | 414-297-MATC | Wisconsin Relay System 711 | 414-297-6263 |
Interpreters form a vital link in providing better healthcare. This program prepares you for employment to facilitate communication between patients with limited English proficiency and medical personnel. The program’s length is two semesters and one summer. Classes are taught at MATC’s Health Education Center (HEC), 1311 North Sixth Street, Milwaukee.

**Career Outlook**

The increasing demand for professional medical interpreters can be attributed to the need to provide quality care through effective communication and federal laws requiring language assistive services.

**Program Learning Outcomes**

- Interpret bilaterally into English or Spanish in real time
- Render oral sight translations from English and Spanish texts
- Translate English and Spanish documents into target language

**Admission Requirements**

High school diploma or GED required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDINT-107</td>
<td>Bilingual Medical Terminology</td>
<td>5</td>
</tr>
<tr>
<td>MEDINT-103</td>
<td>Introduction to Medical Interpretation ‡</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-104</td>
<td>Applied Medical Interpretation 1</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-102</td>
<td>Spanish Regionalisms and English Variants</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-112</td>
<td>Dual Language Enhancement for Healthcare Providers ‡</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-108</td>
<td>Ethics and Standards for Medical Interpreters</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-101</td>
<td>Cultural Awareness</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-106</td>
<td>Introduction to Medical Translation</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-110</td>
<td>Applied Medical Interpretation 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>MEDINT-111</td>
<td>Applied Medical Interpretation 3 ‡</td>
<td>3</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>(or) Any 200-series PSYCH course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 35**

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
All credits in this technical diploma must be earned at MATC with a 2.0 GPA or higher.
To become an entry-level bedside caregiver, you will learn basic nursing skills and procedures to assist others with their daily living activities and specialized care needs. This program can fulfill the Nursing Assistant training requirement for admission into MATC’s nursing programs.

High school students may be eligible for dual enrollment to earn college credits while in high school and have the opportunity for employment.

**Bilingual Option**

Students are instructed in English, but selected sections are specific for the bilingual learner.

**Program Learning Outcomes**

- Communicate and interact effectively with clients, family, and co-workers
- Maintain and protect client rights
- Report information and record observations
- Demonstrate the ethical and legal responsibilities of the NA/HHA
- Provide safe care to a diverse population, meeting personal, physical and psychosocial client needs
- Assist with client rehabilitation and restorative care, promoting independence

(For full description, see matc.edu.)

**Admission Requirements**

A high school diploma or GED is recommended. Health requirements, criminal background check and additional documents are required for admission; see this program’s webpage at matc.edu for details.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates:** Year-round, offered every 7 weeks

**For complete information, go to matc.edu/health_sciences**

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**COURSE**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRSNA-300</td>
<td>Nursing Assistant #</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS:** 3

# Prerequisite required.

Program curriculum requirements are subject to change.

Classes offered mornings, evenings and weekends.

Class locations: Downtown Milwaukee Campus, Health Education Center (HEC) at 1311 North Sixth Street in Milwaukee, Oak Creek Campus and West Allis Campus.
Office Technology Assistant

TECHNICAL DIPLOMA Program Code: 31-106-1 West Allis Campus

To boost your career, gain skills in the updated technology that today's offices rely on every day. Coursework includes learning administrative office procedures, studying basic accounting, using the software prominent in office environments, and developing strong keyboarding skills.

Career Outlook
This occupation ranks among those with the largest number of job openings. Opportunities should be best for applicants with extensive knowledge of software applications.

Program Learning Outcomes
• Perform accurate workplace communications
• Use technology skills for business tasks
• Perform routine office procedures
• Demonstrate professionalism and effective workplace relationships

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

COURSES Credits
(1) OFTECH-101 Windows and MS Word Keyboard Shortcuts ........................................... 3
(1) OFTECH-103 Keyboard and Keypad ........................................... 1
(1) OFTECH-119 Information Management ........................................... 3
(1) OFTECH-122 Business English Essentials ........................................... 3
(1) OFTECH-136 Keyboarding Skill Development 1 ‡ ....................... 1
(2) OFTECH-102 Office Technologies ‡ ........................................... 3
(2) OFTECH-133 Business Document Production 1 ‡ ............... 3
(2) ACCTG-102 Basic Office Accounting ........................................... 3
(3) OFTECH-165 Administrative Office Procedures 1 ‡ ................... 3
(3) OFTECH-184 MS Office: Word, Excel, Access and PowerPoint ‡ ........................................... 3

TOTAL CREDITS: 26

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College | 414-297-6395
### COURSES & Credits

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) PLEGAL-101</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Paralegalism</td>
<td></td>
</tr>
<tr>
<td>(1) PLEGAL-103</td>
<td>3</td>
</tr>
<tr>
<td>Legal Research ‡</td>
<td></td>
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<tr>
<td>(1) PLEGAL-105</td>
<td>3</td>
</tr>
<tr>
<td>Civil Procedure ‡</td>
<td></td>
</tr>
<tr>
<td>(1) ENG-151*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Skills 1 ‡</td>
<td></td>
</tr>
<tr>
<td>(o) ENG-201 English 1 ‡</td>
<td></td>
</tr>
<tr>
<td>(2) PLEGAL-107</td>
<td>3</td>
</tr>
<tr>
<td>Legal Writing ‡</td>
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<tr>
<td>(2) PLEGAL-111</td>
<td>3</td>
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<tr>
<td>Litigation Practice Systems ‡</td>
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<tr>
<td>(2) Select one of the following PLEGAL courses..... 3</td>
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<tr>
<td>PLEGAL-114</td>
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<tr>
<td>Trusts and Estates – Probate Systems ‡</td>
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<tr>
<td>PLEGAL-116</td>
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<tr>
<td>Real Estate Law and Practice ‡</td>
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<td>PLEGAL-118</td>
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<tr>
<td>Criminal Practice ‡</td>
<td></td>
</tr>
<tr>
<td>PLEGAL-121</td>
<td></td>
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<tr>
<td>Domestic Relations and Divorce Practice Systems ‡</td>
<td></td>
</tr>
<tr>
<td>PLEGAL-123</td>
<td></td>
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<tr>
<td>Corporate Practice Systems ‡</td>
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<td>PLEGAL-127</td>
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<tr>
<td>Debtor-Creditor Law ‡</td>
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<tr>
<td>PLEGAL-140</td>
<td></td>
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<tr>
<td>Legal Interviewing/Investigation ‡</td>
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</tr>
</tbody>
</table>

**TOTAL CREDITS: 21**

( ) Semester order for full-time students.

* Students admitted to the technical diploma program should request that undergraduate credit be awarded for ENG-151.

‡ Prerequisite required, however, students admitted to the technical diploma program can register for paralegal specialty (PLEGAL) courses. Diploma students must request Prerequisite Waivers for the courses they wish to take via their INFOnline account.

It is recommended that PLEGAL-103 be taken prior to PLEGAL-107, and that PLEGAL-105 be taken prior to PLEGAL-111.

A minimum of 18 credits of legal specialty courses at MATC must be completed.

Program curriculum requirements are subject to change.

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This program is designed for students who already have a bachelor’s degree with at least 18 credits in Liberal Arts courses. You will gain the foundation for a paralegal career in a law office, government agency, private organization or corporation.

Classes are offered face to face at the Downtown Milwaukee Campus. Selected courses are offered at MATC’s other campuses via interactive television. Online classes are available; at least 10 credits of legal specialty (PLEGAL) courses must be taken via face-to-face instruction.

Typical job duties include conducting client interviews, obtaining case information, performing legal research, and providing general assistance to attorneys. Paralegals are required to work under the supervision of an attorney to avoid the unauthorized practice of law.

### Program Learning Outcomes
- Apply ethical principles in a legal environment
- Process legal documents
- Perform legal research
- Apply critical thinking skills to address legal issues
- Demonstrate professionalism in a legal environment

### Admission Requirements

Bachelor’s degree with at least 18 credits in Liberal Arts courses required; applicants should submit an official college transcript to the Downtown Milwaukee Campus Admissions Office.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is approved by the American Bar Association, 750 North Lakeshore Drive, Chicago, IL 60611; 312-988-5616; www.americanbar.org/groups/paralegals/.

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**Start Dates: August/January/June**

*For complete information, go to matc.edu/business*

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**

School of BUSINESS

matc.edu | 414-297-MATC | Wisconsin Relay System 711
**Pharmacy Technician**

**TECHNICAL DIPLOMA**  
Program Code: 31-536-1  
Downtown Milwaukee Campus

---

**CAREER pathways**

**PHARMACY TECHNICIAN**  
matc.edu/academic_programs/pathways

**Certificate**  
- Healthcare Customer Service, p. 197

**Technical Diploma**  
- Pharmacy Technician, p. 166

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**COURSES**  
**Credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH-101</td>
<td>Medical Terminology ^</td>
<td>3</td>
</tr>
<tr>
<td>HEALTH-104</td>
<td>Culture of Healthcare ^</td>
<td>2</td>
</tr>
<tr>
<td>HEALTH-107</td>
<td>Digital Literacy for Healthcare ^</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-300</td>
<td>Orientation to Pharmacy Operations ‡</td>
<td>1</td>
</tr>
<tr>
<td>PHARMT-302</td>
<td>Pharmaceutical Calculations ‡</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-303</td>
<td>Introduction to Drug Classification ‡</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-395</td>
<td>Federal Laws, Ethics and Customer Service ‡</td>
<td>1</td>
</tr>
<tr>
<td>PHARMT-307</td>
<td>Community Pharmacy Lab ‡</td>
<td>1</td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENG-201 English 1 ‡</td>
<td></td>
</tr>
<tr>
<td>PHARMT-306</td>
<td>Pharmacy Clinical Experience 1 ‡</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-310</td>
<td>Institutional Pharmacy Practice ‡</td>
<td>1</td>
</tr>
<tr>
<td>PHARMT-311</td>
<td>Orientation to Sterile Solutions ‡</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-312</td>
<td>Pharmacy Operations Laboratory ‡</td>
<td>2</td>
</tr>
<tr>
<td>PHARMT-314</td>
<td>Pharmacy Clinical Experience 2 ‡</td>
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<tr>
<td>PSYCH-199</td>
<td>Psychology of Human Relations</td>
<td>3</td>
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<tr>
<td></td>
<td>PSYCH-231 Introductory Psychology</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 30**

(1) Semester order for full-time students.

^ Counts toward earning the Healthcare Customer Service certificate.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Classes are held at the Downtown Milwaukee Campus Health Education Center (HEC), 1311 North Sixth Street.

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**Start Dates: August and January**

**For complete information, go to matc.edu/health_sciences**

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**  
School of HEALTH SCIENCES

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This program is accredited by the American Society of Health-System Pharmacists (ASHP), 4500 East-West Highway, Suite 900, Bethesda, MD 20814; 301-657-3000; www.ashp.org.

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Gain the skills and knowledge needed to be a pharmacy technician in a variety of practice settings. Pharmacy technicians work under the supervision of a pharmacist. Graduates are prepared to take the Pharmacy Technician Certification Board’s Certified Pharmacy Technician exam. All graduates must be 18 years of age or older.

**Program Learning Outcomes**

- Demonstrate personal/interpersonal knowledge and skills in the practice of pharmacy
- Demonstrate foundational professional knowledge and skills for the practice of pharmacy
- Prepare prescriptions/medication orders and pharmaceutical products for dispensing, distribution, and disposal
- Compound sterile and nonsterile medications
- Follow established policies and procedures for procurement, billing, reimbursement and inventory management
- Utilize pharmacy technology and informatics

(For full description, see matc.edu.)

**Admission Requirements**

High school diploma or GED required. This program admits students through a petition selection process. See program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
**Phlebotomy**

**TECHNICAL DIPLOMA**  **Program Code: 30-513-1**  **Downtown Milwaukee Campus**

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) HEALTH-101 Medical Terminology* ^</td>
<td>3</td>
</tr>
<tr>
<td>(1) HEALTH-104 Culture of Healthcare ^</td>
<td>2</td>
</tr>
<tr>
<td>(1) HEALTH-107 Digital Literacy for Healthcare * ^</td>
<td>2</td>
</tr>
<tr>
<td>(1) CLABT-110 Basic Lab Skills ‡</td>
<td>1</td>
</tr>
<tr>
<td>(1) CLABT-111 Phlebotomy ‡</td>
<td>2</td>
</tr>
<tr>
<td>(1) MLABT-161 Computer Applications for the Medical Laboratory ‡</td>
<td>1</td>
</tr>
<tr>
<td>(1) MLABT-166 Phlebotomy Clinical Experience ‡</td>
<td>3</td>
</tr>
<tr>
<td>(1) ENG-151 Communication Skills 1 ‡ *</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-201 English 1 ‡</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CREDITS:** 17

( ) Semester order for full-time students.

† Prerequisite required.

* May be taken prior to entering the program.

^ Counts toward earning the Healthcare Customer Service certificate.

Program curriculum requirements are subject to change.

Official Wisconsin Technical College System program title: Phlebotomy Technician.

Phlebotomists perform functions such as blood drawing, specimen processing, lab procedures and clerical duties. To prepare for this career, you will learn the theory and practical skills of phlebotomy through the on-campus laboratory sessions and experiences at local healthcare facilities.

**Career Outlook**

The demand for phlebotomists continues to grow.

**Program Learning Outcomes**

- Adhere to infection control and safe practices
- Perform specimen collection
- Process specimens
- Comply with legal regulations
- Model professional behaviors

**Admission Requirements**

High school diploma or GED required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 North River Road, Suite 720, Rosemont, IL 60018; 312-714-8880; www.naacls.org.

**Start Dates: August and January**

For complete information, go to matc.edu/health_sciences

To apply for financial aid, visit fafsa.gov. School Code: 003866

**Milwaukee Area Technical College**  **School of HEALTH SCIENCES**

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Power Engineering and Boiler Operator

TECHNICAL DIPLOMA  Program Code: 30-428-1  Oak Creek Campus

This two-semester program prepares students to manage and repair equipment, to maintain facilities, and to operate and control low-pressure and high-pressure boilers and auxiliary systems in factories, plants and buildings.

Career Outlook
Program graduates have potential for employment as building engineers, boiler operators, facilities maintenance mechanics and power engineers.

Program Learning Outcomes
• Follow industry safety standards
• Operate power engineering equipment
• Examine boiler operation effects on the environment
• Perform water treatment tests
• Operate building controls

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

For complete information, go to matc.edu/academic_programs/pathways

COURSES Credits
(1) POWENG-330 Low-Pressure Boilers ................................1
(1) POWENG-331 High-Pressure Boilers ................................2
(1) POWENG-332 Boiler Operation .....................................1
(1) POWENG-334 Blueprint Reading for Power Engineering .........................1
(1) POWENG-335 Instrumentation and Controls ......................3
(1) POWENG-395 Electricity for Power Engineering..........3
(2) POWENG-333 Plant Maintenance and HVAC Basics ...3
(2) POWENG-336 Math for Power Engineers ......................1
(2) ABS-143 Electrical Concepts/Control Theory 1 ...2
(2) ENG-340 Workplace Communication .......................2

TOTAL CREDITS: 19

( ) Semester order for full-time students.
^ Counts toward earning the Boiler Operator certificate.
Program curriculum requirements are subject to change.
All credits must be earned at MATC with 2.0 GPA or higher.
Technical Diplomas

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Program Learning Outcomes

- Implement one’s role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse committed to caring, advocacy, and quality care while adhering to evidence-based practice
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts
- Integrate knowledge of social, mathematical, and physical sciences, pharmacology, and disease processes while participating in clinical decision-making

(For full description, see matc.edu.)

career pathways

This technical diploma ladders into the Registered Nursing associate degree. Contact an MATC advisor for more details.

In two semesters, the Practical Nursing program exposes you to a variety of classroom and clinical experiences to prepare you for employment in nursing homes, hospitals and other healthcare settings. Upon program completion, you will be eligible to take the licensure exam for Practical Nurses (NCLEX-PN). Nursing Assistant training is required prior to petitioning for this program.

Career Outlook

Licensed practical nurses (LPNs) are in high demand in various healthcare settings.

Program Learning Outcomes

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) NRSPN-301 Nursing Fundamentals</td>
<td>2</td>
</tr>
<tr>
<td>(1) NRSPN-302 Nursing Skills</td>
<td>3</td>
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<tr>
<td>(1) NRSPN-303 Nursing: Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>(1) NRSPN-304 Nursing: Introduction to Clinical Practice</td>
<td>2</td>
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<tr>
<td>(1) NATSCI-177 General Anatomy and Physiology</td>
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<tr>
<td>(or) NATSCI-201 Anatomy &amp; Physiology 1</td>
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<tr>
<td>(or) NATSCI-202 Anatomy &amp; Physiology 2</td>
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<td>(1) ENG-151 Communication Skills 1</td>
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<td>(or) ENG-201 English 1</td>
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<tr>
<td>(2) NRSPN-305 Nursing: Health Alterations</td>
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<td>(2) NRSPN-306 Nursing: Health Promotion</td>
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<tr>
<td>(2) NRSPN-307 Nursing: Clinical Care Across the Lifespan</td>
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<td>(2) NRSPN-308 Nursing: Introduction to Clinical Management</td>
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<td>(2) ENG-152 Communication Skills 2</td>
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<tr>
<td>(2) PSYCH-188 Developmental Psychology</td>
<td>3</td>
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<tr>
<td>(or) PSYCH-238 Lifespan Psychology</td>
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TOTAL CREDITS: 32

( ) Semester order for full-time students.

# Prerequisite required.

Program curriculum requirements are subject to change.

Admission Requirements

High school diploma or GED, and one year of high school-level biology and chemistry required. This program admits students through a petition selection process. See program’s webpage at matc.edu.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; 404-975-5000; fax 404-975-5020; email: info@acenursing.org; www.acenursing.org.

Start Dates: August and January

For complete information, go to matc.edu/health_science

To apply for financial aid, visit fafsa.gov. School Code: 003866

milwaukee area technical college | 414-297-6263

matc.edu | 414-297-MATC | Wisconsin Relay System 711
**Preparatory Plumbing**

**TECHNICAL DIPLOMA**

This program prepares students for a plumbing apprenticeship. As a graduate applying for an apprenticeship, you will be able to demonstrate your commitment to the trade, and will possess entry-level skills for a plumbing apprenticeship. This program is also for individuals interested in other piping trades. Classes are at the MATC Education Center at Walker’s Square, 816 West National Avenue, Milwaukee.

### Career Outlook
There is a strong demand for the services of licensed plumbers.

### Program Learning Outcomes
- Identify various piping materials and fittings
- Utilize hand tools and power tools related to the trade
- Follow directions related to the trade
- Calculate various piping offsets dimension
- Sketch and read simple plumbing systems drawings

### Admission Requirements
- A high school diploma or GED
- Shop practice and drafting learned either in school or employment setting
- Ability to drive and possession of a valid driver’s license

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

### COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>(1) PLUMB-300 Plumbing Theory 1</td>
<td>3</td>
</tr>
<tr>
<td>(1) PLUMB-301 Applied Drawing for Plumbers 1</td>
<td>2</td>
</tr>
<tr>
<td>(1) PLUMB-302 Plumbing and Piping Shop 1</td>
<td>3</td>
</tr>
<tr>
<td>(1) PLUMB-308 Plumbing and Pipe Joining Process 1</td>
<td>2</td>
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<tr>
<td>(1) PLUMB-312 Computer Application/Plumbing</td>
<td>1</td>
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<tr>
<td>(1) MATH-308 Math for Industrial Applications 1 ‡</td>
<td>2</td>
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<tr>
<td>(2) ENG-340 Workplace Communication</td>
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<tr>
<td>(2) MCDES-120 Basic AutoCAD</td>
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<tr>
<td>(2) PLUMB-304 Plumbing Theory 2 ‡</td>
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<tr>
<td>(2) PLUMB-305 Plumbing and Pipe Joining Process 2 ‡</td>
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<tr>
<td>(2) PLUMB-306 Plumbing and Piping Shop 2 ‡</td>
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<tr>
<td>(2) PLUMB-309 Applied Drawing for Plumbers 2 ‡</td>
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<tr>
<td>(2) PLUMB-310 First Aid/Safety in Plumbing</td>
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</tbody>
</table>

**TOTAL CREDITS: 27**

(‡) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
Gain the skills in industry-recognized software required for entering the graphic design field. Through this one-year program, you will learn to prepare designs, layouts and make modifications according to production standards.

Career Outlook
This growing segment of the creative industry offers entry into a variety of careers.

Program Learning Outcomes
• Operate Adobe Creative Suite and other industry-recognized software
• Position text and art elements in a visually appealing way for print and/or digital media
• Develop and/or adapt graphics for digital and print media with proper file format
• Prepare files for press

Admission Requirement
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

TOTAL CREDITS: 28
(1) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
Address your interests in the buying and selling of real estate. This program’s coursework prepares you to operate a real estate office, or work for a commercial real estate firm, overseeing real estate transactions.

**Career Outlook**
Employment of real estate brokers and sales agents in the U.S. is projected to grow 6 percent from 2016 to 2026.

**Program Learning Outcomes**
- Prepare real estate contracts and documents in accordance with applicable laws
- Apply concepts of property valuation to real estate transactions
- Identify environmental issues in real estate transactions
- Demonstrate real estate brokerage business management skills

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
Enter a career that emphasizes working with HVAC/R equipment. You will learn to service and install air conditioning, refrigeration and heating equipment.

**Career Outlook**
There is an ongoing need for technicians who have current training.

**Program Learning Outcomes**
- Install HVAC/R components
- Service HVAC/R systems
- Troubleshoot HVAC/R systems

**Admission Requirement**
- High school diploma or GED recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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### COURSES Credits

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>(1) ELECTY-398 Electrical Circuits and Controls for HVAC/R</td>
<td>3</td>
</tr>
<tr>
<td>(1) HVAC1-350 Air Conditioning Principles</td>
<td>2</td>
</tr>
<tr>
<td>(1) HVAC1-300 Basic Refrigeration and System Operations</td>
<td>4</td>
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<tr>
<td>(1) HVAC1-325 Oil Furnace Service and Maintenance</td>
<td>3</td>
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<tr>
<td>(1) HVAC1-332 Math for HVAC Service Technicians</td>
<td>2</td>
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<tr>
<td>(2) ENG-151 Communication Skills ‡</td>
<td>3</td>
</tr>
<tr>
<td>(or) ENG-201 English 1 ‡</td>
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<tr>
<td>(2) ELECTY-396 HVAC/R Electrical Systems ‡</td>
<td>2</td>
</tr>
<tr>
<td>(2) HVAC1-301 Introduction to Refrigeration Servicing and Application ‡</td>
<td>4</td>
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<tr>
<td>(2) HVAC1-326 Gas Furnace Servicing and Maintenance ‡</td>
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<tr>
<td>(2) ELECTY-397 Electrical Wiring Methods for Air Conditioning and Refrigeration</td>
<td>1</td>
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<tr>
<td>(2) HVAC2-148 Heat Pumps ‡</td>
<td>3</td>
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</tbody>
</table>

**TOTAL CREDITS: 30**

(1) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.
Prepare for a healthcare career as a renal dialysis technician (RDT). Under the direct supervision of a registered nurse, RDTs set up dialysis equipment, prepare dialysate solutions, perform venipuncture and monitor patient responses during the procedure. RDTs also are responsible for quality control and maintenance of the equipment.

**Career Outlook**
Employment opportunities exist in hospitals and in freestanding dialysis centers.

**Program Learning Outcomes**
- Adhere to infection control and safety principles
- Demonstrate safe operation of renal dialysis treatment machine and related equipment
- Demonstrate competent and safe patient care skills
- Model professionalism as a renal dialysis technician

**Admission Requirements**
High school diploma or GED, and one year of high school-level biology required. This program admits students through a petition selection process. See the program’s webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Date:** August

*For complete information, go to matc.edu/health_sciences*

To apply for financial aid, visit fafsa.gov. School Code: 003866

*It is strongly recommended that these courses be completed prior to entering the program. Program curriculum requirements are subject to change.*
Retail Marketing Specialist

TECHNICAL DIPLOMA  Program Code: 30-104-2  Oak Creek Campus

FASHION/RETAIL MARKETING  
matc.edu/academic_programs/pathways

Technical Diploma
• Fashion Marketing Specialist, p. 144
• Retail Marketing Specialist, p. 175

Associate Degree
• Fashion/Retail Marketing, p. 68

COURSES  Credits
(1) MKTG-102  Marketing Principles ........................... 3
(1) COMP SW-106  Introduction to MS Office ................ 3
(1) MGTDEV-191  Supervision .................................. 3
(1) MKTG-119  Visual Merchandising ............................ 3
(2) MKTG-107  Customer Experience .......................... 3
(2) MKTG-106  Retail and Consumer Marketing ‡ ....... 3
(2) MKTG-104  Selling Principles .............................. 3
(2) ENG-151  Communication Skills 1 ‡ .................... 3
(or) ENG-201 English 1 ‡

TOTAL CREDITS: 24

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Get set for a career in retail management by learning to perform key operations associated with sales in a variety of settings. Strengthen your skills through instruction in supervision, marketing and selling principles, visual merchandising and customer service.

Career Outlook
Retail management positions are projected to remain steady in Wisconsin and throughout the United States.

Program Learning Outcomes
• Develop a marketing mix strategy to use in the fashion industry
• Analyze business data/information to support decision making
• Execute a visual merchandising plan
• Plan retail/fashion business activities to enhance the customer experience

Admission Requirements
• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  |  414-297-6395
Sales and Customer Experience

TECHNICAL DIPLOMA  Program Code: 30-104-7  Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)

COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tr>
<td>(1) MKTG-102 Marketing Principles ...........................</td>
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<tr>
<td>(1) MKTG-104 Selling Principles ................................</td>
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<tr>
<td>(1) MKTG-106 Retail and Consumer Marketing ‡ ...........</td>
<td>3</td>
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<td>(1) MKTG-107 Customer Experience ............................</td>
<td>3</td>
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<tr>
<td>(1) MKTG-144 Client Services ...................................</td>
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</tbody>
</table>

TOTAL CREDITS: 15

( ) Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change.

Formerly Sales Specialist

Prepare for a successful sales career by developing knowledge of commercial and consumer markets, sales, client services and customer experience planning. Focusing on the latest sales trends and technologies, this program is designed for the sales novice or professional looking to refresh their skills.

Career Outlook

Sales and customer experience careers are U.S. Department of Labor “Bright Outlook” careers with expected growth of 10% to 14% through 2026.

Program Learning Outcomes

• Develop marketing strategies
• Develop selling strategies
• Deliver sales presentations
• Apply customer experience and client services strategies
• Analyze sales information

Admission Requirements

• A high school diploma or GED
• Basic computer skills

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6395
Special Event Management

TECHNICAL DIPLOMA  Program Code: 31-109-2  Downtown Milwaukee Campus

COURSES Credits
(1) COMPSW-106 Introduction to MS Office ......................... 3
(1) HOTEL-105 Hospitality Marketing and Sales Revenue Strategy ........................................ 3
(1) ENG-151 Communication Skills 1 ‡ ............................. 3
   (or) ENG-201 English 1 ‡
(1) MEET-151 Introduction to Hospitality and Tourism ......................... 3
(1) CULMGT-140 Food and Beverage Operations .................. 3
(1) MATH-123 Math With Business Applications ‡ ............ 3
   (or) Any 200-series MATH course
(2) HOTEL-127 Catering, Weddings, Convention Sales and Contracts ........................................ 3
(2) MEET-180 Registration and Housing Logistics ‡ ........ 3
(2) MEET-181 Exposition and Special Event Management ‡ ........................................ 3
(2) CULMGT-117 Hospitality Law and Liability .................. 3
(2) ENG-152 Communication Skills 2 ‡ ............................. 3
   (or) ENG-202 English 2 ‡
(2) HOTEL-122 Basic Hospitality Accounting .................... 3

TOTAL CREDITS: 36

( ) Semester order for full-time students.
‡ Prerequisite required.
Program curriculum requirements are subject to change.

Put your creativity and planning skills to work and begin a career in event management. This program covers a broad range of topics related to the hospitality industry, including marketing, contracts and accounting.

Career Outlook
Many associations and corporations are hiring people to arrange, plan and conduct special events in a wide range of venues. In this field there is a high demand for skilled, customer service-focused employees.

Program Learning Outcomes
• Design a special event
• Apply the fundamentals strategies to a special event
• Manage the fundamentals of financial resources
• Identify the various components that make up the hospitality industry
• Manage the fundamentals of housing and registration process

Admission Requirements
• A high school diploma or GED
• Typing proficiency of 30 words per minute or concurrent enrollment in OFTECH-103 Keyboard and Keypad

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

Milwaukee Area Technical College  |  414-297-6395
Begin a career in supply chain management, purchasing or materials management through this two-semester program. You will gain skills in a variety of areas, including inventory control, vendor negotiations and purchasing procedures. This program’s blended format is 50 percent online and 50 percent classroom.

**Career Outlook**

Employment of purchasing managers, buyers and purchasing agents is expected to remain steady in most industries.

**Program Learning Outcomes**

- Define (plan) operations, transportation, procurement and distribution
- Measure operations, transportation, procurement and distribution
- Analyze operations, transportation, procurement and distribution
- Improve operations, transportation, procurement and distribution
- Control operations, transportation, procurement and distribution

**Admission Requirements**

- A high school diploma or GED
- Basic computer skills

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**COURSES**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>(1) LOGMGT-164 Supply Chain Management</td>
<td>3</td>
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<tr>
<td>(1) BADM-106 MS Office for Business Applications</td>
<td>3</td>
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<tr>
<td>(1) INDVTS-102 Career Assessment/Portfolio Development</td>
<td>3</td>
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<tr>
<td>(2) LOGMGT-144 Production Planning and Inventory Control</td>
<td>3</td>
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<td>(2) LOGMGT-146 Operations Management</td>
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<td>(2) LOGMGT-170 Procurement</td>
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</table>

**TOTAL CREDITS: 18**

( ) Semester order for full-time students.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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For complete information, go to matc.edu/business

To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6395
As a surveying technician, graduates of this program typically work under the
direction of an engineer or surveyor to operate surveying equipment, record
measurements, and produce drawings showing boundaries, key locations,
elevations and other terrain features.

Career Outlook
Surveying and mapping technicians are needed in all phases of construction,
and employer demand is good in the current job market.

Program Learning Outcomes
- Operate surveying instruments to collect data on location
- Operate Trimble data collection systems, GPS receivers and robotic total
  stations
- Draft and analyze traverse field data using Autodesk Civil 3-D software
- Illustrate basic drawings of circular horizontal curves, vertical curves, plans,
  profiles and cross-sections

Admission Requirements
- A high school diploma or GED
- One year of high school-level algebra (grade C or higher)

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

This program is approved by the Land Surveyor Section of the Wisconsin Examining Board of
Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors,
1400 East Washington Avenue, P.O. Box 8935, Madison, WI 53708; 608-266-2112;

Start Dates: August and January

For complete information, go to matc.edu/tas

To apply for financial aid, visit fafsa.gov. School Code: 003866
This is a four-semester, full-time, day program; the first two semesters are common with the one-year Machine Tool Operations program. All courses within the first year are based on the National Institute for Metalworking Skills (NIMS) Machining Level One Skill Standards in nine separate skill areas. During the third and fourth semesters, you will learn how to build and sample basic stamping dies and plastic injection molds.

Career Outlook
There is an ongoing need for highly skilled tool and die makers and mold makers.

Program Learning Outcomes
• Apply basic safety practices in the machine shop
• Interpret industrial/engineering drawings
• Apply precision measuring methods to part inspection
• Perform basic machine tool equipment set-up and operation
• Perform programming, set-up and operation of CNC machine tools
• Perform advanced tool, die, and mold operations

Admission Requirement
• High school diploma or GED recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**TOTAL CREDITS: 66**

( ) Semester order for full-time students.
# Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August and January

**For complete information, go to matc.edu/tas**
To apply for financial aid, visit ffsa.gov. School Code: 003866

** MILWAUKEE AREA Technical College **
School of TECHNOLOGY and APPLIED SCIENCES

matc.edu | 414-297-MATC | Wisconsin Relay System 711
Begin your career in the growing transportation and logistics industry, which is involved with managing the movement of products and supplies. You can complete this technical diploma in two semesters to prepare for entry-level positions in the field. This program’s blended format is 50 percent online and 50 percent classroom.

**Career Outlook**

Employment opportunities are expected to grow as supply and distribution systems become increasingly complex, and important, in the global economy.

**Program Learning Outcomes**

- Define (plan) operations, transportation, procurement and distribution
- Measure operations, transportation, procurement and distribution
- Analyze operations, transportation, procurement and distribution
- Improve operations, transportation, procurement and distribution
- Control operations, transportation, procurement and distribution

**Admission Requirements**

- A high school diploma or GED
- Basic computer skills

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

For complete information, go to matc.edu/business
To apply for financial aid, visit fafsa.gov. School Code: 003866

MILWAUKEE AREA Technical College | 414-297-6395
As a graduate of this eight-week Truck Driving program, you will enter an industry in need of qualified workers. Developing skills related to safety, maintenance and the operation of trucks prepares you for entry-level positions as a local or over-the-road driver. Students have the opportunity to attain Class A CDL (Commercial Driver’s License) as a result of their training.

**Career Outlook**
Currently the need for qualified truck drivers remains high in Wisconsin. The demand for truck drivers is expected to continually increase due to the retirement of current drivers and the increased need for freight-carrying services.

**Program Learning Outcomes**
- Perform commercial vehicle inspections
- Communicate with industry and regulatory personnel
- Complete legal and industry related documentation
- Plan trips
- Perform safe operation of a commercial vehicle
- Obtain a CDL (Commercial Driver’s License)

**Admission Requirements**
- High school diploma or GED recommended
- Age 18 years or older
- Valid Wisconsin driver’s license (Class D) and acceptable driving record
- Department of Transportation medical exam and drug test
- Valid Commercial Learners Permit (CLP) – for more information, see Wisconsin Commercial Driver’s Manual at wisconsindot.gov or at local DMV office

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

**Start Dates: Aug./Oct./Jan./March/May**

For complete information, go to matc.edu/tas
To get ready for cameras and action, you will gain skills in the basics of field-based production, location lighting, high-definition field camera operation, and principles of non-linear editing and content distribution. Courses are taught in the Milwaukee PBS studios for real-world experience. This program prepares students for on-location, video production entry-level positions.

### Career Outlook

With video so pervasive in our society, individuals well-versed in TV and video field production are in demand to help capture and deliver stories to the audience.

### Program Learning Outcomes

- Apply basic principles of design and storytelling to studio and field productions
- Demonstrate proficiency in the use of basic media software, tools and technology
- Assist in production from concept to completion
- Communicate creative rationale in formal and informal settings
- Apply ethical business practices

### Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.
**TECHNICAL DIPLOMA**  
Program Code: 31-701-2  
Downtown Milwaukee Campus

<table>
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<td>(1) TV-101 TV/Video Studio Production Techniques</td>
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<tr>
<td>(1) TV-181 Video in Society ‡</td>
<td>1</td>
</tr>
<tr>
<td>(1) TV-121 TV and Video Production Workshop 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(1) ENG-151 Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(1) TV-113 Television Lighting and Set Construction ‡</td>
<td>3</td>
</tr>
<tr>
<td>(1) TV-119 Operational Broadcast Engineering ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) AUDIO-120 Audio Production for Visual Media ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) TV-122 TV and Video Production Workshop 2 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) TV-123 TV and Video Production Co-op 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td>(2) WEBDEV-102 Introduction to Digital Media ‡</td>
<td>3</td>
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<tr>
<td>(or) EPROD-150 Introduction to eProduction</td>
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</tbody>
</table>

**TOTAL CREDITS: 29**

(‡) Prerequisite required.  
(‡) Semester order for full-time students.  
Program curriculum requirements are subject to change.

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Spotlight your future in the broadcasting industry with the skills attained through this two-semester program. You will learn the basics of television and video studio production through courses taught in Milwaukee PBS studios. Areas of study include production, studio lighting, studio camera operation, and general TV engineering principles.

**Career Outlook**

Studios for cable channels, educational facilities and corporate video studios offer employment opportunities.

**Program Learning Outcomes**

- Apply basic principles of design and storytelling to studio and field productions
- Demonstrate proficiency in the use of basic media software, tools and technology
- Assist in production from concept to completion
- Communicate creative rationale in formal and informal settings
- Apply ethical business practices

**Admission Requirement**

- A high school diploma or GED

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**Start Dates: August and January**

For complete information, go to matc.edu/media_creative_arts

To apply for financial aid, visit fafsa.gov. School Code: 003866

**MILWAUKEE AREA Technical College**  
School of MEDIA and CREATIVE ARTS  
MATC.edu | 414-297-6433
Make MATC your first choice for learning about 3D software. Through this two-semester program, you will develop the skills necessary to learn the Unity 3D software creation tool, which is used to develop simulations, video games, training programs and educational software.

Career Outlook
Learning the fundamentals of Unity 3D prepares you to develop for multiple consoles and platforms, especially personal computer, web and mobile applications in 2D and 3D.

Program Learning Outcomes
• Demonstrate the ability to create and manipulate assets using the Unity 3D engine
• Create understandable and fluid GUI elements
• Apply 3D math knowledge of transforms, coordinate systems and interpolation
• Apply object-oriented principles in designing systems and scripting
• Demonstrate the ability to contribute to all aspects of development on a multidisciplinary team

Admission Requirements
• A high school diploma or GED
• High school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Start Dates: August and January
For complete information, go to matc.edu/media_creative_arts
To apply for financial aid, visit fafsa.gov. School Code: 003866
This two-semester program prepares you to perform production, maintenance and repair welding for manufacturing and construction. Learn about blueprints, equipment maintenance and the various welding processes and settings.

**Career Outlook**
Demand is high for welders with up-to-date skills; new processes have created many job opportunities for welders with these abilities.

**Program Learning Outcomes**
- Demonstrate industry-recognized safety practices
- Interpret welding drawings
- Produce shielded metal arc welds (SMAW)
- Produce gas metal arc welds (GMAW)
- Produce flux core arc welds (FCAW)
- Produce gas tungsten arc welds (GTAW)
- Perform cutting operations

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

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**Start Dates: August and January**

For complete information, go to matc.edu/tas
To apply for financial aid, visit fafsa.gov. School Code: 003866

**Technical Diploma**
Program Code: 31-442-1
Mequon, Oak Creek and West Allis campuses

**COURSES**

<table>
<thead>
<tr>
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<tr>
<td>(1) WELD-313</td>
<td>Shielded Metal Arc Welding ........5</td>
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<tr>
<td>(1) WELD-314</td>
<td>Gas Tungsten Arc Welding ........5</td>
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<tr>
<td>(1) WELD-350</td>
<td>GTAW Processes .........................1</td>
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<td>(1) WELD-351</td>
<td>Shielded Metal Arc Welding Processes ..........1</td>
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<tr>
<td>(1) WELD-360</td>
<td>Blueprint Reading for Welders ..........2</td>
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<tr>
<td>(1) WELD-380</td>
<td>Welding Trades Mathematics ..........1</td>
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<tr>
<td>(2) WELD-315</td>
<td>Gas Metal Arc Welding Practices ..........5</td>
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<td>(2) WELD-316</td>
<td>Layout and Setup Practices ..........5</td>
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<tr>
<td>(2) WELD-352</td>
<td>Gas-Shielded Arc Welding Processes ..........1</td>
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<tr>
<td>(2) WELD-354</td>
<td>Layout and Print Reading Practices ..........2</td>
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<tr>
<td>(2) ENG-340</td>
<td>Workplace Communication ..........2</td>
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**TOTAL CREDITS: 30**

(1) Semester order for full-time students.
‡ Prerequisite required.
^ Counts toward earning the Welding Fundamentals certificate.
Program curriculum requirements are subject to change.
CERTIFICATES

Most MATC certificate programs can be completed in one semester of full-time study, providing a quick way to earn an entry-level credential, strengthen core skills or ease into college-level coursework if you have been out of school for a while.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details.

All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

Accounting Bookkeeper Trainee, p. 188
Automotive Express Lube Technician, p. 189
Aviation Maintenance Technician – General, p. 190
Boiler Operator, p. 191
Business Management Trainee, p. 192
Dietary Manager, p. 193
EKG Technician, p. 194
Entrepreneurship, p. 195
Financial Services Trainee, p. 196
Healthcare Customer Service, p. 197
IT Level 2 – Service Center Technician, p. 198
IT Microsoft Enterprise Desktop Support Specialist, p. 199
IT Service Center Technician, p. 200
Preschool, p. 201
Property Management, p. 202
Real Estate Salesperson, p. 203
Water Technician, p. 204
Welding Fundamentals, p. 205
# Accounting Bookkeeper Trainee

**Certificate**
Downtown Milwaukee, Oak Creek and West Allis campuses (Also offered online)

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCTG-111 Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACCTG-122 Accounting Software Applications</td>
<td>3</td>
</tr>
<tr>
<td>ACCTG-130 Computerized Accounting</td>
<td>3</td>
</tr>
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</table>

**TOTAL CREDITS:** 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

This certificate prepares you to enter the bookkeeping/accounting field in an entry-level capacity. Through the program’s three courses, students develop competence in financial accounting with an emphasis on accounting software, spreadsheets and databases.

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

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**Start Dates: August and January**

For complete information, go to matc.edu/business

**For complete information, go to matc.edu/business**

**MILWAUKEE AREA Technical College**
School of BUSINESS

| matc.edu | 414-297-MATC | Wisconsin Relay System 711 | 414-297-6395 |
Drive your future forward by entering the automotive maintenance field. This certificate covers inspection and maintenance of automotive brakes, steering and suspension components, and provides instruction on express lube services. The lab courses feature hands-on learning with lab mockups and vehicles.

### Admission Requirement
- High school diploma or GED recommended

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details.

All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

### Courses

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<tr>
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<td>AUTO1-300</td>
<td>Express Service .................................. 2</td>
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<tr>
<td>AUTO1-308</td>
<td>Brakes, Steering, Suspension Fundamentals ...... 2</td>
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<tr>
<td>AUTO1-310</td>
<td>Brakes, Steering, Suspension Lab 1 ‡ ............. 4</td>
</tr>
<tr>
<td>AUTO1-312</td>
<td>Brakes, Steering, Suspension Lab 2 ‡ ............. 2</td>
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</table>

**TOTAL CREDITS: 10**

‡ Prerequisite required.

Program curriculum requirements are subject to change.
Aviation Maintenance Technician – General

**Certificate** MATC Aviation Center/Oak Creek Campus

**AVIATION TECHNICIAN**

**Certification**

- Aviation Maintenance Technician – General, p. 190

**Technical Diploma**

- Aviation Technician – Airframe, p. 118
- Aviation Technician – Powerplant, p. 119

Complete this certificate and you will be prepared for entry-level work as a line service technician assisting certified aircraft mechanics and structural assemblers, or you could work in airfield ground support positions. MATC’s Aviation Center is at 422 East College Avenue, east of the Oak Creek Campus.

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details.

All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

This program is certified by the Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; www.faa.gov; FAA (Federal Aviation Administration) CFR (Code of Federal Regulations) Part 147 Aviation Maintenance Technician School.

**Start Date:** August

For complete information, go to matc.edu/tas

**COURSES**

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<tr>
<th>COURSES</th>
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<td>AVITEC-323</td>
<td>Aircraft Ground Operation and Servicing</td>
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<tr>
<td>AVITEC-380</td>
<td>Basic Physics</td>
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<tr>
<td>AVITEC-381</td>
<td>Basic Electricity</td>
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<td>AVITEC-382</td>
<td>Aircraft Materials and Their Inspection</td>
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<tr>
<td>AVITEC-383</td>
<td>Aircraft Maintenance Publications, Records and Mechanics Regulations</td>
</tr>
<tr>
<td>AVITEC-393</td>
<td>Mathematics for Aviation Technicians</td>
</tr>
<tr>
<td>ENG-340</td>
<td>Workplace Communication</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS:** 15

Program curriculum requirements are subject to change.
Boiler Operator

CERTIFICATE Oak Creek Campus

POWER ENGINEERING AND BOILER OPERATOR
matc.edu/academic_programs/pathways

<table>
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<tr>
<th>Certificate</th>
<th>Technical Diploma</th>
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<tbody>
<tr>
<td>• Boiler Operator, p. 191</td>
<td>• Power Engineering and Boiler Operator, p. 168</td>
</tr>
</tbody>
</table>

Use your mechanical aptitude and prepare for employment as a boiler operator, facilities maintenance mechanic or power engineer through this certificate’s coursework.

At the workplace, job responsibilities typically include regulating equipment; ensuring that equipment operates safely and economically; and monitoring meters, gauges and computerized controls.

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details.

All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

**Start Dates: August and January**

*For complete information, go to matc.edu/tas*

**COURSES**

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<td>POWENG-331 High-Pressure Boilers</td>
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<td>POWENG-332 Boiler Operation</td>
<td>1</td>
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</table>

**TOTAL CREDITS: 4**

Program curriculum requirements are subject to change.
Business Management Trainee

COURSES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BADM-106</td>
<td>MS Office for Business Applications</td>
</tr>
<tr>
<td>BADM-134</td>
<td>Business Organization and Management</td>
</tr>
<tr>
<td>BADM-165</td>
<td>Legal Environment of Business</td>
</tr>
<tr>
<td>ACCTG-110</td>
<td>Financial Accounting</td>
</tr>
<tr>
<td>(or) ACCTG-111 Accounting 1</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 12

Program curriculum requirements are subject to change.

Admission Requirement

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Get a strong start to enter the job market with knowledge of key components of business, including the fundamentals of accounting, management and legal concepts.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

Start Dates: August and January

For complete information, go to matc.edu/business

MILWAUKEE AREA Technical College  | 414-297-6395

School of BUSINESS
Dietary Manager

CAREER pathways
matc.edu/academic_programs/pathways

Students enrolled in the Dietetic Technician associate degree program will complete all of this certificate’s required courses as part of their program. Students who are interested only in becoming eligible for the Association of Nutrition and Foodservice Professionals membership and examination may enroll in just these required classes and earn the Dietary Manager certificate at MATC.

This certificate consists of both classroom coursework and 150 hours of precepted field experience overseen by a Registered Dietitian.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

This program is accredited by the Association of Nutrition & Foodservice Professionals (ANFP), 406 Surrey Woods Drive, St. Charles, IL 60174; 800-323-1908; www.anfponline.org.

COURSES

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>DIETNT-151 Nutrition for Dietetics</td>
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<tr>
<td>DIETNT-106 Food Service Sanitation</td>
<td>2</td>
</tr>
<tr>
<td>(or) CULMGT-112 Food Service Sanitation</td>
<td></td>
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<tr>
<td>DIETNT-108 Food Service Management 1 ‡</td>
<td>3</td>
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<tr>
<td>DIETNT-118 Food Service Management 1: Coordinated Practice ‡</td>
<td>1</td>
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</table>

TOTAL CREDITS: 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January

For complete information, go to matc.edu/health_sciences
Learn the anatomy, physiology and pathology of the heart, and develop the skills needed to complete and interpret electrocardiograms (EKGs). This program prepares you to take the Certified Cardiographics Technician examination, leading to a Certified Cardiographics Technician (CCT) credential as administered by Cardiac Credentialing International (CCI).

**Admission Requirements**

High school diploma or GED; one year of high school-level biology, chemistry and algebra (grade C or higher); and course placement assessment of basic skills proficiency required. This program admits students through a petition selection process. See this program's webpage at matc.edu to view the petition process and all requirements.

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

**COURSES**

<table>
<thead>
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<th>COURSE</th>
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<tbody>
<tr>
<td>NATSCI-197</td>
<td>Microbiology*</td>
</tr>
<tr>
<td>CVTECH-102</td>
<td>Introduction to Cardiovascular Technology #</td>
</tr>
<tr>
<td>CVTECH-110</td>
<td>EKG Analysis ‡</td>
</tr>
<tr>
<td>CVTECH-115</td>
<td>Essentials of Cardiovascular Care 1 ‡</td>
</tr>
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</table>

**TOTAL CREDITS: 12**

* Cardiovascular Technology/EKG Technician students are not required to take NATSCI-177/179 or 201/202 as prerequisites to NATSCI-197; go to INFOnline.matc.edu and submit a waiver indicating you are a CVT/EKG Technician student.

Program curriculum requirements are subject to change.

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**Start Date: January**

*For complete information, go to matc.edu/health_sciences*

**School of HEALTH SCIENCES**

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**MILWAUKEE AREA Technical College**

matc.edu | 414-297-6263
Entrepreneurship

Certificates

The courses in this program are especially geared to students interested in starting their own, or assisting with, a small or family-run business. Topics covered include customer discovery, Lean Startup methods and traditional business plans. The courses are offered in online, accelerated, blended formats. MATC’s Entrepreneurship Center is on the Downtown Milwaukee Campus in Room M319.

Admission Requirement

• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

Start Dates: August/January/June

For complete information, go to matc.edu/business
### Courses

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<td>BADM-106</td>
<td>MS Office for Business Applications</td>
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<tr>
<td>FIN-120</td>
<td>Introduction to Money, Banking and Financial Markets</td>
<td>3</td>
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<tr>
<td>MKTG-104</td>
<td>Selling Principles</td>
<td>3</td>
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<tr>
<td>ACCTG-111</td>
<td>Accounting 1</td>
<td>4</td>
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</table>

**Total Credits: 13**

Program curriculum requirements are subject to change.

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**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

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**Start Dates: August and January**

For complete information, go to matc.edu/business
Certificates

Healthcare Customer Service

Downtown Milwaukee Campus (Also online)

**COURSES**

**Credits**

<table>
<thead>
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<th>Course</th>
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<tr>
<td>HEALTH-101 Medical Terminology</td>
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<tr>
<td>HEALTH-104 Culture of Healthcare</td>
<td>2</td>
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<tr>
<td>HEALTH-107 Digital Literacy for Healthcare</td>
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</table>

**TOTAL CREDITS: 7**

Program curriculum requirements are subject to change.

Classes are held at MATC's Health Education Center (HEC), 1311 North Sixth Street, Milwaukee. You also can take the courses online.

This certificate includes instruction in medical terminology, healthcare computing and the customer service skills related to working in a healthcare setting. Students earning this certificate will be prepared for entry-level customer service positions in the healthcare industry.

**Admission Requirement**

- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate's requirements, the student's transcript is notated with the credential earned.

**Start Dates: August and January**

For complete information, go to matc.edu/health_sciences

School of HEALTH SCIENCES
This certificate provides preparation for CompTIA’s Network+ and Security+ certifications, HDI’s Support Center Analyst and Desktop Support Technician, as well as ITIL. Students acquire the skills necessary for level-two service center support.

**Admission Requirements**

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

**Start Dates: August and January**

*For complete information, go to matc.edu/business*
Skill sets gained will provide working knowledge to identify and resolve operating system, application and security issues; and to maintain and manage Windows 7 systems. Hands-on lab learning includes installations, deployments, configurations, maintenance and monitoring systems.

**Admission Requirements**

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate's requirements, the student's transcript is notated with the credential earned.

**Start Dates: August and January**

For complete information, go to matc.edu/business

Program curriculum requirements are subject to change.
Start your information technology career through this certificate program that can be completed in one semester. You will gain important skills and prepare for several key industry certification exams, including:

- CompTIA A+
- IT Technician
- Help Desk Institute (HDI) Support Center Analyst
- HDI-Desktop Support Technician
- ITIL Foundation

**Admission Requirements**

- A high school diploma or GED
- One year of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate's requirements, the student’s transcript is notated with the credential earned.

**Start Dates:** August and January

*For complete information, go to matc.edu/business*
Take this step to further develop your options in a child care career. After earning the certificate, you will be eligible for The Registry Preschool credential. All courses are offered in English; a bilingual mode is offered at the West Allis Campus.

Admission Requirements

- A high school diploma or GED
- Documentation of compliance with Wisconsin’s Caregiver Law; proper immunizations and good health as evidenced by a medical examination; practicum placement contingent upon results of criminal background check

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

Start Dates: August and January

For complete information, go to matc.edu/las
Unlock the potential that property management provides in today’s real estate market. Leases, rent scheduling, renting techniques, tenant selection and relations with property owners are some of the topics covered in this program.

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

**Start Dates: August and January**

*For complete information, go to matc.edu/business*
The two courses in this certificate satisfy the educational requirement that must be met prior to taking the State of Wisconsin Real Estate Salesperson Exam. You will learn about the duties and responsibilities of a real estate professional.

Admission Requirement

• A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.
Water Technician

Certificate

Environmental Health and Water Quality Technology

Certificate

• Water Technician, p. 204

Associate Degree

• Environmental Health and Water Quality Technology, p. 65

Gain the core skills recognized by the water industry for an entry-level position. The water technician performs basic hands-on work, and this certificate is part of the pathway to help you progress in attaining more technical skills.

Admission Requirements

• A high school diploma or GED
• One semester of high school-level algebra

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate’s requirements, the student’s transcript is notated with the credential earned.

Start Dates: August and January

For complete information, go to matc.edu/business

COURSES Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVHEL-109</td>
<td>Applied Environmental Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENVHEL-142</td>
<td>Principles of Water Resources</td>
<td>3</td>
</tr>
<tr>
<td>MATH-107</td>
<td>College Mathematics ‡</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(or) Any 200-series MATH course</td>
<td></td>
</tr>
<tr>
<td>ENG-151</td>
<td>Communication Skills 1 ‡</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(or) Any 200-series ENG course</td>
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<tr>
<td>NATSCI-137</td>
<td>Comprehensive Technical Physics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(or) Any 200-series Physics course</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL CREDITS: 17

‡ Prerequisite required.
Program curriculum requirements are subject to change.
Develop entry-level welding skills in shielded metal arc welding and gas tungsten arc welding. You also will gain fundamental blueprint reading skills and strengthen workplace communication skills.

**Admission Requirement**
- A high school diploma or GED

Current MATC students should consult their Academic Program Plan for specific curriculum requirements.

Some certificates can be earned while completing associate degrees and/or technical diplomas that are eligible for financial aid. Certificate programs alone are not eligible for financial aid; consult an MATC advisor for details. All credits in certificate programs must be earned at MATC with a 2.0 cumulative GPA or higher. Upon completion of the certificate's requirements, the student's transcript is notated with the credential earned.

### COURSES

<table>
<thead>
<tr>
<th>COURSES</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WELD-313 Shielded Metal Arc Welding</td>
<td>5</td>
</tr>
<tr>
<td>WELD-314 Gas Tungsten Arc Welding</td>
<td>5</td>
</tr>
<tr>
<td>WELD-350 GTAW Processes</td>
<td>1</td>
</tr>
<tr>
<td>WELD-351 Shielded Metal Arc Welding Processes</td>
<td>1</td>
</tr>
<tr>
<td>WELD-360 Blueprint Reading for Welders</td>
<td>2</td>
</tr>
<tr>
<td>WELD-380 Welding Trades Mathematics</td>
<td>1</td>
</tr>
<tr>
<td>ENG-340 Workplace Communication</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL CREDITS: 17**

Program curriculum requirements are subject to change.

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**Start Dates: August and January**

For complete information, go to matc.edu/tas
### Course Descriptions/Alphabetical List of Subjects

Each MATC course is identified by a grouping of two to six letters and a set of three numbers. For example, in the course number SOCSCI-149, the letters SOCSCI form the alphabetic code that identifies the subject in which the course is taught. (The subject is Social Science for this example.) The sequence of courses in this Course Descriptions section follows this alphabetic code. Below you will find a list of the subjects and their alphabetic codes followed by the department numbers in parentheses. The three numbers 149 identify the type of course. These numbers show the type of program in which the course is found. In this example, the course is an associate degree course because it is within the 100-199 range. See the table on the right for the numerical range for each type of program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Type of Program</th>
<th>Type of Credit/Hours Per Credit</th>
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</thead>
<tbody>
<tr>
<td>100-199</td>
<td>Associate Degree (A.A.S.)</td>
<td>College credit: 16 or more 55-minute periods of instruction, depending upon instructional methodology: lecture, lab, clinical, individualized instruction, on-the-job experience, distance learning (online, televised).</td>
</tr>
<tr>
<td>200-299</td>
<td>Liberal Arts (A.A., A.S.)</td>
<td>Diploma credit: 32 or more 55-minute periods of instruction, depending upon instructional methodology: related lecture (as related to practical applications), shop (practical applications), clinical, individualized instruction, on-the-job experience, distance learning (online, televised).</td>
</tr>
<tr>
<td>300-399</td>
<td>Technical Diploma</td>
<td>High school credit: 4,500 minutes of instruction (75 hours).</td>
</tr>
<tr>
<td>700-799</td>
<td>Adult High School</td>
<td>See the School of Pre-College Education section for Adult High School course descriptions.</td>
</tr>
<tr>
<td>700-799</td>
<td>Basic Skills, ESL</td>
<td>Noncredit/Developmental: up to 36 55-minute periods of instruction. See the School of Pre-College Education section for Basic Skills and ESL course descriptions.</td>
</tr>
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<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Course Title</th>
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<td>Automated Building Systems (481)</td>
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<tr>
<td>ACCCTG</td>
<td>Accounting (101)</td>
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<tr>
<td>ADVFNG</td>
<td>Advanced Manufacturing (664)</td>
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<tr>
<td>ANITEC</td>
<td>Anesthesia Technology (541)</td>
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<td>AODA</td>
<td>AODA Services (550)</td>
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<td>APPSSVC</td>
<td>Appliance Servicing (445)</td>
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<td>ARCH</td>
<td>Architectural Technology (614)</td>
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<td>Art (835)</td>
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<td>AUDIO</td>
<td>Audio Production (701)</td>
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<td>AUTO</td>
<td>Auto Maintenance Technician (404)</td>
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<td>AUTO2</td>
<td>Auto Servicing Technology (602)</td>
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<td>Auto/Chassis Finish (405)</td>
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<td>AVITEC</td>
<td>Aviation Technician (486)</td>
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<td>BADM</td>
<td>Business Administration (102)</td>
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<td>BAKING</td>
<td>Baking (314)</td>
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<td>BACROS</td>
<td>Barber/Cosmetology (502)</td>
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<td>BLNST</td>
<td>Business Analyst (102)</td>
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<td>BRHLTH</td>
<td>Business-Related Health (160)</td>
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<td>CABMIBL</td>
<td>Cabinetmaking and Millwork (409)</td>
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<td>Carpentry (410)</td>
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<td>CAS</td>
<td>Creating Advertising Strategist (201)</td>
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<td>Computer Numerical Control (444)</td>
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<td>Computer Simulation and Gaming (153)</td>
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<td>Culinary Management (317)</td>
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<td>Cardiovascular Technology (521)</td>
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<td>Dental Hygiene (508)</td>
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<td>Diesel and Powertrain Servicing (412)</td>
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**ABS – Automated Building Systems**  
(Department: 481)

**ABS-140**  
Credits: 3  
**Building Systems 1**  
Course examines mechanical building systems and operations related to heating, ventilation, air conditioning equipment and water systems. Course learning outcomes will apply HVAC systems to controlling building environments. Learners will gain knowledge and skills of systems and controls, which create a healthy and productive environment in commercial and industrial buildings.

**ABS-141**  
Credits: 2  
**Building Systems 2**  
Course examines building lighting, alarms, security, network access and building envelope systems. Learners will apply course concepts to the JCI Metasys System extended architecture for managing building operations.

**ABS-142**  
Credits: 1  
**Measurement and Verification for Automated Building Systems**  
Course examines the benefits of performing measurement and verification, as well as testing procedures, tools and equipment, instrumentation used and how to interpret data. Learners will explore different methods of measuring and verifying energy savings using the International Performance Measurement and Verification Protocols (IPMVP). Learning outcomes include hands-on experience using kWh meters, energy management systems and data loggers. Information covered will prepare learners to take the national certification exam for measurement and verification. Concepts will be applied to the process of verifying that energy management projects are working. Course reinforces documentation, communication, project management and computer skills, including word processing and spreadsheets.

**ABS-143**  
Credits: 2  
**Electrical Concepts/Control Theory 1 for ABS**  
Learners will explore how to apply basic electrical concepts to building automated systems control. Course examines basic electrical theories, electrical symbols, line and ladder diagrams, wiring schematics, DC and AC circuits and applies these to building automated systems control. Control theories will be applied to job duties and tasks performed on building automated systems.

**ABS-144**  
Credits: 2  
**Control Theory 2 for ABS**  
Course builds upon the electrical concepts learned in Control Theory 1 and examines control systems used in heating, ventilation and air conditioning systems. Learning outcomes include: control system submittals, sequence of operations, system architecture, control languages and commissioning controls. Control theories will be applied to both HVAC and water systems. Learners will apply course concepts to the JCI Metasys System extended architecture for managing building operations. Prerequisite(s): SUSTN-143 or ABS-143.

**ABS-145**  
Credits: 2  
**Control Theory 3 for ABS**  
Course examines control theories for DOC technologies, lighting, alarms, security and building envelope technologies used in various automated systems. Programmable controls and graphical interfaces will be introduced. Hands-on learning lab simulations will build skills and help apply concepts to job duties and tasks. Prerequisite(s): SUSTN-143 and SUSTN-144.

**ABS-148**  
Credits: 4  
**Automated Building Control Systems**  
Course examines JCI Metasys, IVUE Carrier and Trane Tracer building automated control system technologies. Learners will compare systems and apply concepts to managing automated building control systems. Hands-on learning lab for the Metasys System will help learners build skills in writing, revising and verifying programs. Prerequisite(s): SUSTN-140, SUSTN-141, SUSTN-142, SUSTN-143, SUSTN-144 and SUSTN-150.

**ABS-149**  
Credits: 4  
**Networking Automated Building Systems**  
Course examines servers, network servers and other programs; virtual area networks; wireless controls; and building automatic control networks (BACNET) and LIOMEDIAN system architectures.

**ABS-150**  
Credits: 2  
**Energy Auditing for ABS**  
Learning outcomes include exploring the process and requirements for completing an energy audit, examining the ASHRAE levels of audits and relating these to the job duties and tasks performed for building automated control systems. Learners will complete an ASHRAE Level 1 energy audit project as a foundation for developing skills needed for automated building systems-related careers.

**ABS-151**  
Credits: 2  
**Commissioning Automated Building Systems**  
Course explores commissioning-related job duties and tasks involved in starting-up new automated building systems and controls. Course learning outcomes include applying the commissioning process to automated building systems, examining commissioning related roles and responsibilities, exploring the benefits of commissioning and how these relate to energy management, using functional performance testing (FPT) and construction checklists in the commissioning process.

**ABS-153**  
Credits: 1  
**ABS Capstone Project Course**  
Course provides a capstone project for automated building systems control. Learners will identify, plan and execute a project in one of the following areas: energy auditing, commissioning, fire/ security systems, controls technologies or systems technologies. Strategies for training owners and operators also will be explored. Other capstone projects may be done with preapproval by the department. In addition, an optional industry-based internship may be substituted in lieu of a project. Prerequisite(s): SUSTN-150.

**ACCTG – Accounting**  
(Department: 101)

**ACCTG-102**  
Credits: 3  
**Basic Office Accounting**  
The basic structure of accounting is presented. Emphasis is placed on the recording, classifying and summarizing phases. Particular attention is given to procedures related to administrative assistant work such as petty cash, payroll, bank reconciliation and accounting software.

**ACCTG-110**  
Credits: 3  
**Financial Accounting**  
A survey course stressing a user-oriented approach to basic financial statements, their content, format and use. Transactions, accounting principles and conventions are studied in terms of their effects on corporate financial statements. This course will not substitute for Accounting 1 (ACCTG-111) or Accounting 2 (ACCTG-113).

**ACCTG-111**  
Credits: 4  
**Accounting 1**  
Accounting concepts and general principles are integrated with applications by working through the complete accounting cycle for service and merchandising enterprises. Emphasis is placed on analysis and interpretation, as well as on the recording, classifying and summarizing phases. A manual practice set provides practical experience using accounting theory.

**ACCTG-113**  
Credits: 4  
**Accounting 2**  
A continuation of Accounting 1, focusing on long-term assets, liabilities and accounting for partnerships and corporations. Financial statement analysis and the cash flow statement also are introduced. Students become familiar with accounting software by completing a computerized practice set. Prerequisite(s): ACCTG-111 with a minimum grade of C.
ACCTG – ADVFMG  DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

ACCTG-116  Credits: 3
Intermediate Accounting 1
A study is made of advanced accounting practices and procedures. Emphasis is placed on accounting theory as it relates to income determination and balance sheet preparation for corporate commercial enterprises. Prerequisite(s): ACCTG-113 with a minimum grade of C.

ACCTG-117  Credits: 3
Intermediate Accounting 2
A continuation of Intermediate Accounting 1, completing the study of advanced accounting practices and procedures. Prerequisite(s): ACCTG-116 with a minimum grade of C.

ACCTG-122  Credits: 3
Accounting Software Applications
This class focuses on implementing computer functions in an accounting environment. It will cover structuring, organizing, manipulating and analyzing financial data through the use of Microsoft Excel and Access computer software. This course assumes that students have basic knowledge of accounting. Students will take the Microsoft Office Specialist Certification in Excel for an extra fee.

ACCTG-123  Credits: 3
Individual Income Tax
The determination of individual income taxes, including income, deductions, tax calculation, credits and payments, is studied. Tax forms are prepared both manually and using tax software.

ACCTG-124  Credits: 3
Business Income Tax
A continuation of income tax laws as they apply to individual, partnership, S-corporation, C-corporation and fiduciary tax entities. Also covered are sales taxes, personal property taxes and transfer taxes (i.e., estate and gift taxes). Students will prepare tax forms related to these topics by completing practice cases both manually and using tax software.

ACCTG-125  Credits: 3
Cost Accounting
Primary focus is placed on cost accumulation in the job, process and standard cost systems. Emphasis is directed to specific forms, records, reports and procedures utilized in cost accounting, and the integration of cost accounting into the general accounting process. Prerequisite(s): ACCTG-111.

ACCTG-126  Credits: 3
Accounting for Managers
Emphasis is placed on cost analysis, cost behavior and the use of cost data in budgetary cost control, internal profit measurement, profit planning, capital budgeting and decision-making.

ACCTG-130  Credits: 3
Computerized Accounting
This introductory QuickBooks course takes students through the procedures, controls, inputs and outputs in today’s computerized accounting systems. Students will be able to create a company file, process accounts receivable and accounts payable, manage time-tracking and payroll, track inventory and fixed assets, manage budgets, maintain ledgers and journals, and create reports. Students will take the required QuickBooks Certification Exam for an extra fee. Prerequisite(s): ACCTG-102 or ACCTG-111.

ACCTG-140  Credits: 3
Accounting for Governmental and Nonprofit Entities
Overview course in the area of governmental and not-for-profit accounting. The basic concepts, techniques and terminology of fund accounting as utilized by governmental entities are emphasized. Institutional accounting for educational institutions and hospitals, and the uniqueness of accounting for not-for-profit organizations and agencies are also studied. Prerequisite(s): ACCTG-110 or ACCTG-113.

ACCTG-142  Credits: 2
Payroll Accounting
Procedures used in computing and recording wages and salaries, payroll taxes and deductions are studied. Alternative processing systems (manual, service bureau and microcomputer) are explored. Federal and state payroll tax and regulations are studied, in addition to preparing payroll tax and information returns.

ACCTG-143  Credits: 3
Payroll Accounting Applications
This course is designed as an extension of ACCTG-142, Payroll Accounting. The student will develop skills in the computerized preparation of payroll records and filing requirements as required by federal and state law using specialized payroll software.

ACCTG-145  Credits: 3
Forensic Accounting
Emphasis is placed on explaining the various schemes used by employees to commit fraud, quantifying a company’s financial loss from these schemes, illustrating the human factors in fraud, and preventing and detecting fraud. Prerequisite(s): ACCTG-110 or ACCTG-113.

ACCTG-150  Credits: 3
Accounting Practice with a Systems Approach
Using source documents and a manual practice set, students will review procurement and accounts payable, billing and accounts receivable, cash control and general ledger systems. Adjusting entries will be reviewed. Students will then use QuickBooks software to complete an integrated case study with special emphasis on the general ledger, accounts payable, accounts receivable and payroll. Prerequisite(s): ACCTG-116, ACCTG-130 and ACCTG-142.

ACCTG-155  Credits: 3
Applied Individual Income Tax
Emphasis is placed on applying the knowledge and skills obtained in Individual Income Tax by preparing tax returns for actual clients. Tax returns are prepared using IRS software. Prerequisite(s): ACCTG-123 with a minimum grade of B.

ADVFMG – Advanced Manufacturing

ADVFMG-100  Credits: 2
Introduction to Control Systems
In this course, learners are introduced to basic concepts of industrial computer-controlled systems. The learner explores various types of programming using robots and PLCs, and participates in lab experiments designed to introduce programming principles, electronic inputs and outputs (analog and digital), communication between system components including ethernet protocols. Upon completion of the course, learners will be able to explain how the control processes are utilized to automate manufacturing facilities.

ADVFMG-102  Credits: 3
Advanced Manufacturing Motor Controls
This course examines the fundamentals of electric motors and motor control. Students will learn to recognize and draw basic symbols, use the language of motor control and apply these in industry adopted formats. Students also will learn to draw and read ladder and wiring diagrams and be introduced to the logic used in motor control. Learners will apply this logic to correctly interpret, install, service and wire control circuits. Wiring of panels, machines and systems also will be examined. Prerequisite(s): ADVFMG-100.

ADVFMG-105  Credits: 2
Introduction to Robotics
In this course, learners are introduced to programming techniques for industrial robots. The learner examines teach pendant programming, including I/O, routines, decision-making, six frames of positional operation and robot communication. Upon completion of the course, learners will be able to operate and program industrial robots commonly used in Industry 4.0. Prerequisite(s): ADVFMG-110.

ADVFMG-110  Credits: 2
Introduction to Mechatronics
In this course, learners are introduced to microprocessor controlled electromechanical systems. The learner examines how
individual components work and how they are integrated into simple systems. Upon completion of the course, learners will understand what technicians do in the workplace and how industry utilizes mechatronics in advanced manufacturing.

ADVMFG-111 Credits: 3
Advanced Manufacturing Machine Mechanisms
In this course, learners apply input forces and movement to mechanisms and determine the output forces and movement of the mechanisms. Applied mechanisms will be presented including: levers, bearings, gears, cams, couplings, brakes and clutches, belt and chain drives through splines, pins and keys. Learners explore mechanisms that are supported by structural components such as a frame, fasteners, bearings, springs and other machine elements. Upon completion of the course, learners will analyze the combination of force and movement within machine elements to determine if system requirements are met and machine functions safely. Prerequisite(s): ADVMFG-102.

ADVMFG-112 Credits: 3
Fundamentals of Machining Processes
In this course, learners investigate computer numerical control (CNC) concepts and skills, including the setup and operation of CNC lathe and milling machines. Learners apply basic programming skills, G and M code functions and fundamental features of CNC machine operations. Programming examples will be presented using canned cycles, linear and circular interpolation. Upon completion of the course, learners will be able to set up with tool offsets, run first part operations, perform manual data input functions as required and run production operations of CNC machines. Prerequisite(s): ADVMFG-117.

ADVMFG-113 Credits: 3
Advanced Manufacturing DC/AC Circuits 1
This course is designed for students interested in advanced manufacturing while enhancing their basic skills in electronics and mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits using Ohm’s Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): MATH-115.

ADVMFG-114 Credits: 3
Advanced Manufacturing DC/AC Circuits 2
This course, along with ADVMFG-113, helps complete the sequence for students requiring DC and AC electronics in advanced manufacturing technology programs, while enhancing their mathematical skills. Emphasis will include more complex circuits with the introduction and analysis of AC circuits. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ADVMFG-113.

ADVMFG-115 Credits: 2
Interpret Engineering Drawings
In this course, learners build foundation skills needed to read and interpret industrial prints. These skills, used to interpret industrial prints, are presented in a logical order: title blocks, change blocks, shop notes, symbols, lines, orthographic views, section views, auxiliary views, pictorial views and assembly views. Learners interpret part geometric dimensions and tolerances using basic math skills. Upon completion of the course, learners will be able to read, interpret and apply drawing content to advanced industrial equipment.

ADVMFG-116 Credits: 2
Introduction to Manufacturing Quality Control Systems
In this course, learners explore skills and tools necessary to fully participate in a lean, continuous improvement manufacturing environment. These include: standardized work instructions, Total Productive Maintenance (TPM), mistake-proofing, changeover reduction, ergonomics, root cause analysis, Six Sigma and quality management. Learners are introduced to basic statistical tools and fundamental concepts needed to improve and control industrial processes. Upon completion of the course, learners will be able to use statistical tools to improve processes, define problems, set priorities, predict outcomes and identify causes of quality problems. Prerequisite(s): ADVMFG-120.

ADVMFG-117 Credits: 2
Advanced Manufacturing Materials and Processes
In this course, learners examine the relationship between the properties and processes of various materials used in advanced industrial equipment. The properties include: mechanical strength, chemistry and basic material characteristic. The processes include: modern manufacturing techniques, fabricating, casting, metallic finishes, plating and chip removal. Upon completion of the course, learners will be able to match materials and processes used in the manufacture of equipment. Prerequisite(s): ADVMFG-105.

ADVMFG-120 Credits: 2
Introduction to Industrial Internet of Things (IIoT)
In this course, learners are introduced to the theoretical and practical topics of the Industrial Internet of Things (IIoT). The learner investigates the range of sensor and actuator devices available, ways in which they communicate and compute, methods for getting information to and from IIoT-enabled devices and ways of visualizing and processing data acquired from the IIoT. Upon completion, learners will utilize hardware and software to construct a sensor network within an existing system, and utilize industry standard tools to visualize the data captured. Prerequisite(s): ADVMFG-110.

ADVMFG-121 Credits: 2
Vision and Smart Sensors
In this course, learners will utilize 2D cameras, lighting systems and smart sensors in machine applications to provide imaging-based automatic inspection and analysis for such applications as automatic inspection, process control and robot guidance. Learner will use vision systems to: sort good and bad parts; identify, position and orient objects’ images for robot guidance and orientation using edge detection; blob detection; pattern recognition; image acquisition; and bar code and QR code recognition. Learners will integrate smart sensors into PLC machine applications. Upon completion of this course, learners will apply camera and smart sensors into a machine process application. Prerequisite(s): ADVMFG-105.

ADVMFG-122 Credits: 2
Advanced Manufacturing Engineering Project Management
In this course, learners explore a systematic approach to manufacturing project management. Learners examine project scope and its relationship to project success by considering coordinated schedules, activities, people and resources. Upon completion of the course, learners will be able to apply Work Breakdown Structures, Activity Diagrams and Gantt Charts to short-term and long-term manufacturing projects. Prerequisite(s): ADVMFG-111 and ADVMFG-196.

ADVMFG-130 Credits: 4
Advanced Manufacturing Digital Electronics
This is an introductory course in digital logic devices and circuits. Students learn the basic logic functions, sequential and synchronous logic circuitry, general applications and troubleshooting techniques through hands-on lab work. Student will learn interfacing techniques to integrate with manufacturing equipment. The computer will be used to generate circuit simulations and technical reports.

ADVMFG-190 Credits: 2
Advanced Manufacturing Design Problems
This course introduces the students to sensors and controls in advanced manufacturing systems. The student will work with advanced manufacturing controllers to control a manufacturing system. Data collection and system controls will be implemented and installed to manipulate a manufacturing system or simulation. The final system will be properly documented with operation manuals and service manuals to indicate troubleshooting procedures. Prerequisite(s): ADVMFG-121.

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ADVMFG – ANIM

ADVMFG – ANIM DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

ADVMFG-192 Credits: 3
Advanced Manufacturing Fluid Power
Students are introduced to symbols, diagram logic, operation and application of various hydraulic/pneumatic devices used in advanced manufacturing systems. Students will build and test basic fluid power circuits. Students will interface basic fluid power circuits to PLC systems. Prerequisite(s): ADVMFG-111 and ADVMFG-196.

ADVMFG-196 Credits: 3
Advanced Manufacturing PLC System Basics
This course is a study of programmable logic controllers used in advanced manufacturing systems. The history and principles of operation and the installation, programming and maintenance of the programmable logic controllers (PLC) are covered in lecture. Basic programming instructions are covered in lecture and lab, and downloaded and simulated on PLC workstations. Prerequisite(s): ADVMFG-130.

ADVMFG-198 Credits: 2
Advanced Manufacturing PLC System Application
In this course, learners develop machine process automation control systems with temperature, pressure, flow and level controls. Learners investigate the utilization of PID loops in PLC program design. Learners program a PLC using vision, smart sensors, Servos, motor controls and analog IO. Learners develop PLC programs including human machine interface (HMI) with displays for machine input and output data. Upon completion of the course, learners will be able to build a PLC motion project for basic machine process automation control systems. Prerequisite(s): ADVMFG-196.

ANIM – Animation
(Department: 207)

ANIM-101 Credits: 3
Basic Drawing for Animators
This course introduces students to the basic principles of drawing volume, shape and form in a digital environment. Students learn to color, construct and create animations in an industry-standard software package. Students will explore digital painting, scene compositing, creating x-sheets, building character libraries, sync and adjusting timing as applied to animation film-making.

ANIM-104 Credits: 3
Principles of Character Development
This course will introduce students to character development as it relates to the field of computer animation. Concepts such as pose, expression, scale, squash and stretch will be explored. Students will use hand-drawing techniques and traditional “cartoon” style characters. Students also will learn to bring their drawings into the computer to be adjusted, modified and enhanced with Photoshop.

ANIM-106 Credits: 3
Principles of 3D Animation
This introductory course will guide students through the concepts and techniques used to produce and animate virtual objects in a virtual three-dimensional environment. Basic modeling, texturing and Forward Kinematic motion techniques will be covered using 3D Studio Max.

ANIM-110 Credits: 3
Digital Life Drawing
This course will introduce students to the foundation of gesture and quick sketching. Students will draw utilizing various mediums in the Photoshop on the Wacom Cintiq tablet/monitors. This course will be offered in the Spring semester.

ANIM-111 Credits: 3
Intermediate Digital Life Drawing
This course will introduce students to the more advanced techniques of quick sketching and digital painting. Students will draw utilizing various mediums in Photoshop on the Wacom Cintiq tablet/monitor. This course will be offered in the Fall semester. Prerequisite(s): ANIM-110.

ANIM-114 Credits: 3
Storyboard Pro
Contents to be covered include purposes and formats of storyboards, basic terminology and concepts used in storyboarding and the application of storyboarding techniques. We will study the basic formats and camera techniques utilized in storyboarding. Prerequisite(s): ANIM-110.

ANIM-115 Credits: 3
Refining the Character
In this course, students will continue to add details, personality and life to their characters. Students will study the human form and the underlying muscular structure, as well as body shape, exaggerating muscles, action poses and foreshortening. Prerequisite(s): ANIM-120 and ANIM-125.

ANIM-120 Credits: 3
Environment and Set Design
Students concentrate on the planning and construction of architectural and environmental forms to create sets and backgrounds for animation projects utilizing 3ds Max. Basic architectural principles as they relate to animation and appropriate effects for specific themes are explored, as well as landscape environments and atmospheric lighting effects, outer space lighting effects and weather effects. Class activities include using specialized software tools for architectural and environmental forms in the creation of thematic levels and sets. Prerequisite(s): ANIM-106.

ANIM-121 Credits: 3
Intermediate 2D Animation
Students will continue to develop their skills in character animation in the Adobe Animate, Photoshop, After Effects. Students will be presented with a series of animated assignments dealing with the 12 Principles of Animation. Prerequisite(s): ANIM-101 and ANIM-104.

ANIM-124 Credits: 3
Animation Layout and Design
Introduction of concepts/principles of layout design in 2D animation using a variety of assignments. Students will be expected to develop a working knowledge of perspective, multiplane camera techniques and placement of characters/elements into a scene. Prerequisite(s): ANIM-101 and ANIM-104.

ANIM-125 Credits: 3
3D Modeling
This course moves students into more complex modeling and surfacing challenges using 3ds Max. Specialized contemporary modeling techniques such as NURBS and subdivision (SUB-D) surfaces are explored, as well as specialized shaders, displacement maps and other advanced surfacing options. Students complete the semester with the design and creation of a complex, multipart object correctly constructed, linked and boned for advanced animation techniques. Prerequisite(s): ANIM-106.

ANIM-130 Credits: 3
3D Simulations and Illustrations
This course will explore product and packaging design, medical illustration and mechanical illustration. The use of nontraditional shaders such as cartoon shading will be explored in order to achieve a more hand-drawn or illustrated look. Rendered output also will be manipulated with industry-standard image adjustment tools. Prerequisite(s): ANIM-120 and ANIM-125.

ANIM-131 Credits: 3
Advanced 2D Animation
Advanced Animation will be an exploratory approach to more advanced animation skills, introducing students to better acting with their characters to support the story of the short film they are creating. Prerequisite(s): ANIM-121.

ANIM-133 Credits: 3
Advanced Conceptual Design
Conceptual design that encompasses all aspects of animation theory and practices. Students will work toward conceptual design of the backgrounds, props and secondary characters to support the main cast of characters. Photoshop will be used in class. Prerequisite(s): ANIM-114.
ANIM – ANTECH DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

ANIM-135 Credits: 3  
Character Expression and Lip Sync  
This class will explore the art of creating facial expressions and synchronizing a character’s mouth movement with a voice track. Techniques will range from traditional hand-drawn to 3D animation. Prerequisite(s): ANIM-180.

ANIM-138 Credits: 3  
Animation for Game Development  
Students will be introduced to breaking movement down into cycles of animation and 2D sprites to be used in game development. Also time will be allocated to developing basic background-level designs as applied to game development. Prerequisite(s): ANIM-124 and CSG-115.

ANIM-140 Credits: 3  
Timelines, Keyframes and Kinematics  
This course continues from ANIM-125 3D Modeling. We will explore and analyze character motion from several sources in order to accurately and believably replicate that motion with our digital characters. We also will explore topics such as using Inverse and Forward Kinematics during an animation using 3ds Max. Prerequisite(s): ANIM-106.

ANIM-141 Credits: 3  
Acting for Animation/Lip Sync  
The course will introduce students to concepts and principles of acting for animation and lip syncing utilizing Adobe Animate and Adobe Character Animator. Students will be responsible for animated acting with lip sync as applied to animation. Prerequisite(s): ANIM-110, ANIM-121.

ANIM-145 Credits: 3  
Intermediate 3D Animation  
This course continues from ANIM-140 Timelines, Keyframes and Kinematics. We will explore and analyze mechanical and quadruped motion from several sources in order to accurately and believably replicate motion with our digital objects and creatures. We also will explore topics such as various constraining techniques and automated approaches used during this type of animation using 3ds Max. Prerequisite(s): ANIM-140.

ANIM-150 Credits: 2  
Advanced Animation  
This is a project-based course. Students will create a short film (two to three minutes in length) using 2D or 3D animations. During this class, students will be expected to meet production deadlines, following proper animation production processes and create an entertaining film for the final project. Intensive studio time will be available for the students. Students will have access to instructor at all times. Students will be expected to communicate with the instructor each class to discuss progress. This course allows the student an in-depth study of the animation production process. Prerequisite(s): Take one from each group: ANIM-130 or ANIM-131 and ANIM-138 or ANIM-145.

ANIM-156 Credits: 3  
Broadcast Animation  
This course introduces students to the concepts of “motion graphics” using bitmapped imagery. Using the industry standard software, After Effects, students will explore animated composition techniques, along with comparison of 2D and 3D technologies widely used to produce animation for the television and video industries. Prerequisite(s): Animation students take ANIM-101, ANIM-104 and ANIM-106. Web and Digital Media Design students take VICOM-150.

ANIM-160 Credits: 2  
Animation Portfolio  
Each student finalizes a series of 30-second to three-minute animated shorts demonstrating the student’s capabilities. The collection is prepared for distribution to potential employers or to four-year animation degree programs. In addition, each student prepares a professional-level paperwork folio and a personal ID package (stationery, business cards, etc.) and is required to participate in the class preparation for the year-end departmental portfolio show in conjunction with other degree programs. Prerequisite(s): Take one from each group: ANIM-130 or ANIM-131 and ANIM-138 or ANIM-145.

ANIM-165 Credits: 3  
Motion Analysis for Animation  
This course will guide students through the concepts and techniques used to add natural movement to digital animation. Students will work through several motion-analyzation techniques and apply them to their animations. The techniques explored in this course include rotoscoping, using depth-sensing cameras and 3D motion capture. Prerequisite(s): ANIM-180.

ANIM-180 Credits: 3  
Digital Cinematography  
Digital cinematography is a comprehensive study of lighting and camera techniques based on professional practices in the traditional film and video industries. The course includes a detailed study of film, TV and video samples that will guide students through their own exploration of digital light and cameras as they work through a series of assignments requiring certain effects in their own digital sets and scenes. Prerequisite(s): ANIM-101.

ANTECH — Anesthesia Technology (Department: 541)

ANTECH-102 Credits: 2  
Introduction to Anesthesia Technology  
This course introduces distinctive areas of anesthesia technology and the role of the technologist. An overview of typical surgical procedures and instrumentation, and surgical department orientation are covered, as well as medical terminology, blood-borne pathogens and nonpatient-related emergencies. Research papers on related topics and a group project will be required. Guest speakers and site visits to local healthcare/diagnostic facilities may be requested. Prerequisite(s): Admission to the Anesthesia Technology (10-541-1) program.

ANTECH-117 Credits: 3  
AT Fundamentals 1  
Students are introduced to the surgical suite and the typical daily duties of an anesthesia technologist. Didactic as well as laboratory instruction are provided to supply the student with the required theoretical principles of the profession. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): ANTECH-102 and admission to the Anesthesia Technology (10-541-1) program, and NATSCI-177 or NATSCI-201.

ANTECH-118 Credits: 3  
AT Instrumentation 1  
The primary focus of this course is the anesthesia machine. However, all ancillary equipment, including but not limited to, gas cylinders, hospital supply lines, ventilators and absorbers also will be covered. The setup, calibration, operation, basic troubleshooting, maintenance and safety checks for each are taught. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): ANTECH-102 and admission to the Anesthesia Technology (10-541-1) program.

ANTECH-120 Credits: 2  
AT Clinical Procedures  
This four-week course is the student’s first opportunity to observe and gain experience in a healthcare facility. Twelve hours per week are scheduled in the hospital setting under direct supervision. Students will observe all procedures and may begin to assist in nondirect patient duties. Students experience various AT environments as scheduled. An additional four hours per week are required for on-campus lectures/discussions. Prerequisite(s): ANTECH-117 and ANTECH-118, admission to the Anesthesia Technology (10-541-1) program.
Antech-133 
Anesthesiology
The clinical importance of drug delivery is presented with an emphasis on the most commonly administered anesthetics, as well as other perioperative drugs. Additionally, the federal drug approval processes, various delivery methods, dose calculations and a review of the nervous system are presented. Prerequisite(s): Antech-120.

Antech-137 
AT Fundamentals 2
The concepts learned in Antech-117 will be expanded upon. Focus will be on the various types of surgical procedures, including emergency situation management and how the role of the anesthesiologist varies in each. Patient transport, monitoring and positioning will be stressed. Prerequisite(s): Antech-120.

Antech-138 
AT Instrumentation 2
This course is a continuation of Antech-118 and expands upon the scope of anesthesia instrumentation. Various pieces of airway equipment, monitoring devices, point of care testing analyzers, and cleaning and disinfection of anesthesia equipment will be discussed and demonstrated. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Antech-120.

Antech-139 
Anesthesia Technology Clinical Experience 1
This course presents students with their first opportunity in a direct patient care setting, while beginning to perform the duties of an AT. Students will be able to correlate their didactic and laboratory classes with the day-to-day duties of an anesthesiologist. Prerequisite(s): Antech-120.

Antech-185
Anesthesia Technology Clinical Seminar
Students discuss with other students the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the written journal detailing the clinical phase of instruction. This course will help to prepare students for the written examinations that will lead to credentialing in AT. Guest speakers may be scheduled. Resume writing and interview skills will be covered. Prerequisite(s): Antech-139.

Antech-186 
Anesthesia Technology Clinical Experience 2
This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting. A written journal detailing the clinical phase of instruction will be required. Prerequisite(s): Completion of or currently enrolled in Antech-185.

Antech-187
Anesthesia Technology Clinical Experience 3
This course is a continuation of Antech-186 and provides the practical application to perfect skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with their clinical duties. A written journal detailing the clinical phase of instruction will be required. Prerequisite(s): Antech-186.

AODA — AODA Services
(Department: 550)

AODA-109
Drug Use and Abuse
Students are acquainted with the pharmacological effects of chemical use/abuse. This course takes an analytic approach to identification, intervention, prevention and treatment issues.

AODA-150
Professional Readiness and Ethical Responsibilities
This course is designed to familiarize the student with the obligations of an addiction counselor to adhere to accepted ethical and behavioral standards of conduct and continuing education. An emphasis on professional codes of ethics, federal and state laws, and agency regulations and professional development is maintained.

AODA-151
Clinical Evaluation and Treatment Planning
This course provides an overview of the key components of the evaluation and treatment planning processes, including the necessary knowledge base, skills and attitudes of the professional. This is also a practice-oriented course and students will participate in a variety of screening, assessment and treatment planning situations. Prerequisite(s): Humsvc-102, Humsvc-103 and Humsvc-113.

AODA-152
Service Coordination and Documentation
This course focuses on the administrative, clinical and evaluative activities that bring the client, treatment services, community agencies and other resources together to focus on issues and needs identified in the treatment plan. Documentation requirements and skills, record management and confidentiality issues also are a primary focus of the class. Prerequisite(s): AODA-109.

AODA-154
Counseling Skills Development
This course provides instruction and practice opportunities to develop the specific skills necessary for counseling individuals, groups, families and significant others. These skills include establishing a helping relationship, interviewing, using methods that reinforce positive behavior, motivational techniques, reframing and redirecting negative behaviors, crisis management and applying culturally appropriate intervention strategies. Prerequisite(s): Humsvc-102, Humsvc-103 and Humsvc-113.

AODA-160
Ethical Dilemmas
This course provides an opportunity or reflection and conversation about the ways in which personal and professional values impact work with clients. Emphasis is placed on exploring roles, rules and boundaries that are necessary for the helping relationship. An eight-step process for ethical decision-making will be explained and applied to select case examples.

AODA-161
Treatment Issues
This course applies fundamental principles of the helping relationship to working with clients who have problems related to their substance use. Emphasis is placed on application of current treatment models in the areas of assessment, case management, education, professional responsibilities and counseling.

AODA-162
Service Delivery Issues
This course focuses on issues related to delivery of substance abuse services to diverse population groups. Emphasis is placed on providing effective tools for the case management and coordination.

Appsvc — Appliance Servicing
(Department: 445)

Appsvc-308
Electricity for Appliance Servicing
This course covers the fundamentals of electricity and electronics, including the elementary principles of direct and alternating current. Instruction consists of lectures that are immediately reinforced by laboratory experiments. Prerequisite(s): Student must be admitted to the Appliance Technician (31-445-1) program.

Appsvc-310
Laundry Equipment
This course covers the basics of the laundering process and the reasons for the various cycles. Functions of the mechanical and electromechanical components are isolated and explained. Applications of gas and electric drying heat are taught. Prerequisite(s): Student must be admitted to the Appliance Technician (31-445-1) program.
### APPSVC – ARCHT
#### DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPSVC-316</td>
<td>4</td>
<td>Kitchen Equipment 1</td>
<td>Operation of the dishwasher, compactors, and gas and electric range; their servicing; and diagnosis of problems are included in this course. Mechanical components and electrical circuits are described and illustrated. Electronic range controls also are covered. Prerequisite(s): Students must be admitted to the Appliance Technician (31-445-1) program.</td>
</tr>
<tr>
<td>APPSVC-324</td>
<td>4</td>
<td>Refrigeration 1 (Theory and Techniques)</td>
<td>This course covers the theory of refrigeration and refrigerants, the operation of a domestic refrigeration system and the operating principles of the electrical controls used with refrigeration systems. Test instruments, service tools and refrigerant recovery also are covered. Prerequisite(s): Students must be admitted to the Appliance Technician (31-445-1) program.</td>
</tr>
<tr>
<td>APPSVC-329</td>
<td>1</td>
<td>Related Business for Appliance Service</td>
<td>This course is designed to orient the student to the nature and scope of the appliance technician’s work, including meeting and working with customers, as well as providing selected skills in business English and business practices. Prerequisite(s): Student must be admitted to the Appliance Technician (31-445-1) program.</td>
</tr>
<tr>
<td>APPSVC-340</td>
<td>4</td>
<td>Kitchen Equipment 2</td>
<td>Electric range and microwave circuits, as well as the use of symbols, are analyzed. Instruction and practical training are given in the reading of wiring diagrams used by service technicians. Prerequisite(s): Student must be admitted to the Appliance Technician (31-445-1) program.</td>
</tr>
<tr>
<td>APPSVC-342</td>
<td>5</td>
<td>Refrigeration 2 (Servicing)</td>
<td>Cabinets, evaporator servicing and defrosting of refrigerators and freezers are covered. Refrigerator ice makers, their operation, servicing and electrical circuits are explained. Room air conditioners are included in depth. Prerequisite(s): Student must be admitted to the Appliance Technician (31-445-1) program.</td>
</tr>
<tr>
<td>ARCHT-101</td>
<td>4</td>
<td>Architectural Theory and Drawing 1</td>
<td>This course introduces students to the architectural process and the basic skills required of the technician, such as architectural lettering, freehand sketching and reading architectural drawings. Students also are introduced to the computer as a tool to be used in architectural projects.</td>
</tr>
<tr>
<td>ARCHT-102</td>
<td>5</td>
<td>Architectural Theory and CADD 2</td>
<td>Students will be expected to continue developing their skills in architectural sketching. They will be introduced to the early stages of the design process, to the use of architectural reference materials and to presentation drawing techniques. In addition, they will be introduced to 3D architectural building information modeling software. The emphasis in drawing and detailing will be on wood frame and masonry construction systems. Prerequisite(s): ARCHT-101.</td>
</tr>
<tr>
<td>ARCHT-103</td>
<td>5</td>
<td>Architectural Theory and CADD 3</td>
<td>Students are expected to continue developing their skills in architectural design, detailing, sketching and computer applications. They will further explore the design process and be introduced to site planning, and architectural design and development principles. The emphasis in construction documentation, detailing and building information modeling will be on commercial construction systems, such as reinforced concrete and steel. Computer work will include expanded applications for CADD modeling and presentation programs. Prerequisite(s): ARCHT-102.</td>
</tr>
<tr>
<td>ARCHT-104</td>
<td>5</td>
<td>Architectural Theory and CADD 4</td>
<td>Students are expected to use the knowledge gained in previous courses in the development of a design project of their own choosing and the associated construction documentation. Students will be expected to use the computer in the development of at least 75 percent of this final project. Additional computer work will include integration and budgeting, estimating and specification writing assignments in ARCHT-141 Architectural Practices and Procedures. Prerequisite(s): ARCHT-103.</td>
</tr>
<tr>
<td>ARCHT-105</td>
<td>2</td>
<td>Architectural History</td>
<td>This course offers an introduction to the field of architecture. An appreciation for architecture is developed through an overview of architectural history and an analysis of architectural design and construction concepts that have been applied to buildings, from the Egyptian period through the present time and into the future.</td>
</tr>
<tr>
<td>ARCHT-106</td>
<td>3</td>
<td>Building Estimating</td>
<td>Estimating techniques for civil engineering projects are covered. Students work with checklists, cost records, price lists and labor probabilities, including software usage, to make quantity surveys for material costs, labor costs, equipment costs, and overhead and profit. Prerequisite(s): ARCHT-102.</td>
</tr>
<tr>
<td>ARCHT-110</td>
<td>2</td>
<td>Computer Applications for Architecture</td>
<td>This computer applications course is designed to provide students with word processing, spreadsheet and PowerPoint and internet skills used in the field of architecture. Additionally, the course is designed to introduce students to AutoCAD and the interface of the software with the MS Windows environment and the internet.</td>
</tr>
<tr>
<td>ARCHT-120</td>
<td>3</td>
<td>Structural Systems and Components</td>
<td>The main objective of this course is to identify structural systems and explain how they function. Emphasis is placed on the relationship between component parts and the structure as a whole. This is accomplished through the use of descriptions, computations and analysis. Prerequisite(s): ARCHT-101.</td>
</tr>
<tr>
<td>ARCHT-121</td>
<td>2</td>
<td>Architectural Materials and Methods 1</td>
<td>ARCHT-121 is a detailed examination of light wood frame construction – foundations, floors, walls, roofs and finishes. Topics include construction details and sequencing, documentation with wall section and framing plan, loads, load paths, member sizing, UDC requirements, water penetration and transfer of heat, air and water vapor.</td>
</tr>
<tr>
<td>ARCHT-122</td>
<td>3</td>
<td>Architectural Materials and Methods 2</td>
<td>ARCHT-122 covers the common materials and methods of commercial construction including masonry, heavy timber, structural frames, steel, site-cast and precast concrete, deep foundations, cladding and low-slope roofs. The course covers the general structural behavior of each of these systems. It covers how assemblies control the flow of liquid water, heat, air and water vapor, as well as fire ratings and other applicable requirements of the International Building Code. Documentation includes detailed sections, framing plans and roof plans. Prerequisite(s): ARCHT-121.</td>
</tr>
<tr>
<td>ARCHT-131</td>
<td>2</td>
<td>Mechanical and Environmental Systems 1</td>
<td>This course is an introduction to the broad field of mechanical systems as they relate to building design. It will provide students with the information and tools they require to assess the need for those systems in buildings. Emphasis is on understanding the fundamentals of heat transfer, thermal properties, building component locations and the interrelationships of mechanical systems and building. Students will be expected to use the knowledge gained to read and interpret HVAC drawings. Prerequisite(s): ARCHT-102.</td>
</tr>
</tbody>
</table>
**ARCHT – AUDIO**

**DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS**

**ARCHT-132 Credits: 2**
**Mechanical and Environmental Systems 2**
A course designed to teach students the basic concepts of plumbing, electrical illumination, fire protection and acoustical systems as they pertain to human comfort and safety in buildings. The student will develop the ability to produce architectural/mechanical drawings and to perform initial calculations for sizing water supply systems, electrical systems and lighting layouts. Prerequisite(s): ARCHT-103 and ARCHT-131.

**ARCHT-141 Credits: 2**
**Architectural Practices and Procedures**
This course introduces students to the practice of architecture. It reviews in some detail the AIA documents and procedures used in the design and construction of buildings as they proceed through an architectural office, from initial design concept, to construction documentation, to final construction. The possible roles the architectural technician may play in this process are explored. Prerequisite(s): ARCHT-103.

**ARCHT-150 Credits: 2**
**Introduction to Revit**
This course introduces the student to 3D Computer Drafting and BIM (Building Information Modeling) using Revit software. It builds on students' base knowledge of industry-standard working drawings and construction materials as the basis for developing Revit models. The student will learn how to construct Parametric drawings for a building or structure; including Plans, Elevations and Sections, as well as Axonometric views. Annotation strategies, such as Dimensioning and Text also will be covered. Employing title block templates and sheet composition, students will prepare industry-standard drawing sets for presentation. Prerequisite(s): ARCHT-101, CIVIL-102, or INDSCN-102.

**ART (Department: 815)**

**ART-201 Credits: 3**
**Understanding Art**
This is a survey course with emphasis upon painting, sculpture and architecture. Major topics include art forms and styles, contributions and achievements of periods in the development of Western art and world art styles.

**AUDIO – Audio Production**

**Department: 701**

**AUDIO-100 Credits: 1**
**Introduction to Audio Software**
This is a lab introducing the basics of software programs: Finale, Logic and Pro Tools in music composition, music production and audio recording focusing on the recording and manipulating midi and audio.

**AUDIO-102 Credits: 3**
**Techniques of Sound Recording**
Studio recording is the focus of this course. The increasing use of electronic amplifying/rerecording equipment in the field of music necessitates that the musician has basic knowledge of the how’s and why’s of sound and recording equipment, microphone selection and placement. Signal flow and signal processing during tracking and mixing process will have a central focus in lecture and lab hours. Prerequisite(s): Completion of or currently enrolled in AUDIO-100.

**AUDIO-103 Credits: 3**
**Recording Live Concerts**
Recording Live Concerts is a lecture/lab for the audio engineer teaching the elements of professionalism, the technical aspects of signal flow, microphone selection and placement, and mixing, specifically pertaining to the live music environment. Prerequisite(s): Completion of or currently enrolled in AUDIO-100.

**AUDIO-111 Credits: 1**
**Advanced Audio Software**
This course offers in-depth, practical study and application of current industry-standard digital audio workstation music software programs. Prerequisite(s): AUDIO-100 or MUSIC-113.

**AUDIO-114 Credits: 2**
**Critical Listening of Sound/Music**
This course introduces ear training and critical listening from the perspective of the audio engineer, including frequency recognition and contemporary production techniques. The student will learn to aurally analyze and identify contemporary popular song forms and production styles used.

**AUDIO-116 Credits: 2**
**Advanced Techniques/Sound Recording**
This course builds on the knowledge of the Techniques of Sound Recording in the first semester. Emphasis is placed on creating stereo and surround sound, mixing and mastering. Prerequisite(s): AUDIO-102 or MUSIC-154.

**AUDIO-117 Credits: 3**
**Sound Reinforcement**
Sound Reinforcement provides the student with both a theoretical and practical background in live sound reinforcement. Emphasis is placed on both indoor and outdoor sound reinforcement applications. The components of the sound system are examined in detail and are then utilized by the student in providing live sound for MATC concerts.

**AUDIO-118 Credits: 2**
**Studio Management and Design**
Studio Management and Design covers the fundamentals of basic studio operations, including accounting, client relations, staff, advertising, and equipment management. Strong emphasis is placed on scheduling, promotion and marketing, and interpersonal relationship communications. Also covered are the basic elements of studio construction, room acoustics and project studio acoustic treatments. Prerequisite(s): AUDIO-102.

**AUDIO-120 Credits: 3**
**Audio Production for Video Media**
This is a lecture/lab covering the issues of audio for film including ADR, Foley, library sound effects, sound effect creation and enhancement, field recording, managing sync dialog, environmental ambiance and using music libraries and original music. Prerequisite(s): AUDIO-100.

**AUDIO-125 Credits: 1**
**Advanced Midi Recording**
Advanced Midi Recording covers the development, implementation, theory and uses of midi equipment. The practical operation of midi hardware and software of several types is learned through lecture demonstrations and project assignments. Prerequisite(s): AUDIO-100.

**AUDIO-126 Credits: 2**
**Electronics for Audio Engineers**
Students will learn the principles of electronic technology with an emphasis on applications to audio engineering, both in theory and practice. Prerequisite(s): AUDIO-102 or MUSIC-154.

**AUDIO-127 Credits: 3**
**Mastering for Media**
This is an introduction to the theory and practical approach to recording audio for gaming and web applications. Prerequisite(s): AUDIO-102.

**AUDIO-128 Credits: 3**
**Final Project – Field Work**
This is the students' recording project of their choosing of any of the audio disciplines, including in-studio multitrack recording, live concert recording, sound for film, gaming or web interactive audio. From concept to completion, the student will noteate, process and journal the details in creating the audio recording. Prerequisite(s): AUDIO-116 and INTRN-796.

**AUDIO-133 Credits: 1**
**Final Project – Field Work**
This is the students' recording project of their choosing of any of the audio disciplines, including in-studio multitrack recording, live concert recording, sound for film, gaming or web interactive audio. From concept to completion, the student will noteate, process and journal the details in creating the audio recording. Prerequisite(s): AUDIO-116 and INTRN-796 with minimum grade of C or P.
AUT01 – Auto Maintenance Technician (Department: 404)

AUT01-300 Credits: 2
Express Service
This course introduces the student to automotive express and maintenance services as it relates to the auto technician. Use of electronic service manuals, service bulletins and online training will be covered. Students will perform express service duties, including wheel and tire services and predelivery procedures. Prerequisite(s): Minimum placement scores of: Math 36, Reading 55, Sentence 60.

AUT01-302 Credits: 2
Powertrain Maintenance and Light Repair Fundamentals
The fundamentals of design, construction and operation of automotive engine and drivetrain components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and light repair of these units. Prerequisite(s): Minimum placement score of: Math 36, Reading 55, Sentence 60.

AUT01-304 Credits: 4
Powertrain Maintenance and Light Repair Lab
Instruction is given in the diagnosis, inspection, maintenance and light repair of automotive engine and drivetrain components. Practical lab exercises are performed on late-model vehicles or lab mockups. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-302.

AUT01-306 Credits: 2
Heating and Air Conditioning Fundamentals
Construction and operation of automobile air conditioning systems are studied through lecture and demonstration. Service, repair, testing, diagnosis and recovery/recycling are performed on automobile conditioning systems. Upon successful completion of the CFC unit, a state certificate will be issued. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60.

AUT01-308 Credits: 2
Brake and Steering Suspension Fundamentals
The fundamentals of design, construction and operation of automotive brake and steering/suspension components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and repair of these units. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60.

AUT01-310 Credits: 4
Brakes and Steering Suspension Lab 1
Instruction is given in the diagnosis, inspection, maintenance and repair of automotive brake and steering/suspension components. Practical lab exercises are performed on late-model vehicles or lab mockups. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-318.

AUT01-312 Credits: 2
Brakes and Steering Suspension Lab 2
Construction, operation, service and testing of automotive safety restraint systems (SRS), steering column, electronic suspension and anti-lock brake systems are studied through lecture and demonstration. Service and testing are performed on these components and on late-model vehicles. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-308.

AUT01-314 Credits: 2
Electrical and Electronic Fundamentals
The fundamentals of automotive electricity and the design, construction and operation of automotive electrical and electronic systems and components are studied. Discussions, lectures and demonstrations pertain to the diagnosis and repair of these components and units. Prerequisite(s): Minimum placement scores: Math 36, Reading 55 and Sentence 60.

AUT01-316 Credits: 4
Electrical and Electronic Lab
Instruction is given in the diagnosis, inspection and repair of automotive electrical and electronic systems and components. Practical lab exercises are performed on late-model vehicles or lab mockups. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-314.

AUT01-318 Credits: 2
Auto Instrumentation and Accessories
Construction, operation, service and testing of automotive instrumentation and accessories are studied through lecture and demonstration. Service and testing are performed on these components and on late-model vehicles. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-314.

AUT01-322 Credits: 2
Engine Control Systems 1 Fundamentals
The fundamentals of design, construction and operation of automotive engine control, ignition and fuel systems and components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and repair of these units. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and AUT01-316 and AUT01-318.

AUT01-324 Credits: 4
Engine Control Systems 1 Lab
Instruction is given in the diagnosis, inspection and repair of automotive engine control, ignition and fuel systems and components. Practical lab exercises are performed on late-model vehicles or lab mockups. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-322.

AUT01-326 Credits: 2
Engine Control Systems 2 Fundamentals/Lab
The principles of operation, construction and servicing of emission controls are studied through lectures, discussions and demonstration. Service and testing techniques are performed on various automobile emission systems and components. Prerequisite(s): Minimum placement scores: Math 36, Reading 55, Sentence 60, and completion of or currently enrolled in AUT01-322.

AUT02 – Auto Servicing Technology (Department: 602)

AUT02-147 Credits: 2
Electrical Systems 2
This course builds on the knowledge and skills gained in Electrical Systems 1. Students use specialized equipment to diagnose and service electrical and electronic systems. Emphasis will be placed on computer-controlled systems and vehicle communication systems. Prerequisite(s): AUT02-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUT02-148 Credits: 2
Manual Transmission and Drivelines
The course covers the operation, diagnosis and repair of manual transmissions, transaxles, differentials, transfer cases, drive axles, four-wheel drive and all-wheel drive systems. Prerequisite(s): AUT02-147, AUT02-151, and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUT02-150 Credits: 2
Automotive Fundamentals
This course provides a foundation for students entering the automotive service industry. Instruction in shop practices, tool usage and safety, maintenance and minor repair procedures will be performed.

AUT02-151 Credits: 4
Electrical Systems 1
This course introduces the student to basic automotive electrical and electronic circuits. Included are meter usage, electrical system diagnosis and repair. Operation and testing of batteries, starting and charging systems also will be covered. Prerequisite(s): Must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.
AUTO2 – AUTOBY  DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

AUTO2-152  Credits: 2
Automotive Climate Control
This course covers the principles, theory of operation, diagnosis, service and repair of various automotive heating, air conditioning and air delivery systems. Includes preparation for federal certification. Prerequisite(s): AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-153  Credits: 3
Alignment, Suspension and Steering
This course covers the design, construction and operation of various steering and suspension systems used on late-model vehicles, including electronic ride control, electric steering and tire pressure monitoring systems. Alignments, diagnosis and repair procedures will be performed. Prerequisite(s): AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-154  Credits: 2
Fuel Management 1
This course covers basic engine operation, fuel systems and ignition systems. Diagnosis and repair of these systems also will be introduced. Prerequisite(s): Completion of or currently enrolled in AUTO2-147 and AUTO2-151, and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-155  Credits: 4
Fuel Management 2
This course builds on the knowledge and skills gained in Fuel Management 1, with emphasis placed on engine sensors, computers and control devices used for electronic engine controls and emissions. Diagnosis and repair also will be covered. Prerequisite(s): Completion of or currently enrolled in AUTO2-151 and AUTO2-154 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-156  Credits: 4
Fuel Management 3
This course builds on the knowledge and skills gained in Fuel Management 2, with emphasis on diagnosing advanced engine performance concerns. Direct injection, turbos and variable cam timing will be included. Prerequisite(s): AUTO2-147, AUTO2-151, AUTO2-154, AUTO2-155 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-157  Credits: 4
Engine Concepts
This course covers the operating principles and construction of internal combustion engines. Disassembly, cleaning, inspection, measuring and reassembly will be included. Prerequisite(s): Completion of or currently enrolled in AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-158  Credits: 4
Auto Transmissions
This course covers the theory and operation of the automatic transmissions and transaxles. Instruction includes electronic, hydraulic and mechanical systems, diagnosis and repair. Prerequisite(s): AUTO2-147, AUTO2-151, and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-159  Credits: 4
Automotive Brakes
This course covers the design, construction and operation of various braking systems. Diagnosis, service and repair of disc, drum, power brakes, anti-lock, traction control and stability control are included. Prerequisite(s): AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-160  Credits: 3
Automotive Accessories
This course covers the design and operation of various automotive accessories found on today’s vehicles. Diagnosis and repair of these systems also will be covered. Prerequisite(s): AUTO2-147, AUTO2-151, and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-161  Credits: 3
Express Service
This course introduces the student to the dealership as it relates to the technician. Use of electronic service manuals, service bulletins and online training will be covered. Students will perform quick-lane duties, wheel and tire services and predelivery procedures. Prerequisite(s): Must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-164  Credits: 1
Applied Automotive Experience 1
Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provide occupational experience in the automotive field. Prerequisite(s): Completion of or currently enrolled in AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-165  Credits: 1
Applied Automotive Experience 2
Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provide occupational experience in the automotive field. Prerequisite(s): Completion of or currently enrolled in AUTO2-151, must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-166  Credits: 1
Applied Automotive Experience 3
Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provide occupational experience in the automotive field. Prerequisite(s): Completion of or currently enrolled in AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-167  Credits: 1
Applied Automotive Experience 4
Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provide occupational experience in the automotive field. Prerequisite(s): Completion of or currently enrolled in AUTO2-151 and must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTOBY – Auto/Chassis-Finish

AUTOBY-300  Credits: 3
Introduction to Auto Body Fundamentals
The fundamentals of auto body safety regulations, damage analysis, unibody construction and component alignment, plastic filler application, welding and ding sheet metal damage are studied. Discussion, lectures and demonstrations pertain to these areas of auto body repair. Prerequisite(s): Student must be concurrently enrolled in AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305.

AUTOBY-301  Credits: 1
Plastic and Composites Repair
The use of plastics is commonplace on vehicle construction. Plastics are commonly damaged during a collision and repairs to the plastic and composites may be required. This course provides the learner with the knowledge, processes and skills required to identify the type of plastic, the possible repair options, the repair techniques and the refinishing options for various types of plastics. When registering for this course, students also must be registered in AUTOBY-300, AUTOBY-302, AUTOBY-303 and AUTOBY-305.

AUTOBY-302  Credits: 2
Estimating and Removal/Installation of Bolt-On Panels
This course provides the opportunity for the learner to develop skills in auto body construction, model identification, damage analysis, parts sources, handwritten damage reports, computerized damage reports and removal/installation of bolted panels. When registering for this course, students also must be registered in AUTOBY-300, AUTOBY-301, AUTOBY-303 and AUTOBY-305.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTOBY-303</td>
<td>1</td>
<td>Masking, Prep and Detailing</td>
<td>In this course, learners prepare surfaces to be refinished by utilizing cleaning, sanding and masking techniques while protecting nonrefinish areas of the vehicle from overspray and component damage. Existing finish defect and substrate assessment along with primer product choices, buffing, polishing and inspection for final delivery also are introduced. When registering for this course, students also must be registered in AUTOBY-300, AUTOBY-301, AUTOBY-302 and AUTOBY-305.</td>
</tr>
<tr>
<td>AUTOBY-304</td>
<td>1</td>
<td>Basic Auto Mechanical Systems</td>
<td>This course is designed to develop the ability to interpret automobile drawings and to understand the relation between drawings, basic trade theory and shop operations.</td>
</tr>
<tr>
<td>AUTOBY-305</td>
<td>5</td>
<td>Auto Body 1</td>
<td>Techniques of auto body repair are presented including safety regulations, damage analysis, unibody construction, component alignment, plastic filler application, welding and dinging sheet metal damage. Practical lab exercises are performed on lab mockups or lab vehicles. When registering for this course, students also must be registered in AUTOBY-300, AUTOBY-301, AUTOBY-302 and AUTOBY-303.</td>
</tr>
<tr>
<td>AUTOBY-310</td>
<td>4</td>
<td>Auto Body Fundamentals</td>
<td>Instruction includes live shop repairs, body panel repair/replacement and refinishing/blending on modern vehicles. Noncontinuing/current students will be required to schedule and pass a hands-on competency test before the start date of the semester. Schedule with a counselor. Prerequisite(s): AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Also completion of or currently enrolled in AUTOBY-311, AUTOBY-313 and AUTOBY-315.</td>
</tr>
<tr>
<td>AUTOBY-311</td>
<td>3</td>
<td>Automobile Frame Straightening</td>
<td>Students become familiar with frame and unibody construction, tools and equipment through lectures and demonstrations of straightening techniques on damaged automobiles using dedicated and universal bench measuring systems and conventional equipment. Shop safety is emphasized. Prerequisite(s): AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Also completion of or currently enrolled in AUTOBY-310, AUTOBY-313 and AUTOBY-315.</td>
</tr>
<tr>
<td>AUTOBY-312</td>
<td>1</td>
<td>Electrical Servicing for Auto Body Repairing</td>
<td>Fundamental facts and principles of automotive electricity that apply to auto body repair are presented. Instruction covers such subjects as the storage battery, Ohm's Law, and lighting, charging and ignition circuits.</td>
</tr>
<tr>
<td>AUTOBY-313</td>
<td>1</td>
<td>Surface Preparation and Color Matching</td>
<td>Students practice color matching new and weathered finishes, as well as sanding, masking, feather-edging and applying undercoats, sealers and color coats. Prerequisite(s): AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Also completion of or currently enrolled in AUTOBY-310, AUTOBY-311, AUTOBY-315.</td>
</tr>
<tr>
<td>AUTOBY-314</td>
<td>1</td>
<td>Front-End Alignment</td>
<td>This course covers the diagnosis and correction of steering and alignment problems. Students are instructed in the construction and operation of front-end alignment and wheel-balancing equipment used to correct faults in front-end suspension systems.</td>
</tr>
<tr>
<td>AUTOBY-315</td>
<td>5</td>
<td>Auto Body 2</td>
<td>Students are provided further lab experiences in various repairs, including work on unibody construction, door locks and window regulators, aligning body components, wiring accessories, wet-sanding, and color mixing, blending and spraying. Trade safety regulations are emphasized. Practical lab exercises are performed on appropriate vehicles. Prerequisite(s): AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Also completion of or currently enrolled in AUTOBY-310, AUTOBY-311 and AUTOBY-313.</td>
</tr>
<tr>
<td>AUTOBY-316</td>
<td>5</td>
<td>Aircraft Induction and Supercharging Systems</td>
<td>Training is provided in the servicing of various types of fuel supply and fuel distribution systems. Skills are developed in overhauling, assembling and testing of fuel distribution system components.</td>
</tr>
<tr>
<td>AUTOBY-317</td>
<td>2</td>
<td>Aircraft Reciprocating Engines 1</td>
<td>Skills are developed and instructions given in the removal, disassembly, cleaning, inspection, repair, assembly, installation, testing and troubleshooting of aircraft engines. Emphasis is placed upon the correct application and use of engine servicing.</td>
</tr>
<tr>
<td>AUTOBY-318</td>
<td>2</td>
<td>Aircraft Reciprocating Engines 2</td>
<td>Students continue the development of skills and knowledge gained in Aircraft Reciprocating Engines 1. Prerequisite(s): AUTOBY-315.</td>
</tr>
<tr>
<td>AUTOBY-319</td>
<td>5</td>
<td>Aircraft Gas Turbine Engines 1</td>
<td>Training is given in the correct procedures and practices involved in the overhaul, inspection, maintenance, operation, testing, troubleshooting and servicing of gas turbine engines and their related accessory systems.</td>
</tr>
<tr>
<td>AUTOBY-320</td>
<td>4</td>
<td>Aircraft Gas Turbine Engines 2</td>
<td>Students continue the development of skills and knowledge gained in Aircraft Gas Turbine Engines 1. Prerequisite(s): AUTOBY-315.</td>
</tr>
<tr>
<td>AUTOBY-321</td>
<td>4</td>
<td>Aircraft Electrical Systems</td>
<td>Instruction affords students an opportunity to apply basic electrical principles to problems encountered in the electrical servicing of airframes. Typical jobs performed are construction of simple/complex circuits and using test equipment to check them.</td>
</tr>
<tr>
<td>AUTOBY-322</td>
<td>3</td>
<td>Aircraft Ground Operation and Servicing</td>
<td>Students learn proper procedures for fueling, moving and securing aircraft. Also studied are proper cleaning and corrosion-control methods for aircraft.</td>
</tr>
<tr>
<td>AUTOBY-323</td>
<td>1</td>
<td>Aircraft Welding</td>
<td>Students study the various welding processes used to fabricate and repair aircraft parts. They also learn to silver solder, braze and weld aluminum and stainless steel used in aircraft.</td>
</tr>
</tbody>
</table>
AVITEC – BADM

AVITEC-360 Credits: 2
Propeller Systems
Training is provided in the removal, installation, routine inspection and maintenance of wood and metal propellers. Causes for rejection of wood and metal propeller types are explained, with attention given to FAA and manufacturers’ publications.

AVITEC-367 Credits: 3
Composite Structures
The aircraft composite structure is separated into subassemblies and their related parts. Aircraft woods and fabric coverings are identified and repaired. Major emphasis is given to the maintenance and repair of composite structures and aircraft finishes.

AVITEC-368 Credits: 3
Aircraft Structures
The aircraft structure is separated into subassemblies and their related parts. Major emphasis is given to the maintenance and repair of sheet metal structures.

AVITEC-370 Credits: 5
Aircraft Instrument, Control and Warning Systems 1
The construction, operation and installation of the instruments present in aircraft are studied. Students then apply the knowledge of theory and operation of instruments to the typical jobs included in routine line maintenance.

AVITEC-371 Credits: 1
Aircraft Instrument, Control and Warning Systems 2
Students apply knowledge of theory and operation of instruments to typical jobs included in routine line maintenance. Prerequisite(s): AVITEC-370.

AVITEC-372 Credits: 4
Hydraulic and Pneumatic Power Systems
The principles of aircraft hydraulic and pneumatic systems are explained. The operation of hydraulic and pneumatic landing gear systems, as well as wing flap systems, is stressed. The construction and servicing of landing gear wheels, brakes, tires, shock struts and auxiliary wheels are emphasized.

AVITEC-376 Credits: 4
Airframe Maintenance
The methods and techniques of airframe assembly and disassembly are explained. The student learns to select and use FAA and manufacturers’ aircraft maintenance specifications, data sheets, manuals and publications, and related federal aviation regulations.

AVITEC-380 Credits: 1
Basic Physics
The basic principles of simple machines, heat, sound and fluids are presented and applied to aircraft systems. Additionally, the theory of flight as applied to both fixed and rotary wing aircraft is studied.

AVITEC-381 Credits: 3
Basic Electricity
The basic principles of DC and AC electricity are presented and applied to aircraft systems. Topics include electron theory, sources of electricity and measurement of current, voltage, resistance and power.

AVITEC-382 Credits: 3
Aircraft Materials and Their Inspection
Emphasis is placed on the properties of materials used on aircraft and on their inspection. Also discussed are the various types of fasteners used. Time is also spent on fluid lines and fittings.

AVITEC-383 Credits: 1
Aircraft Maintenance Publications, Records and Mechanics Regulations
The student studies the various federal air regulations that pertain to aviation mechanics and aircraft maintenance, and also learns the proper forms and methods of entry for aircraft records.

AVITEC-393 Credits: 2
Mathematics for Aviation Technicians
Students are given the mathematical skills necessary to successfully perform mechanic duties. Topics covered include roots, powers, exponents, areas, volumes, ratios, proportions, percentages, displacements and algebraic operations.

BADM – Business Administration

BADM-104 Credits: 3
Business Statistics
A general study will be discussed to interpret areas related to statistics in the business world. Topics include the interpretation and construction of statistical tables and charts, finding the best estimator of a population (including central values and measures of dispersion), normal distributions, sampling, hypothesis test, probabilities, Six-Sigma concepts utilized in quality control, and linear regression and correlations. The use of statistical software to facilitate will be discussed. Prerequisite(s): RBUS-102, MATH-106, MATH-123 or any 200-level MATH course and BADM-106.

BADM-106 Credits: 3
MS Office for Business Applications
This course provides hands-on training in Microsoft Office. The focus will be on the business application for Windows, Excel, Word and PowerPoint. There will be a special emphasis on the use of Excel tools in business.

BADM-109 Credits: 3
Business Communications With Technology
This course is designed to prepare students to communicate effectively in the digital age. Students will learn the various digital tools that are being used in business communication and collaboration today. Students will demonstrate basic writing skills and grammar in the preparation of effective communications using the various digital communication tools available. Tools will include email, Facebook, instant messaging, internet resources, LinkedIn and various other online communication tools. Students also will demonstrate effective presentation skills that utilize visual aids and digital tools.

BADM-120 Credits: 3
Business Finance
Primary emphasis is on the role of the financial manager. Special attention is given to ratio and financial statement analysis. The topics of budgeting, working capital management, leverage and short- and long-term financing also are covered. Prerequisite(s): ACCGT-110 or ACCGT-111 and BADM-106 or ACCGT-122.

BADM-126 Credits: 3
Business Organization and Management
An introduction to business, focusing on a basic understanding of the activities, functions and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The emphasis is on human relations, management, marketing, finance, labor, franchising, forms of ownership and careers.

BADM-145 Credits: 3
Small Business Management
A concise examination is made of all phases of managing a small business and isolating significant problems for solution. Specific problems of the small business firm, such as financing, developing, staffing, etc., are considered and analyzed. Prerequisite(s): BADM-134 or MKTG-102.

BADM-155 Credits: 3
Management Principles
A comprehensive overview of the functions and principles of management that lead to success in the operating climate of the new millennium. Prerequisite(s): BADM-134, BADM-126 or HEALTH-104.
### BADM – BAKING

#### Degree/Diploma/Certificate Course Descriptions

**BADM-165**  
**Legal Environment of Business**  
Credits: 3  
The course presents the legal concepts governing the conduct of business in the United States from a managerial perspective, including contracts, torts, agency and government regulations. The course is designed to provide students with an understanding of the legal process as it applies to managerial and other business problems. As legal rules frequently change, the emphasis will be on developing independent, critical thinking skills.

**BADM-166**  
**Advanced Legal Issues**  
Credits: 3  
This course provides an introduction into various types of businesses. It also discusses financial transactions and the causes of bankruptcy. Employment law, property interests, bailments, wills, trusts and estates and agency are included. Prerequisite(s): BADM-165.

**BADM-180**  
**Business Communication With Technology 1**  
Credits: 1  
In Business Communication with Technology 1, the learner applies the skills and tools necessary to fulfill the role as a modern leader. Each learner will demonstrate the application of evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change and effective conflict resolution.

**BADM-181**  
**Business Communication With Technology 2**  
Credits: 1  
In Business Communication with Technology 2, the learner applies the skills and tools necessary to fulfill the role as a modern leader. Each learner will demonstrate the application of evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change and effective conflict resolution.

**BADM-182**  
**Business Communication With Technology 3**  
Credits: 1  
In Business Communication with Technology 3, the learner applies the skills and tools necessary to fulfill the role as a modern leader. Each learner will demonstrate the application of evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change and effective conflict resolution.

**BADM-192**  
**Risk Management and Insurance**  
Credits: 3  
This course provides an introduction to managing risks in order to maximize the value of a firm. An examination of the types of business loss exposures and their management, with a primary emphasis on insurance, are discussed in an applied approach.

**BADM-198**  
**Business Internship**  
Credits: 1  
This cooperative training program involves actual work experience. Students obtain a position at an approved work station and work a minimum of 144 hours under the supervision of a teacher-coordinator. Requires completion of three semesters in the student’s field of study and consent of advisor. Prerequisite(s): INTRN-796.

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**BAKING**  
(Department: 314)

**BAKING-101**  
**Specialty Baking and Pastry Techniques 1**  
Credits: 3  
This course involves such learning experiences as the preparation of yeast rolls, breads, pies, cakes, cookies, tarts, doughnuts, holiday specialties and tortes. Proper use and care of equipment, together with sanitation and hygiene, are emphasized. Prerequisite(s): BAKING-120, BAKING-122, BAKING-123, BAKING-124, CULMGT-112.

**BAKING-102**  
**Hotel and Restaurant Dessert Production**  
Credits: 3  
This course covers the preparation and service of hot and cold desserts with focus on individual desserts, a la minute preparations and numerous components within one preparation. Students will learn station organization, timing and service coordination for restaurant dessert production. Products made will include frozen desserts, ice cream, sorbet, glazes, individual plated desserts, and desserts for functions and banquets. During the course, students will develop a dessert menu from the perspective of variety, costs, practicality and how well it matches the rest of the menu. Prerequisite(s): BAKING-101, BAKING-120, BAKING-122, BAKING-123, BAKING-124, BAKING-125, BAKING-129, BAKING-130, CULMGT-105 and CULMGT-112.

**BAKING-104**  
**Fondant and Gum Paste**  
Credits: 2  
This course is designed to give students hands-on practice with advanced cake decorating using fondant and gum paste. Students will prepare single and tiered cakes using the fondant for decorating floral, modern and children’s themed cakes. There is extensive work in the use of gum paste for a variety of floral arrangements that are used for wedding and all-occasion cakes.

**BAKING-166**  
**Hotel and Restaurant Dessert Production**  
Credits: 3  
This course involves such learning experiences as the preparation of yeast rolls, breads, pies, cakes, cookies, tarts, doughnuts, holiday specialties and tortes. Proper use and care of equipment, together with sanitation and hygiene, are emphasized. Prerequisite(s): BAKING-120, BAKING-122, BAKING-123, BAKING-124, CULMGT-112.

**BAKING-177**  
**Cafe Operations**  
Credits: 5  
This Cafe Operations course is designed for students to learn techniques for the operation of a modern cafe/bistro in a hands-on working environment. Training will include the areas of barista, preparation of breakfast pastries, preparation of soups and stocks, front-of-the-house, operation of point-of-sale software system, cashier and customer service. Emphasis will be on the complete operation of a business.

**BAKING-192**  
**Retail Baking Operations**  
Credits: 2  
This course is used as a simulated bakery, with products being merchandized through a bakery storefront. Students are responsible for the service case presentation, as well as effective merchandising displays and customer service. Students also will identify various components of a profit/loss statement researching ingredient cost, and learning small-business accounting software. Students also will identify labeling requirements according to federal laws.

**BAKING-192**  
**Baking Principles/Ingredient Functions**  
Credits: 3  
In this class, instruction will focus on the primary functions of ingredients in baked goods, with an emphasis on yeast raised dough, sponge dough, straight dough and modified straight dough methods. Students are exposed to chemical, physical and biological leavening principles, as well as the understanding of the characteristics and functions of baking ingredients. Students will study formulas that work on scientific principles and their outcomes.

**BAKING-192**  
**Cake Decorating, Icing/Pastry Bags**  
Credits: 3  
Practical training is offered in color design given in executing different tips, icings and pastry bag usage in a bakery setting. Students are exposed to icing cakes, decorating cakes using buttercream flowers, figure piping and many seasonal products used in a production setting.
BAKING – BARCOS DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

BAKING-124 Credits: 3
Scratch Baking
Students will obtain a basic familiarity with primary baking ingredients, have an overview of fermentation and dough production, be aware of the properties associated with producing chemically leavened bakery goods and specialty items, have an appreciation of formula balance, grasp the advantages and limitations inherent in scratch baking, and understand the production flow for various bakery products.

BAKING-125 Credits: 3
Artisan Breads
In this course, you will discover the fine science of bread. You will explore and learn about the reaction of yeast, air and liquid combining to become a living substance. You will be introduced to the characteristics and functions of flour, investigate the effects of flour on flavor, texture and the structures of well-known, classical and artisan breads. These include baguettes, sourdoughs, wheat epi, pumpernickel, focaccia, rye and ciabatta. Prerequisite(s): BAKING-120, BAKING-122, BAKING-123, BAKING-124 and CULMGT-112.

BAKING-127 Credits: 3
Chocolate, Confections and Sugar Work
This course introduces students to the principles involved in producing a full range of chocolates and candies using a variety of centers, including marzipan, ganache, gianduja sugar centers and jellies. Students learn to use both traditional and contemporary production methods in creating confections by hand and with special equipment. The class includes an introduction to the art of sugar work. Students will learn to properly cook, pour, pull and blow sugar to create artistic showpieces. Design layout and color issues also will be covered. Prerequisite(s): BAKING-101, BAKING-102, CULART-125, CULMGT-112.

BAKING-128 Credits: 1
Baking and Classical Cakes
A review of creaming, foaming and blending techniques with an emphasis on preparing simple to complex unfilled cakes, filled cakes and tortes. Topics to be covered include comparison of classical and modern preparations; classical cakes (such as gateaux, St. Honore, Doesh Torte, Linzer Torte and Sacher Torte); glazed, iced, molded and cream-filled cakes; tortes; and bombs. Prerequisite(s): BAKING-101, BAKING-125, BAKING-129, BAKING-130, CULMGT-105 and CULMGT-112.

BAKING-129 Credits: 2
Healthy and Natural Baking
This course studies the combination of the sciences of baking and nutrition. Students learn how to combine ingredients to produce finished products that will meet the criteria of taste and nutrition. Basic nutrition principles are reviewed to help students understand healthy baking. Students also study the chemical reactions taking place during the baking process and the formulas that were used. Prerequisite(s): BAKING-120, BAKING-122, BAKING-123, BAKING-124, CULMGT-112.

BAKING-130 Credits: 1
Field Experience in Baking and Pastry Arts
Students work 216 hours as regular employees in baking and pastry arts. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility. Prerequisite(s): INTRN-796 with a minimum grade of C or P.

BAKING-135 Credits: 3
Baking for Culinarians
This course is an overview of baking and pastry for culinary students. Students become familiar with baking ingredients, their properties and the way in which to scale and measure them. Producing everything from breads and rolls to cakes and pastries, students gain an appreciation for the contributions made by bakers and pastry chefs in food-service settings. Fundamental culinary principles covered include teamwork, professionalism, timing and organization, and safety and sanitation. Prerequisite(s): CULMGT-112.

BARCOS-101 Credits: 2
Introduction to Guest Services: Professional Practices
This course introduces students to working on clients in a spa setting. Students schedule appointments, consult with clients, analyze various skin types, perform facial treatments including hair removal. Students incorporate the use of facial machines during treatments. Students recommend products and perform makeup applications. Prerequisite(s): BARCOS-108 and BARCOS-355, completion of or currently enrolled in BARCOS-104.

BARCOS-102 Credits: 3
Guest Services 2: Spa Operations
Students continue to build on skills obtained in Spa Services 1, while increasing speed and accuracy. Students begin offering back facials, chemical peels and microdermabrasion treatments, and incorporating the use of various facial machines. Prerequisite(s): BARCOS-101, BARCOS-104, BARCOS-108 and BARCOS-355, and completion of or currently enrolled in BARCOS-106, BARCOS-107, BARCOS-109 and BARCOS-110.

BARCOS-104 Credits: 3
Spa Treatments
Students build on previous skills. Students are introduced to advanced techniques: deep cleansing facials, extractions, high frequency, microdermabrasion, chemical exfoliation. Students perform treatments on each other while developing skills. Prerequisite(s): BARCOS-101 and completion of or currently enrolled in BARCOS-102 and BARCOS-106.

BARCOS-106 Credits: 1
Advanced Spa Treatments
Students develop advanced spa treatments including the use of the HydraFacial MD® machine for advanced exfoliation, microcurrent, stones facial massage, lymphatic drainage, body treatments, aromatherapy and reflexology techniques to relieve tension. Prerequisite(s): BARCOS-102, BARCOS-104, and completion of or currently enrolled in BARCOS-105.

BARCOS-108 Credits: 1
Facial Treatments
This course introduces the theory and practical skills of facials. Students study the histology of skin, skin analysis, massage manipulations, various products and mask applications. Basic makeup application is applied to enhance the client’s appearance. Introduction to the benefits and application of facial machines. Prerequisite(s): Completion of or currently enrolled in BARCOS-355, BARCOS-317 and BARCOS-324.

BARCOS-109 Credits: 1
Hair Removal Techniques
This course introduces the theory and practical skills of hair removal techniques. Students learn how to remove hair on all areas such as the face, underarms, legs, bikini and back. Students perform treatments on each other while developing skills. Prerequisite(s): BARCOS-108 or BARCOS-306 and BARCOS-307.

BARCOS-110 Credits: 2
Aesthetician Board Prep
This course will prepare students in the Aesthetician program for their State Board Licensing Exam. Students will sign up for their board exam and pack, review and practice all required assessment tasks. Students will complete a Mock State Board Exam. Prerequisite(s): BARCOS-101, BARCOS-102, BARCOS-104, BARCOS-106, BARCOS-107, BARCOS-108, BARCOS-109, BARCOS-317, BARCOS-330 and BARCOS-355.
BARCOS-300 Credits: 2
Shampoo and Scalp Treatments
Presents the theory of and practical skills in hair/scalp cleansing techniques, scalp massage therapy and professional products for various hair and scalp conditions, including hair pieces and goods. Students practice shampooing, massage and conditioning techniques during class on classmates and hair goods.

BARCOS-301 Credits: 2
Men's Haircut 1
Introduces the basic fundamental skills and related theory of men's haircutting techniques, including use of haircutting razor, shears and clippers. Students practice cutting combination haircuts using 0, 45-degree and 90-degree angles to include tapers, fades, natural afros and other haircuts on mannequins and available models. Prerequisite(s): BARCOS-300, BARCOS-302, BARCOS-304 and BARCOS-314.

BARCOS-302 Credits: 2
Women's Haircut 1
Introduces the theory of and related practical skills for cutting women's hair using shears and razor. thinning techniques are presented. Students practice haircutting and thinning techniques on mannequins, available models and hair goods. Prerequisite(s): Must be admitted to Cosmetology (31-502-1) program.

BARCOS-303 Credits: 2
Men's Haircut 2
This course offers advanced men's haircutting techniques and methods using shear-over-comb and clipper techniques. Students practice haircutting skills on available models and classmates. MATC strongly recommends that students complete BARCOS-301, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): BARCOS-300, BARCOS-301, BARCOS-302 and BARCOS-305.

BARCOS-304 Credits: 2
Permanent Wave
Introduces the theory of and practical skills for permanently curling/waving naturally straight or wavy hair. Students practice winding permanent wave rods in sectioning patterns with chemical application on a mannequin and available models.

BARCOS-305 Credits: 2
Women's Haircut 2
Offers advanced women's haircutting techniques and methods to create haircuts with varying types of guidelines, weight lines, bangs and fringes. Speed and efficiency are encouraged. Students practice haircutting skills on available models and classmates. MATC strongly recommends that students complete BARCOS-302, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s):

BARCOS-306, BARCOS-301, BARCOS-302 and BARCOS-314; must be admitted to Cosmetology (31-502-1) program.

BARCOS-306 Esthetics 1
This course introduces the theory and practical skill of facials. Students study skin histology, disorders and diseases, skin analysis including the use of facial machine, facial massage manipulations, application of skincare products, removal of superficial hair and an introduction to makeup application. Students practice skills on classmates.

BARCOS-307 Esthetics 2
Students continue to build upon skills taught in Esthetics 1. Students practice advanced skills in facial treatments including facials for specific conditions – oily, mature, dehydrated; techniques and benefits of high frequency and galvanic current; corrective makeup; and facial hair removal. Prerequisite(s): BARCOS-306 and must be admitted to the Cosmetology (31-502-1) program.

BARCOS-308 Nail Services
The course introduces the theoretical and practical skills of manicuring, pedicuring, including nail art and massage of the hand/arm, foot/leg, in addition to the preparation for the Wisconsin State Board manicuring board exam. Students practice giving and receiving manicures and pedicures on classmates while demonstrating safety and sanitation procedures. This course includes some online assignments and tests in preparation for the online state board exam. BARCOS-308 kit is to be purchased from the bookstore at the start of the semester. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1) program.

BARCOS-309 Chemical Relaxing
Introduces the theory and practical skills for chemically relaxing naturally curly hair for first-time and retouch applications. Students practice application techniques on mannequins and available models. Prerequisite(s): BARCOS-300, BARCOS-304, BARCOS-314 and must be admitted to the Cosmetology (31-502-1) program.

BARCOS-310 Hair Tinting
Introduces the theory of and basic application procedures of adding artificial hair color to natural hair using temporary, semi-permanent, demi-permanent and permanent products. Students practice applying professional hair coloring products on mannequins, available models and hair goods. Prerequisite(s): BARCOS-300, BARCOS-314 and must be admitted to the Cosmetology (31-502-1) program.

BARCOS-312 Advanced Color
This course presents the advanced practical skills for removing natural hair color using hair lightening services. Students practice lightening techniques with cap and weavon lightening and freehand techniques on mannequins, available models and hair goods. MATC strongly recommends that students complete BARCOS-310, or have the equivalent skills, prior to enrollment in this course.

BARCOS-313 Hair Color Correction
This course provides for the expansion of practical skills required for lightening hair by retouch and first-time processes; successful hair color correction is addressed. Students observe real-life hair lightening and color corrections, and practice on models and mannequins. MATC strongly recommends that students complete BARCOS-312, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): BARCOS-300, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315.

BARCOS-314 Hairstyle 1
Introduces the artistic foundations in theory and practical wet hairstyling in roller placement, hair wrapping, blow drying, thermal press use and the flat iron curling. Students practice developing skills on mannequins, hair goods and classmates.

BARCOS-315 Hairstyle 2
Introduces the wet hairstyling theory and practical skills for finger waving and pin curling. Students practice various pin curling and finger waving patterns on mannequins, available models and hair goods. Prerequisite(s): BARCOS-300, BARCOS-302, BARCOS-304 and BARCOS-314.

BARCOS-316 Barber/Cosmetology Theory
Presents foundational theoretical concepts in microbiology and decontamination, general chemistry, micro-hair structure and anatomy as related to the profession. Students participate in large- and small-group activities, individual work in-class activities and/or online. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or the Barber (31-502-5) program.

BARCOS-317 Barber/Cosmetology Theory
Presents foundational theoretical concepts in microbiology and decontamination, general chemistry, micro-hair structure and anatomy as related to the profession. Students participate in large- and small-group activities, individual work in-class activities and/or online. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or the Barber (31-502-5) program.
Presentations, practice job interviewing and development. Students write a résumé, make presentations, practice job interviewing and make positive public contacts.

**BARCOS-318**  
**Barber Theory 3**  
This course presents the theory related to practical subjects: men's hair replacement methods and hair goods, electricity and light therapy. Students participate in small- and large-group activities, and in-class and internet assignments. Prerequisite(s): Must be enrolled in the Barber (31-502-5) technical diploma program.

**BARCOS-319**  
**Natural Hair Care and Braiding**  
Students learn how to care for natural, curly/ extremely curly textured hair, the history of African hair braiding and basic braiding techniques; and apply skills learned on manikins and available models.

**BARCOS-320**  
**Client Services 1**  
This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, roller set, blow dry/iron curl, thermal press, permanent wave and relax client’s hair under the direction of the classroom instructor. Students gain receptionist skills. Sanitation and safety are stressed. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or the Barber (31-502-5) program.

**BARCOS-321**  
**Hair Extensions**  
Students learn how to add hair extension to hair and to braided styles, and apply skills learned on manikins and available models. Prerequisite(s): BARCOS-300, BARCOS-314, BARCOS-315, BARCOS-319 and must be admitted to the Cosmetology (31-502-1) program.

**BARCOS-322**  
**Client Services 2**  
This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, highlight, roller set, blow dry/iron curl, thermal press, permanent wave and relax client’s hair under the direction of the classroom instructor. Students gain receptionist skills. Sanitation and safety are stressed. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or the Barber (31-502-5) program and take BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314, BARCOS-315.

**BARCOS-324**  
**Business Skills for Barber/Cosmetologists**  
Introduces verbal and nonverbal communication concepts with emphasis on professional writing and speaking skill development. Students write a résumé, make presentations, practice job interviewing and make positive public contacts.

**BARCOS-326**  
**Client Services 3**  
This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, highlight, roller set, blow dry/iron curl, thermal press, permanent wave and relax client’s hair under the direction of the classroom instructor. Students gain receptionist skills. Sanitation and safety are stressed. Prerequisite(s): BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314, BARCOS-315 and must be admitted to the Cosmetology (31-502-1) program.

**BARCOS-327**  
**Client Services 4**  
This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, highlight, roller set, blow dry/iron curl, thermal press, permanent wave and relax client’s hair under the direction of the classroom instructor. Students gain receptionist skills. Sanitation and safety are stressed. Prerequisite(s): BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314, BARCOS-315 and must be admitted to the Cosmetology (31-502-1) program.

**BARCOS-328**  
**Client Services 5**  
This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, highlight, roller set, blow dry/iron curl, thermal press, permanent wave and relax client’s hair under the direction of the classroom instructor or salon manager. Students gain receptionist skills. Sanitation and safety are stressed. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or the Barber (31-502-5) program.

**BARCOS-329**  
**Basic Artificial Nail Concepts**  
This course provides the theoretical component of nail enhancements and practical skill development of artificial nail applications. Students observe and practice artificial nail applications, including nail tips, nail wraps, acrylics, UV gel and UV gel polish on artificial nails. This course includes some online assignments and tests in preparation for the online state board exam. Prerequisite(s): BARCOS-308 and must be admitted to the Cosmetology (31-502-1) program.

**BARCOS-330**  
**Business Management Skills for Barbers/Cosmetologists**  
Introduces the fundamental knowledge required for lawful and effective salon practice and management, including Wisconsin state laws and regulatory rules. Students practice developing skills in large- and small-group work. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1), Aesthetician (31-502-2) or Barber (31-502-5) program.

**BARCOS-331**  
**Business Management — Barber/Cosmetology Manager**  
This course offers Wisconsin-licensed practitioners, nail technicians and aestheticians basic human resource management and business economic concepts. Students practice applying concepts in small- and large-group activities, i.e., discussions, case studies and hypothetical professional salon settings.

**BARCOS-332**  
**Communications — Barber/Cosmetology Manager**  
This course offers Wisconsin-licensed practitioners, nail technicians and aestheticians leadership and supervision concepts and training principles. Students practice applying concepts in small- and large-group activities, i.e., discussions, case studies and hypothetical professional salon settings. Prerequisite(s): BARCOS-331.

**BARCOS-333**  
**Barber/Cosmetology Instructor Techniques — Part 1**  
This course is designed to develop the knowledge and skills required to teach barbering and cosmetology. It covers communications, adult learning styles, developing lesson plans and presentation styles, using audio-visual equipment and questioning techniques. Emphasis is placed on the development and presentation of State Board lesson plans, as well as time outside of course hours for observation. Basic computer skills are required. A valid Wisconsin barber/cosmetology manager's license or practitioner’s license for a minimum of two years is required. Prerequisite(s): Satisfactory MATC placement test score.

**BARCOS-334**  
**Barber/Cosmetology Instructor Techniques — Part 2**  
Instruction focuses on development of evaluation tools for classroom use, analyzing and development of classroom management techniques, the use of copyright laws in developing educational material, and writing a résumé and cover letter. The safe use of products and chemicals used in the industry/ classroom is studied and stressed. The student will develop theory and practical lesson plans to present in the classroom under the supervision of a licensed instructor. Prerequisite(s): BARCOS-333.
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**BARCOS-335**
**State Board Review**

**BARCOS-336**
**Barber Theory 1**
Introduces basic fundamentals and related theory of core barber haircutting skills, including the proper use and care of cutting equipment. Students practice on mannequins and models. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

**BARCOS-337**
**Barber Haircut 1**
Develops core barber haircutting skills and techniques for the permanent wave application in a salon-like setting. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

**BARCOS-338**
**Barber Chemical Services 1**
Introduces the theory and practical skills of male facials and shaving with a straight-edge razor. Proper technique and safety are stressed. Students practice on mannequins, classmates and available professionals. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

**BARCOS-339**
**Barber Haircut 2**
Introduces the theory and practical skills involved in hair cutting and sectioning, and 343 in conjunction, or have equivalent coursework. Students enhance skills learned in Barber Haircut 1. Beard trimming and razor cutting are introduced, and speed and efficiency are encouraged. Students practice on mannequins and available models. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-340, 342 and 343 in conjunction, or have equivalent coursework. Prerequisite(s): Completion of or currently enrolled in BARCOS-340.

**BARCOS-340**
**Manicuring Practicum 1**
This course provides the theoretical and practical components related to manicuring, pedicuring, tip application, fabric wrap application, acrylic application, consultation, UV gel applications, nail art and electric filing. Students observe and practice the practical applications on artificial nails, classmates and models. Students must complete BARCOS-340 prior to taking BARCOS-342 or students can take BARCOS-340, 342 and 343 in conjuction, or have equivalent coursework. This course includes some online assignments and tests in preparation for the online state board exam. BARCOS-342 kit is to be purchased from bookstore at the start of the semester. Prerequisite(s): Completion of or currently enrolled in BARCOS-340.

**BARCOS-341**
**Barber Theory 2**
Introduces the theory related to wet and thermal styling, permanent waving, relaxing and tinting. Student participation is also covered. Students practice in individual, group and online activities. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

**BARCOS-342**
**Barber Haircut 2**
Students enhance skills learned in Barber Haircut 1. Beard trimming and razor cutting are introduced, and speed and efficiency are encouraged. Students practice on mannequins and available models. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-340 and must be admitted to the Barber (31-502-5) program.

**BARCOS-343**
**Manicuring Practicum 2**
This course offers professional skill development in basic and artificial nail application in a salon-like setting. Students practice manicuring, pedicuring, tip, fabric, acrylic, UV gel applications, nail art and electric filing techniques on classmates and clients under the direct supervision of the classroom instructor. Students must complete BARCOS-340 prior to taking BARCOS-343 or students can take BARCOS-340, 342 and 343 in conjunction, or have equivalent coursework. Prerequisite(s): Completion of or currently enrolled in BARCOS-340.

**BARCOS-344**
**Barber Chemical Services 2**
Introduces wrapping and application procedures for the permanent wave service. Students practice sectioning and winding permanent rods on mannequins. Prerequisite(s): BARCOS-300, BARCOS-336 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-345**
**Barber Chemical Services 3**
Introduces various application procedures for oxidative and non-oxidative tints. Highlighting and bleaching techniques also are covered. Students practice on mannequins and available models. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-338, BARCOS-346 and must be admitted to the Barber (31-502-5) program.

**BARCOS-346**
**Barber State Board Review**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students pack an exam kit, take a mock practical exam and complete a final theory exam. Prerequisite(s): BARCOS-319, BARCOS-320, BARCOS-349, BARCOS-350, BARCOS-351 and must be admitted to the Barber (31-502-5) program.

**BARCOS-347**
**Barber Haircut 3**
Students hone skills previously learned in Barber Haircut courses. Clipper designs, afros, fauxhawks and current trends also are covered. Students practice on mannequins, classmates and available models. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-338, BARCOS-346 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-348**
**Introduction to Client Services**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students practice shaving and grooming skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-337 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-349**
**Introduction to Client Services**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students practice shaving and grooming skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-337 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-350**
**Introduction to Client Services**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students practice shaving and grooming skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-337 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-351**
**Introduction to Client Services**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students practice shaving and grooming skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-337 and must be admitted to the Barber (31-502-5) technical diploma program.

**BARCOS-352**
**Introduction to Client Services**
Prepares students for successful completion of the Wisconsin Barber Licensing exam. Students practice shaving and grooming skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): BARCOS-300, BARCOS-336, BARCOS-337 and must be admitted to the Barber (31-502-5) technical diploma program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRHLTH-112</td>
<td>Computerized Medical Billing</td>
<td>3</td>
<td>This course introduces students to principles of computerized medical billing using medical office software. Students must possess medical terminology and accounting competencies. Prerequisite(s): ACCTG-102 and completion of or currently enrolled in BRHLTH-125 and BRHLTH-170.</td>
</tr>
<tr>
<td>BRHLTH-124</td>
<td>Medical Office Terminology 1</td>
<td>3</td>
<td>This course presents the principles of medical word construction; emphasizes correct medical word spelling, pronunciation and definition; and introduces terminology specific to various body systems.</td>
</tr>
<tr>
<td>BRHLTH-125</td>
<td>Medical Office Terminology 2</td>
<td>3</td>
<td>This course reinforces correct medical word spelling, pronunciation and definition as studied in BRHLTH-124. Additional terminology specific to various body systems is introduced. Prerequisite(s): BRHLTH-124 with a minimum grade of C.</td>
</tr>
<tr>
<td>BRHLTH-135</td>
<td>Medical Document Production</td>
<td>3</td>
<td>This course is designed to expand the student's medical vocabulary and develop skills in keyboarding, editing, storing and printing of medical documents on microcomputers. Emphasis is placed on speed building and accuracy improvement. Prerequisite(s): OFTECH-122, OFTECH-133, BRHLTH-125.</td>
</tr>
<tr>
<td>BRHLTH-140</td>
<td>Electronic Health Records: Administrative Application</td>
<td>3</td>
<td>Students explore the content of the electronic health record through a variety of administrative applications, including those related to collection of patient data, documentation, scheduling, coding, insurance claim creation and billing. Medico-legal, ethical and professional uses of the protected health information in the electronic health record are addressed. Prerequisite(s): BRHLTH-125 and completion of or currently enrolled in BRHLTH-170.</td>
</tr>
<tr>
<td>BRHLTH-142</td>
<td>Administrative Procedures for the Medical Office</td>
<td>3</td>
<td>Students apply previously learned skills to complete simulated medical office activities (with a medical focus) in a timely, accurate manner. Developing desirable human relations and decision-making skills are emphasized. Microcomputers are used. Prerequisite(s): BRHLTH-125, and completion of or currently enrolled in BRHLTH-135 and BRHLTH-170.</td>
</tr>
<tr>
<td>BRHLTH-170</td>
<td>Medical Insurance Principles and Coding</td>
<td>3</td>
<td>This course presents common health insurance terminology and familiarizes students with basic principles of disease coding and procedural coding from the physician/provider perspective. This course is not for experienced coders. Prerequisite(s): BRHLTH-125.</td>
</tr>
<tr>
<td>BRHLTH-174</td>
<td>Medical Claims Reimbursement</td>
<td>2</td>
<td>The course focuses on achieving maximizing reimbursement for the medical office through the evaluation and design of patient financial forms, the maintenance of insurance carrier documentation, and the comparison of manual and electronic billing/claims filing systems. Prerequisite(s): Completion of or currently enrolled in BRHLTH-170.</td>
</tr>
<tr>
<td>BRHLTH-197</td>
<td>Medical Office Career Investigation</td>
<td>3</td>
<td>This course provides students with in-depth exposure to employment in the healthcare office setting. Students will conduct interviews, research specific medical office careers, prepare a PowerPoint presentation, participate in group and individual work-scenario case problems, and prepare an extensive portfolio. Prerequisite(s): BRHLTH-125, BRHLTH-174, OFTECH-136, ACCTG-102, COMPSW-106, NATSCI-189, and completion of or currently enrolled in ENG-151.</td>
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</table>
Roof Framing is designed to give the student practical experience in the layout, cutting and erection of rafters for gable, hip, intersection and gambrel roofs. Layout of equal and unequal-pitch roofs is included, along with framing of dormers and roof openings.

CABMIL-341 Credits: 2
Millwork Techniques
This advanced-level course is a continuation of the course Millwork for Carpenters. The purpose is to advance the student’s skill and knowledge of woodworking and cabinetmaking. Prerequisite(s): CABMIL-340.

CABMIL-355 Credits: 1
Materials and Construction
Students become familiar with the current materials used in making cabinets. Emphasis is placed on the various types of application, and installation of traditional and modern door hinges and drawer hardware.

CABMIL-383 Credits: 2
Quantity Survey 1
Students are given instruction in identifying dimensions and quantities of parts from furniture and residential woodwork blueprints. Planning, routing and cost-estimate procedures are discussed.

CABMIL-385 Credits: 2
Cabinet Detailing
This course provides students with the opportunity to learn how to read blueprints. This includes floor plans, elevations, sectional and detailed drawings. In addition, basic skills in sketching and drawing are developed. Students will learn how to use basic sketches and drawings in the shop and to communicate with the customer. Prerequisite(s): Completion of or currently enrolled in CABMIL-355.

CABMIL-386 Credits: 2
Cabinet Layout
Students develop working and detailed drawings that are used in the shop to produce cabinetry or millwork. Conventional methods used to create drawings are explored to enhance comprehension of the information contained within them. Cut lists and materials lists are then developed from the drawings. Students will make full-sized layouts of their drawings.

CABMIL-387 Credits: 1
Commercial Blueprint Reading
This course is designed to provide students with the fundamental skills associated with house construction. Subjects covered include safe operating procedures associated with power saws, hand tools, residential house construction techniques, types of wall framing and structural components. Prerequisite(s): Admission to Carpentry (31-410-1) program.

CABMIL-306 Credits: 5
Exterior and Interior Finishing
Exterior finishing is covered through installation of different types of exterior sidings, trim, and window and door units. Interior trim and hardware installation is practiced, along with the layout, fitting and assembly of various wood projects. Prerequisite(s): CARP-301.

CABMIL-307 Credits: 3
Commercial Blueprint Reading 1
A course in general construction, specifications, heavy construction and commercial blueprint reading and sketching. Emphasis is placed on the structure of typical buildings of different types, and on developing communication skills in the reading of plans and specifications. Prerequisite(s): CARP-385.

CAS — Creative Advertising Strategist (Department: 201)

CAS-125 Credits: 3
Concept Development 1: Original Ideas
The student will explore the creative environment and develop original ideas/solutions to answer client problem(s). Additionally, students will experience the dynamic of the collaborative process through creative teams and the creative studio environment.

CAS-126 Credits: 3
History of Advertising Media/Design
This course surveys the history of media forms and communication technologies, charting the historical trajectory from the alphabet to the internet. It explores media in and across time, and the emergence and development of different media forms in relation to particular social, economic, perceptual and technological conditions and historical moments.

CAS-127 Credits: 3
Creative Industry Business Practice
This course will examine the ever-shifting guidelines of copyright and ethics in the creative industry. Case studies, and vibrant discussion, exploring licensing and ownership of original composition and image content will be thoroughly covered.

CAS-137 Credits: 3
Concept Development 2: Advanced Concepts
Advanced project-based assignments. As a continuance of Concept Development 1, Concept Development 2 is an advanced concept-building environment, where the strategist further considers the various methods and media choices to communicate original concepts.

CAS-141 Credits: 3
New Media Strategies
This course will discuss new media concepts, including social media, seed marketing, email marketing and search marketing.

CAS-142 Credits: 3
Brand and Media Strategies
This course examines the elements of surprise that carry tremendous weight, both as a tool for retention and word-of-mouth transference. This course studies the pros and cons of guerilla and viral methods, through case study and real-life project application.
using common laboratory instruments is stressed. Spectroscopy and chromatography are introduced.

CHEMT-105  Credits: 3
Introduction to Instrumental Methods
Introduction to Instrumental Methods presents the learner with the opportunity to become familiar with the basic uses and operation of modern analytical instrumentation. Real samples will be analyzed using gas and liquid chromatographs. Optical instruments include UV-visible, atomic, atomic emission and fluorescence spectrometers.

CHEMT-107  Credits: 2
Industrial Methods of Analysis
Tests and analyses similar to those employed in industry are used to determine the characteristics of raw materials and finished products. Standard and official methods as outlined by ASTM, AOAC, FCC, etc., are used in the testing of petroleum products, metals, ores, foods, soaps and detergents, and water. Instrumental and classical methods are used. Prerequisite(s): CHEMT-105 with a minimum grade of C.

CHEMT-109  Credits: 3
Chemical Processes
Chemical Processes focuses on the role, structure and operations of industrial chemical laboratories. The activities, responsibilities and functions of the various business activities are examined from the perspective of a technician working in research and development or technical service laboratory. Prerequisite(s): NATSCI-211.

CHEMT-111  Credits: 5
General Chemistry 1
A study is made of the basic principles of modern chemistry, correlating atomic structure, the theories of chemical bonding and the structure and reactivity of matter. Laboratory work is included and demonstrates the principles discussed.

CHEMT-112  Credits: 5
General Chemistry 2
A study is made of kinetics, equilibria, thermodynamics, nucleoceans, coordination chemistry, electrochemistry and topics in organic and biochemistry. Qualitative analysis is emphasized in the laboratory course. Prerequisite(s): CHEMT-111 or NATSCI-211 with a minimum grade of C.

CHEMT-115  Credits: 5
Quantitative Analysis
A study is made of the general principles of volumetric and gravimetric analysis, acidimetry and alkalimetry, redox process, solubility equilibria, complexation titrations, and optical and electrometric methods. The evaluation of analytical data is stressed. Laboratory work is included. Prerequisite(s): CHEMT-112 or NATSCI-212 with a minimum grade of C.

CHEMT-116  Credits: 5
Instrumental Analysis
Instrumental Analysis examines the design, construction and use of modern chemical analytical instruments. Topics include are absorption and emission spectroscopy, gas and liquid chromatography, and electrochemical methods. Prerequisite(s): CHEMT-112 or NATSCI-212 with a minimum grade of C.

CHEMT-117  Credits: 3
Organic Chemistry 1
Lecture topics include the principles of bonding, stereochemistry, mechanisms, kinetics and spectrometry applied to aliphatic and aromatic hydrocarbons, and simple mono-functional organic molecules. Prerequisite(s): CHEMT-112 or NATSCI-212 with a minimum grade of C.

CHEMT-118  Credits: 3
Organic Chemistry 2
A second semester course in Organic Chemistry that builds upon concepts learned in CHEMT-117. Spectroscopy and the chemistry of oxygen-containing compounds are emphasized. Prerequisite(s): NATSCI-217, or CHEMT-117 with a minimum grade of C.

CHEMT-119  Credits: 2
Organic Chemistry Laboratory 1
Laboratory work focuses on the synthesis and purification of organic compounds illustrating reaction mechanisms. Prerequisite(s): NATSCI-212, or CHEMT-112 with a minimum grade of C.

CHILD – Child Development
(Department: 307)

CHILD-115  Credits: 3
Infant Toddler Capstone
This course will culminate the first three courses of the Infant Toddler State Registry Credential. The course will examine the appropriateness of early childhood environments, along with the developmental stages of children birth to 36 months. Curriculum planning with respect to different family cultures will be explored. The application of this course will be to develop an Infant Toddler portfolio that could be submitted to the Wisconsin State Registry commissioner for validation of the Infant Toddler Credential. Prerequisite(s): CHILD-DD-151.

CHILD-117  Credits: 3
ECE – Credit for Prior Learning
This course examines early childhood professional experience for the purpose of receiving credit for prior learning. Course competencies include: access needed support services on campus and online; analyze professionalism in the early childhood field; identify core abilities; identify what a competency is within a
course; examine the courses and outcomes of the WTC's Early Childhood Education program; analyze performance assessment; compare professional experience with early childhood competencies; compile materials for performance assessment of course(s); determine plan of action for program completion. Two years in ECE field required. Prerequisite(s): Must be admitted to the Early Childhood Education (10-307-1) program or the Child Care Services (31-307-1) program, and two years in ECE field and registry recipient.

CHILDD-135 Credits: 3
Family Childcare Financial Management
Includes a review of principles and practices of budget planning, budget preparation and fiscal management. Must be a family child care provider, lead teacher or program director.

CHILDD-140 Credits: 3
Behavior and Emotional Challenges
This course prepares the student to: build rapport with children and their families; create supportive learning environments; demonstrate positive social-emotional teaching strategies; define specific discipline and guidance strategies; assess challenging behaviors; describe specific diagnoses typically related to challenging behaviors; develop individualized, positive guidance plans; and communicate the need for positive, consistent, team approaches to including children with challenging behaviors in typical community settings.

CHILDD-141 Credits: 3
Special Healthcare Needs
This course will have a medical focus and covers frequently encountered, specialized healthcare needs of individuals with disabilities, preparing the student to examine altered body systems function, including sensory, gastrointestinal (tube feedings), bowel and bladder elimination, respiratory (allergies and asthma), cardiovascular/blood, musculoskeletal, neurological, skin/immune and endocrine (diabetes) related issues. You will not be practicing medicine, but you will gain a better understanding of medical issues and professionals who can support you in establishing policies and procedures that assure safe, quality care for all.

CHILDD-142 Credits: 3
Inclusion Capstone Family and Team
During this course you will be spending time with a child in the community settings that the child experiences such as home, school, child care, grocery store, medical settings, parks, libraries and more. As you do so, you are offered the opportunity to deeply explore the perspectives of the various people involved in this child’s life, as well as the services and delivery systems available to the child and family. Prerequisite(s): CHILDD-140, CHILDD-141 and CHILDD-187.

CHILDD-148 Credits: 3
ECE: Foundations of ECE
This course introduces you to the early childhood profession. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, investigate the history of early childhood education, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, explore early childhood curriculum models.

CHILDD-151 Credits: 3
ECE: Infant and Toddler Development
In this course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze development of infants and toddlers (conception to 3 years), correlate prenatal and postnatal conditions with development, summarize child development theories, analyze the role of heredity and the environment, examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through age 3), examine caregiving routines as curriculum.

CHILDD-153 Credits: 3
Foundations of After School and Youth Care
This first course provides an overview of the knowledge and skills individuals need to care for school-age children between the ages of 5 and 12 in a group setting. It will provide a foundation for the importance of out-of-school-time programs, and explore the philosophy and goals for high-quality programs. It is based on an understanding of the principles of child growth and development. It provides an overview of the rules and regulations governing group care for school-age children and the responsibilities of the providers. (This course also fulfills the 40-hour introduction to the School-Age Care Profession Course.)

CHILDD-154 Credits: 3
Engaging Youth in Groups
This course explores the dynamics of working with children in group settings. It looks at the development of relationships between staff and children, between children, and how our working knowledge of children supports their engagement and informs our strategies for positive behavior guidance.

CHILDD-155 Credits: 3
Intentionality in Programming
This course focuses on the learning environment and curricular models within an informal learning environment. It will explore the role and methods for informal observation and recording as it is used in identifying the needs and interests of the children. It will explore lesson planning that is intentional, scaffolds learning and addresses core standards.

CHILDD-156 Credits: 3
Youth Site Program Operations
This course will deepen the understanding of creating a comprehensive program and will explore the use of self- and program-assessment tools. It will look at the importance of developing partnerships with the family, school and community, and the meaning of professionalism. It will look at risk management from the perspective of the health, safety and well-being of the children.

CHILDD-156 Credits: 3
ECE: Curriculum Planning
This course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, examine the critical role of play as it relates to curriculum planning, establish a developmentally appropriate environment, integrate developmentally appropriate practice (DAP) into curriculum, develop activity plans that promote child development and learning, develop curriculum plans that promote child development and learning across all content areas, analyze early childhood curriculum models.

CHILDD-157 Credits: 3
ECE: Health, Safety and Nutrition
This course examines the topics of health, safety and nutrition within the context of the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety and nutrition; plan a safe early childhood environment; plan a healthy early childhood environment; plan nutritionally sound menus; examine child abuse and neglect (CAN) issues and mandates; apply sudden infant death syndrome (SIDS) risk-reduction strategies; apply strategies to prevent the occurrence of shaken baby syndrome (SBS); incorporate health, safety and nutrition concepts into the children's curriculum.

CHILDD-159 Credits: 3
Infant Toddler Group Care
Students study information and effective teaching techniques for caring for infants and toddlers in group settings, both center-based and family child care. Course topics include program quality, philosophy, structure, environments, health and safety, developmentally appropriate practice and inclusion/diversity issues.
CHAPTER 174  Credits: 3
ECE: Introductory Practicum
In this practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor/student; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children and adults; analyze how Wisconsin Early Learning Standards provide a framework of guiding principles, developmental expectations, and program and performance standards to delineate the five developmental domains that embody development of quality education and care to young children; incorporate Wisconsin Early Learning Standards with the principles of developmentally appropriate practice, intentionality and the teaching cycle to examine child development; evaluate program integration of Wisconsin Early Learning Standards into the teaching cycle of ongoing assessment, planning and curriculum goals and implementation; identify specific goals and learning and assessment activities to promote the development of a child focus utilizing the Wisconsin Early Learning Standards; develop a plan for child learning utilizing the performance standards, developmental continuum and developmental domains from the Wisconsin Model Early Learning Standards that is based on experiential learning.

CHAPTER 175  Credits: 3
ECE: Preschool Practicum
See course description at INFOOnline.mact.edu.

CHAPTER 177  Credits: 3
ECE: Intermediate Practicum
See course description at INFOOnline.mact.edu.

CHAPTER 178  Credits: 3
ECE: Art, Music and Language Arts
Course will focus on beginning-level curriculum development in the specific content areas of art, music and language arts. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play as it relates to art, music and language arts; establish a developmentally appropriate environment for art, music and language arts; develop activity plans that promote child development and learning; analyze caregiving routines as curriculum; create developmentally appropriate language, literature and literacy activities; create developmentally appropriate art activities; create developmentally appropriate music and movement activities.

CHAPTER 179  Credits: 3
ECE: Child Development
Course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural and economic influences on child development; summarize child development theories; analyze development of children age 3 through age 8; summarize the methods and designs of child development research; analyze the role of heredity and the environment.

CHAPTER 181  Credits: 3
Child Care Operations Management
This is the second of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those employed or who would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs.

CHAPTER 182  Credits: 3
Child Care Financial Management
This is the third of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. This course represents an overview of the roles and responsibilities of administrators of various early care and education programs, and the groups with whom they have role relationships, with an emphasis on quality.

CHAPTER 184  Credits: 3
The External Environment
This is the fourth of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. This course covers the external factors and relationships that provide constraints and opportunities that affect an organization’s quality and ability to survive. It includes predicting supply and demand, marketing, licensing and other required regulation, funding, accreditation, external evaluation, collaboration with community organizations and agencies, public policy issues in early care and education, advocacy and working for public policy changes.

CHAPTER 185  Credits: 3
Child Care Best Practices
This is the fifth of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. This course covers child care as a family-friendly community, integration of child growth and development principles into all aspects of the program, establishing and maintaining quality in the program, developing partnerships with families, and multicultural and anti-bias approaches in curriculum, materials, activities, relationships, and space design and equipment.

CHAPTER 186  Credits: 3
Child Care Administrative Capstone
This is the last of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those employed or who would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. The first five courses are primarily about managing necessary skills to be successful at managing quality, early childhood education programs. Strategies learned in this course build upon management skills and take students beyond management to incorporate leadership in their programs, communities and profession. Through the development of a major project, students synthesize, integrate and apply concepts and skills acquired in the full series of courses. Prerequisite(s): CHILDD-181, CHILDD-182, CHILDD-184, CHILDD-185, CHILDD-204.

CHAPTER 187  Credits: 3
ECE: Children With Differing Abilities
This course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; work collaboratively through the consultation process to embed intervention in natural-based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication and/or behavioral/emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; cultivate partnerships with families who have children with developmental differences.
CHILDD – CIVIL

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

CHILDD-188 Credits: 3
ECE: Guiding Child Behavior
The course examines positive strategies to guide children’s behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, summarize early childhood guidance principles, analyze factors that affect the behavior of children, practice positive guidance strategies, develop guidance strategies to meet individual needs, create a guidance philosophy.

CHILDD-190 Credits: 3
Preschool Capstone
This course will culminate the Preschool Credential. The capstone course is not part of the associate degree program but is necessary to support the student during the portfolio development process and emphasize some important themes from the prior five courses. The capstone class examines the appropriateness of developmental activities that support children 3 years to 6 years of age. The application of this course will be to develop a preschool portfolio that will be submitted to the Wisconsin State Registry commissioner for validation of the preschool credential. Prerequisite(s): CHILDD-148, CHILDD-167, CHILDD-178, CHILDD-179, CHILDD-188.

CHILDD-192 Credits: 3
ECE: Practicum 2
In this practicum course, you will learn about and apply the course competencies in an actual child care setting. The course competencies include: identify children’s growth and development; maintain the standards for quality, early childhood education; practice strategies that support diversity and anti-bias perspectives; implement student teacher-developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behaviors; utilize caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. Prerequisite(s): Admission to the Early Childhood Education (10-307-1) program and CHILDD-174.

CHILDD-194 Credits: 3
ECE: Math, Science and Social Studies
This course will focus on beginning-level curriculum development in the specific content areas of math, science and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play as it relates to math, science and social studies; establish a developmentally appropriate environment for math, science and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities.

CHILDD-195 Credits: 3
ECE: Family and Community Relationships
In this course, you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources.

CHILDD-197 Credits: 3
ECE: Practicum 3
In this practicum course, you will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children’s growth and development; implement the standards for quality, early childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one’s own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. Prerequisite(s): CHILDD-174, CHILDD-192 and admitted to the Early Childhood Education (10-307-1) program.

CHILDD-198 Credits: 3
ECE: Administering an ECE Program
This course focuses on the administration of an early childhood education program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze the components of an ECE facility, design an ECE program, analyze the aspects of personnel supervision, outline financial components of an ECE program, apply laws and regulations related to an ECE facility, advocate for the early childhood profession.

CHILDD-199 Credits: 3
ECE: Practicum 4
In this practicum course, you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children’s growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education. Prerequisite(s): CHILDD-197 and admission to the Early Childhood Education (10-307-1) program.

CHILDD-204 Credits: 3
Supervise/Administrate ECE Programs
This is the first of six courses designed to prepare participants as child care administrators. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs.

CIVIL – Civil Engineering Technology (Department: 607)

CIVIL-101 Credits: 2
Civil Engineering Drawing
The methods, techniques and equipment used in the civil engineering profession are studied. Drafting principles of geometric construction and orthographic projection are applied. Basic civil engineering drawings are reviewed, including subdivision mapping, plan and profiles, cross sections, and site and grading plans.

CIVIL-102 Credits: 2
Introduction to AutoCAD
This course introduces students to two-dimensional computer drafting. Course content includes: how to draw orthographic views and section views; how to draw entities such as lines, circles and text; how to add dimensions; how to edit drawings; and how to create and use blocks. Both A- and B-size templates are used. The American National Standards are emphasized in line weights, dimensions and appearance.

CIVIL-105 Credits: 2
Computer Applications
Computer applications such as word processing and spreadsheet usage are covered. Calculator methods and programming with the TI-86 scientific programmable calculator are included.

CIVIL-106 Credits: 2
Intermediate AutoCAD
This course is designed to expand the use of 2D AutoCAD. The course will cover advanced editing techniques, the use of multiple scale factors for drawings, attributed blocks, dynamic blocks, the use of xrefs and advanced dimensioning. System variables and basic script files also are studied. Prerequisite(s): CIVIL-102.

CIVIL-107 Credits: 2
Introduction to MicroStation
The basic fundamentals of using MicroStation software are explored. Drawing, placing, manipulating and modifying elements are covered. Additional topics include drafting aid features, cells, reference files, advanced 2D techniques, dimensioning, annotating and plotting.
timber structures are studied, including the structural steel, reinforced concrete and shear walls are studied. The principles of throughout a structure by diaphragms and earthquake loading and transfer of loads to live and dead loading, wind loading, General structural behavior with respect to tensile, shear and bending stresses are analyzed. Prerequisite(s): MATH-115 or MATH-202.

CIVIL-147 Soils and Materials Testing The purpose of this course is to help students gain an understanding of the engineering properties of construction materials and soils. Lab tests are performed on soil, aggregates, concrete and steel. The results of these tests are then used to determine the strengths and weaknesses of each material related to their use in civil engineering. WisDOT Certification for PCC Tec I/IA (Portland Cement Concrete Technician) also is available as part of this course. Prerequisite(s): Completion of or currently enrolled in MATH-115.

CIVIL-148 Structural Detailing This course is an introduction to detailing as performed by structural fabricators and structural engineering consultants. It includes structural steel detailing, utilizing standard shapes produced by rolling mills to make girders, beams and columns, and their associated connections. Metal building detailing also is studied and compared to the conventional steel detailing. The AISC Manual of Steel Construction is used throughout this portion of the course. There is an introduction to the detailing required for concrete structures. Poured-in-place, as well as precast structural members, standard reinforcing details and field considerations are reviewed. Prerequisite(s): CIVIL-106 and CIVIL-141.

CIVIL-157 Sewer and Water Systems The principles of design and construction of water distribution, sanitary sewer and storm sewer systems are studied, including the related principles of hydraulics, hydrology and local standards. Engineering drawings of these facilities also are prepared. Prerequisite(s): CIVIL-102 and CIVIL-135.

CIVIL-160 Legal Elements of Land Surveying This course covers the techniques of boundary location from the interpretation of written deeds. Principles are drawn from precedents established by the courts. Wisconsin Administrative Code A-E7 and Wisconsin Statutes Chapter 236 are reviewed. Prerequisite(s): CIVIL-156.

CIVIL-161 Boundary Location The principles and practice of boundary locations are presented. The public land system is covered in detail. Principles for performing surveys will be discussed. Prerequisite(s): CIVIL-156.

CIVIL-170 Civil Internship This course is designed to be very general. In that way it can fit with a variety of internships, such as surveying, material testing, CAD, construction inspection, project management, etc.

CIVIL-308 Computer Applications for the Trades This computer applications course is designed to provide students with word processing, spreadsheet, PowerPoint, email and internet skills. Additionally, the course gives students an opportunity to utilize these skills in a project and presentation.

CLABT – Clinical Laboratory Technology (Department: 513)
adverse reaction to transfusions, disease states and donor activities. Prerequisite(s): CLABT-110, CLABT-113, CLABT-115.

CLABT-110 Credits: 1
Basic Lab Skills
This course explores health career options, and the fundamental principles and procedures performed in the clinical laboratory. You will utilize medical terminology and basic laboratory equipment. You will follow required safety and infection control procedures and perform simple laboratory tests. Prerequisite(s): Admission to either the Clinical Laboratory Technician (10-513-I) or Phlebotomy technical diploma (30-513-I) program.

CLABT-111 Credits: 2
Phlebotomy
This course provides opportunities for students to perform routine venipuncture, routine capillary puncture and special collection procedures. Prerequisite(s): Completion of or currently enrolled in CLABT-110.

CLABT-113 Credits: 1
QA Lab Math
Focuses on performing the mathematical calculations routinely used in laboratory settings. You will explore the concepts of quality control and quality assurance in the laboratory. You will review regulatory compliance requirements and certification, and continuing education programs. Prerequisite(s): Admission to the Clinical Laboratory Technician (10-513-I) program.

CLABT-114 Credits: 2
Urinalysis
Prepares you to perform a complete urinalysis, which includes physical, chemical and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions. Prerequisite(s): Completion of or currently enrolled in CLABT-110 and CLABT-113.

CLABT-115 Credits: 2
Basic Immunology Concepts
Provides an overview of the immune system, including laboratory testing methods for diagnosis of immune system disorders, viral and bacterial infections. Prerequisite(s): Admission to the Clinical Laboratory Technician (10-513-I) program.

CLABT-116 Credits: 4
Clinical Chemistry
Introduces clinical chemistry techniques and procedures for routine analysis using photometric, potentiometric and separation techniques. Topics in this course include pathophysiology and methodologies for carbohydrates, lipids, proteins, renal function and blood gas analysis. Prerequisite(s): CLABT-113.

CLABT-120 Credits: 3
Basic Hematology
Covers the theory and principles of blood cell production and function, and introduces you to basic practices and procedures in the hematology laboratory. Prerequisite(s): Completion of or currently enrolled in CLABT-110, CLABT-111, CLABT-113 and CLABT-115.

CLABT-121 Credits: 1
Coagulation
This course introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. Prerequisite(s): Completion of or currently enrolled in CLABT-113.

CLABT-130 Credits: 2
Advanced Hematology
Explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. Prerequisite(s): CLABT-120.

CLABT-133 Credits: 4
Clinical Microbiology
Presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, also will be discussed. Prerequisite(s): CLABT-170.

CLABT-140 Credits: 2
Advanced Microbiology
Provides an overview of acid fast organisms, fungi, parasites and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed. Prerequisite(s): CLABT-170.

CLABT-143 Credits: 1
Seminar
This course provides a review from previous courses that helps the student prepare for national certification examinations for the clinical laboratory technician level. It also assists students with résumé development, job-interview practice and job searches. Prerequisite(s): CLABT-170.

CLABT-145 Credits: 1
Pre-Clinical Experience 1
This course is designed to prepare students for their clinical experience and registry examination leading to a career as a medical laboratory technician. It reviews laboratory concepts and enhances the student’s knowledge in theory, principles and routine laboratory analysis of urinalysis, hematology and immunology. Prerequisite(s): CLABT-113.

CLABT-146 Credits: 1
Pre-Clinical Experience 2
This course is designed to prepare students for their clinical experience and registry examination leading to a career as a medical laboratory technician. It reviews laboratory concepts and enhances the student’s knowledge in theory, principles and routine laboratory analysis of blood bank, chemistry, coagulation and microbiology. Prerequisite(s): CLABT-113.

CLABT-151 Credits: 3
Clinical Experience 1
In this clinical, you will practice the principles and procedures of laboratory medicine as an entry-level medical/clinical laboratory technician in a clinical laboratory setting. You will learn to operate state-of-the-art instruments and report results on laboratory information systems. Prerequisite(s): Completion of or currently enrolled in CLABT-130, CLABT-133 and CLABT-140.

CLABT-152 Credits: 4
Clinical Experience 2
Provides continuing practice for the principles and procedures of laboratory medicine as an entry-level clinical laboratory technician in a clinical laboratory setting. You will learn to operate state-of-the-art instruments and report results on laboratory information systems. Prerequisite(s): CLABT-151.

CLABT-170 Credits: 2
Introduction to Molecular Diagnostics
Introduces the principles and application of molecular diagnostics in the clinical laboratory. Prerequisite(s): CLABT-113.

CNC – Computer Numerical Control (Department: 444)

CNC-302 Credits: 1
Computer Application/CNC
An introduction to Windows is given, beginning with an overview of a personal computer system’s components. Students utilize Word and CNC editors to create and edit text files, explore the directory structure in the context of CNC programs and software, and control fixed and floppy disk drives. An introduction to Mastercam software will be covered.

CNC-320 Credits: 1
Tooling and Fixturing
An overview of the basic types and functions of jigs and fixtures, and the way these work holders are designed and built. Basic elements of supporting, locating and clamping the parts are included, as well as modular component work holders and principles of power clamping.
CNC – COMPSW

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

CNC-321
CNC Machine Technology
Instruction is given in state-of-the-art CNC machining technologies. This course is upgraded as these technologies change.

CNC-324
CNC Machine Programming/Prove Out 1
This course is for those who already understand the basic concept of CNC machining center operations. Students will be taught to operate tech-specific CNC machines. Basic concepts of manual CNC programming, including linear and circular interpolation, Z axis canned cycles and cutter diameter compensation are covered. All CNC programs that the student writes will then be proved out on a full-sized industrial CNC machine center. Prerequisite(s): Take either MACHTL-320 and MACHTL-322 or MACHTL-373.

CNC-325
CNC Machine Programming/Prove Out 2
This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques such as polar coordinates, metric programming, subroutine programming, zero shift and multiple work zero programs. Also covered are advanced CNC machining center operational procedures. Prerequisite(s): CNC-324.

CNC-326
Machining Center CAD/CAM Programming 1
This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques including an introduction to CAD/CAM. All programs the student writes will be run on a CNC machining center. Prerequisite(s): CNC-324.

CNC-327
Machining Center CAD/CAM Programming 2
This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques including CAD/CAM, which was introduced in the previous course. This course will start with a review of the basic process of creating a CNC program using a CAD/CAM system. Students will then advance through all of the different features of today’s CAD/CAM systems as they relate to CNC programming for machining centers. Prerequisite(s): CNC-326.

CNC-332
CNC Turning Programming/Prove Out 1
This course is for those who already understand the basic operations of a CNC turning center. Students will be taught how to safely prove out a CNC program on the machines in the lab. Then students will be taught the basics of manual CNC programming for a turning center. All programs the student writes will be proved out on the machine with emphasis on tooling, speeds and feeds for metal cutting. Prerequisite(s): Take either MACHTL-320 and MACHTL-322 or MACHTL-373.

CNC-333
CNC Turning Programming/Prove Out 2
This course will build on the concepts learned in Programming/Prove Out 1. Additional operational procedures for CNC turning centers will be covered. Also, additional programming techniques such as threading, TNR compensation and metric programming will be covered. All programs the student writes will be proved out on the machine with emphasis on tooling, speeds and feeds for metal cutting. Also, an introduction to CAD/CAM programming will be covered. Prerequisite(s): CNC-332.

CNC-334
Turning Center CAD/CAM Programming 1
This course will build on the concepts learned in Programming/Prove Out 2. Additional procedures for CNC turning centers will be covered. Also, additional programming techniques such as internal boring, internal threading and canned cycles will be covered. All programs the student writes will be proved out on the machines with emphasis on tooling, speeds and feeds for metal cutting. Also, an introduction to CAD/CAM programming will be covered. Prerequisite(s): CNC-333.

CNC-335
Turning Center CAD/CAM Programming 2
This course covers CAD/CAM programming for CNC turning centers using PC-based master CAM software. All programs the student writes will be proved out on the machine with emphasis on tooling speeds and feeds for metal cutting. Prerequisite(s): CNC-334.

CNC-340
Introduction to 5-Axis Programming/Operation
This course is for those who already understand the concepts of CNC machining center operations and CNC programming. First the student will be introduced to basic concepts of 5-axis machining, then the student will be taught programming procedures of a 5-axis machining center, including process planning, tool selection, feed/cool calculations and setup planning. The student will be taught 3D drawing techniques and how to generate tool paths using Mastercam software. Then the student also will be taught programming/operation for the CNC 5-axis machining center at MATC, including start up, work holding, tool mounting, offset setting and program management. Then a specific prove out procedure is covered. All of the programs that the students create are proved out on full-size machines like the ones used in industry today.

COMPSW – Computer Software

Department: 106

COMPSW-101
Computer Essentials
Computer Essentials is designed for students who have had little or no personal computer experience. Through hands-on lab activities, students will learn common computer literacy skills such as Windows OS file management, email and internet basics. This introductory course also covers important components of the computer, as well as how to use Blackboard.

COMPSW-102
Introduction to Google Apps
Students will learn important collaborative features using Google Apps. This course includes hands-on lab activities in Google Mail, Calendar, Docs, Sheets and Slides. Students will share and customize their documents and resources, and examine proper network etiquette. There is no prerequisite for this class but completing COMPSW-101 Computer Essentials, or having basic computer knowledge, is recommended.

COMPSW-103
Intermediate Google Apps
Through hands-on activities, students develop collaborative communication skills using various Google Apps. Some of the cloud-based tools covered in this class will be Google Hangouts, Forms, Sites, Video and YouTube. It is recommended that students have completed COMPSW-102 or have basic knowledge of Google Apps. Prerequisite(s): COMPSW-102.

COMPSW-106
Introduction to MS Office
This introductory course provides a hands-on overview of Microsoft software applications, including units of instruction in MS Word, Excel, PowerPoint and Access. Combined with COMPSW-107, this course can help the student prepare for various MS Office Specialist (MOS) exams.

COMPSW-107
Intermediate MS Office
This course is designed for students who are already competent in Word and Excel essentials and want to advance their skills. In addition to intermediate training in Word and Excel, this course includes a unit in database management using Access and some advanced features in PowerPoint. This class provides good background for students preparing for Microsoft Office Specialist (MOS) exams in the software mentioned. MATC strongly recommends that students complete COMPSW-106, or have the equivalent skills, prior to enrollment in this course.
COMPSW – CSG

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

COMPSW-137 Credits: 1
MS Excel – Part 1
Students will cover the basics in creating and managing Excel worksheets and workbooks. This course includes creating cells, ranges, tables, charts and objects; formatting and printing reports; and applying formulas and functions. Excel Part 1 is designed for students at a beginner level in spreadsheet applications and provides good background material to help the student prepare for the beginning Microsoft Office Specialist (MOS) certification in Excel.

COMPSW-138 Credits: 1
MS Excel – Part 2
MS Excel Part 2 helps students develop skills in managing multiple worksheets and workbooks. This includes using advanced table features, creating Pivot Tables and Pivot Charts, developing Excel applications, examining advanced logical functions, interpreting error values and summarizing data. COMPSW-138 and COMPSW-139 provide good background material to help the student prepare for Microsoft Office Specialist (MOS) certification in Excel at the expert level. It is recommended that students complete COMPSW-137, or have a working knowledge of Excel essentials, before taking this course. Prerequisite(s): COMPSW-137.

COMPSW-139 Credits: 1
MS Excel – Part 3
MS Excel Part 3 covers financial tools and functions, what-if analyses, Scenario Manager, Solver, database and web queries, data imports and exports, and collaboration on shared workbooks. This course, along with COMPSW-138, provides good background material to help the student prepare for the Microsoft Office Specialist (MOS) certification in Excel at the expert level. It is recommended that students have a working knowledge of the content covered in COMPSW-137 and COMPSW-138 before taking this course. Prerequisite(s): COMPSW-138.

COMPSW-165 Credits: 1
MS PowerPoint
Students will receive hands-on training in creating and managing Microsoft PowerPoint presentations. This course includes creating slide content and handouts, inserting and formatting slides and various images, applying transitions and animations, and designing a professional and captivating production. The content in this course offers good background material in preparing for the Microsoft Office Specialist (MOS) PowerPoint exam.

CONSTR – Construction Trades

General (Department: 476)

CONSTR-302 Credits: 1
OSHA Safety/CRP for the Trades
First aid according to the Red Cross and the U.S. Occupational Safety and Health Administration guidelines will be covered in the construction trade courses in carpentry, masonry and cabinet making. Prerequisite(s): Admission into the construction trades.

CONSTR-380 Credits: 1
Mathematics for Construction Trades
Through practical problems of the carpentry, masonry and cabinet making trades, students review addition; subtraction; fundamentals of fractions and decimals, percentages, weights and measures; and the application of formulas; along with linear, board, square root used in practical math in the construction trades for estimating and recording materials and supplies.

CSG – Computer Simulation and Gaming (Department: 153)

CSG-100 Credits: 1
CSG Pre-Entry Evaluation
This course is intended to assess students’ skills readiness to enter the CSG program in the areas of logic design creativity, communication, teamwork, artistic creativity and project-based learning skills. It will provide students with a snapshot of the process, areas of skills and the intensity of working in the gaming industry. Students completing this course will be officially admitted into the program. Those who do not think that this is a good fit will have advising provided to discuss options in similar areas that may better suit their skills.

CSG-115 Credits: 3
CSG Production
This course provides students with a hands-on team approach to creating games and simulation from the very beginning. Animation-focused students work side-by-side with programming-focused students to create simple introductory games and simulations on a game engine. Exposure to content requirements, engine limitations, scheduling, deliverables and communications will be emphasized. Teams will be selected and compete against each other for bragging rights and notoriety. The focus of this class is to perform rapid prototyping of ideas in a challenging environment while developing collaboration skills.

CSG-117 Credits: 3
Game Logic and Problem-Solving
This course presents a formal approach to logical thinking and problem-solving using game logic concepts. For students to think logically and solve game play problems, they need to understand game mechanics and game play choices. This means to use logically valid forms of analysis, critical thinking and application concepts to derive new results from those already known to be implemented in the gaming industry. This course will teach these game problem-solving structures in context with fundamental programming structure application.

CSG-118 Credits: 3
Game Engine Scripting
This course expands on the fundamental concepts introduced in Introduction to Object-Oriented Programming in a gaming environment. Game scripting languages in a game engine environment will be used to create games and simulations. The course emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that supports the object-oriented paradigm. In this course, the student applies lessons learned in introductory courses to a pre-existing game class within the game engine. Topics include classic techniques for algorithm design, game mechanics problem-solving in the object-oriented paradigm, application of algorithm design techniques to a game mod project. Prerequisite(s): CSG-117.

CSG-119 Credits: 3
Designing Interactive Displays
This course introduces students to interactive display systems using a game engine. Focus will be on designing, producing and testing museum-quality programs and simulations for “edutainment” purposes. We also will emphasize display design concepts such as lighting, sound, projection, audience interaction, docent design and user interface technology. Students will be immersed in a team and production environment on a real project for a real client. Prerequisite(s): CSG-118 or ANIM-106.
This course provides the students opportunities to get practical production experience on the specific display platform prototype used at MATC. The student, working as part of a team, will be responsible for following production processes to evaluate current interactive displays and enhancing them. Focus will be placed on responding to client requests, developing practical design solutions and implementing those solutions.

CSG-122 Interactive Display Production 2

This course provides the students opportunities to get practical production experience on the specific display platform prototype used at MATC. The student, working as part of a team, will be responsible for following production processes to evaluate current interactive displays and enhancing them. Focus will be placed on responding to client requests, developing practical design solutions and implementing those solutions.

CSG-127 Agile Project Management

This course offers training in a wide variety of Agile project management techniques. Topics covered are Scrum, XP-Pair, Lean, Kanban and Feature Driven Development methods just to name a few. Agile provides the framework in which to apply these other methodologies for product development. Students taking this course will obtain the working knowledge required to pass industry-standard certifications through the Scrum Alliance. Some of the certifications covered are Scrum Master, Product Owner, Scrum Trainer, Scrum Professional and Scrum Coach. This is done through project-based learning methods where teams will form and plan out several new-product paper prototypes. Agile is quickly becoming the industry standard for self-managing teams to come together and successfully release new products and redirect old ones.

CSG-128 Intermediate Game Development Programming

This course expands upon object-oriented logic and programming skills as it applies to simulation and game development. Concepts such as formulas, algorithms, inheritance, polymorphism and data hiding as they relate to simulation and game development programming will be the main focus. Students will also learn the principles of proper version control in a team-based setting. Pair programming, understanding and implementing features and tasks, and collaborative development also will be emphasized. Prerequisite(s): CSG-114.

CSG-129 CSG Architecture

This course provides students with an overall architectural planning concept of a simulation or game. Students will be introduced to level diagrams, flow control, structure and progression diagrams, assessment tools in educational applications, decision-making mapping. Emphasis will be placed on planning, documentation tracking and process monitoring. Prerequisite(s): CSG-110 and CSG-115.

CSG-130 CSG Design

This course offers students an exploration of the fundamentals of simulation and game design. Students will construct a simple game or simulation using industry standards and test-driven design elements. Emphasis will be placed on planning, development control and testing process of the simulation or game. Educational applications also will be discussed. Prerequisite(s): CSG-110 and CSG-115.

CSG-131 Introduction to Game Design

This course provides students with a hands-on team approach to designing games and simulation from the very beginning. Design members will learn theories and applications of game design, as well as the process of design documentation within the game development environment. Exposure to content requirements, scheduling, deliverables and communication will be emphasized.

CSG-132 Artificial Intelligence

This course provides students with an introduction to artificial intelligence (AI) concepts related to the simulation and game industry. Students will be introduced to basic planning, decision-making and testing concepts of AI that add value to simulations and games. Emphasis will be placed on developing an AI system for simple games to keep the user engaged. Prerequisite(s): CSG-179.

CSG-133 Intermediate Game Design

This course is designed to teach students how to create lore for characters and environments, as well as advanced combat and economy systems. This is intended to prepare game designers for creating unique worlds and mechanics for all types of games. Focuses will be writing lore, level design, character design, enemy AI, combat design, puzzle design and game economies. These courses are intended for game designer-focused students. Prerequisite(s): CSG-115 and CSG-117.

CSG-138 Advanced Game Design

This course is designed to teach students how to create a unique game world with characters, environments, advanced combat systems and economy systems. This is intended to prepare game designers for creating unique game mechanics for all types of games. Focuses will be world design, level design, character design, enemy AI, combat design, puzzle design and game economies. This course is intended for game designer-focused students, or students who want to broaden their creative design skills to support another focus. Prerequisite(s): CSG-133.

CSG-179 CSG API Programming

This course focuses on OO programming languages and tools used in computer simulations and games. Emphasis is placed on programming concepts used in an existing game engine at the root level of coding. Students will modify existing game code as they develop individual and group mods. The students also will be creating their own object classes to put into the game mechanics. The final project focuses on team programming and testing. Prerequisite(s): CSG-179.

CSG-180 Multimedia Collaborative Lab

This course allows students to work on collaborative projects with industry, Discovery World or internal MATC departments. Students apply project management skills and their creative skills to create interactive multimedia applications in learning, training or marketing environments. Students can work in teams or independently while guided by faculty. This process simulates an industry team-oriented work environment. Students will be responsible for planning, scheduling, documentation and testing documentation. Prerequisite(s): CSG-180.

CSG-181 CSG Collaborative Lab

This course offers students in the CSG project the opportunity to focus on their CSG project in an effort to produce a game module by the end of fourth semester. It allows time to focus on production and testing of the integrated pieces of animation and programming. Prerequisite(s): CSG-129 and CSG-130.
CSTECH – Central Service Technician (Department: 534)

CSTECH-302 Credits: 3
Central Service Fundamentals
This course provides the fundamentals and theories of central services related to disinfection, decontamination, packaging, sterilization, biological monitoring, identification, handling and assembly of surgical instruments, medical equipment and supplies. Storage, inventory, distribution and record keeping will be introduced in this course. Prerequisite(s): Must be admitted to the Central Service Technician (30-534-1) program.

CSTECH-303 Credits: 2
Central Service Clinical Practice
This course provides the applications of central service theory and fundamentals into the clinical setting. Clinical experience will include time in the central processing department and in the operating room. Prerequisite(s): Must be admitted to the Central Service Technician (30-534-1) program.

CULART – Culinary Arts
(Department: 316)

CULART-100 Credits: 1
Introduction to Food Service/Hospitality Industry
This introductory course details the worldwide and domestic history of culinary arts and the food service industry. Emphasis is placed upon various types of food service operations, organizational systems, historical and contemporary figures, career opportunities, food trends and the future of the food service industry. Prerequisite(s): Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1) or Food and Beverage Management (31-317-2).

CULART-105 Credits: 2
Dining Room Service
An orientation to acceptable hospitality standards essential to professional dining room service. Types of service, dining room functions, staff training, using current technology, guest service/customer relations, workflow and sales techniques are covered. Prerequisite(s): CULART-112, CULMGT-115, and completion of or currently enrolled in CULART-138.

CULART-107 Credits: 1
Field Experience in Food Service/ Hospitality Industry
Students work 216 hours as regular employees in a food service facility. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility. Prerequisite(s): CULMGT-796.

CULART-108 Credits: 5
Contemporary Restaurant Cooking
In a practical restaurant kitchen, students plan, organize and prepare contemporary cuisines. To train students for this environment, this course emphasizes universal culinary techniques, intuitive cooking and cross-cultural flavor profiles. Students will learn about locally sourced ingredients and sustainable kitchen practices. Prerequisite(s): CULART-112, CULMGT-115, and completion of or currently enrolled in CULART-105 and CULART-138.

CULART-110 Credits: 2
Garde Manger
This course is designed to cover specialty techniques in the preparation of various charcuterie, preserved foods, cold food, hors d’oeuvres and decorative food applications. Forcemeats such as pates, terrines, galantines and sausages are prepared and presented. Bines, cures, marinades, dry rubs and barbecue for various meats and fish are produced. Salad and appetizer production and presentation are covered as well. Prerequisite(s): CULMGT-112 and completion of or currently enrolled in CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126, CULART-127.

CULART-115 Credits: 1
Culinary Arts Practicum
Culinary Arts Practicum provides opportunities for students to apply knowledge and skills in a food service setting. Students will be placed on the cuisines of regional America, Asia, Latin America, and Europe and the Mediterranean. Prerequisite(s): Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1) or Food and Beverage Management (31-317-2). Ms. Harms.

CULART-117 Credits: 1
Contemporary Food and Beverage
Students will develop contemporary food and beverage related skills including but not limited to ordering, food safety, wine knowledge, catering, and food and beverage management concepts. Prerequisite(s): Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1) or Food and Beverage Management (31-317-2).

CULART-119 Credits: 1
Culinary Science
Basic food science principles as related to cookery are the focus of study in this course. Cooking methods, as well as the function and chemistry of proteins, fats, carbohydrates, flavors and seasonings, are explored as part of the coursework. Prerequisite(s): Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1) or Food and Beverage Management (31-317-2).

CULART-121 Credits: 1
Mise en Place/Culinary Fundamentals
Students learn basic kitchen principles of food safety, kitchen organization, knife skills, egg cookery, recipe proficiency, equipment and smallwares identification and usage. Prerequisite(s): Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1) or Food and Beverage Management (31-317-2).
CULART-122 Credits: 1
Stocks, Soups and Sauces
This course will have students discuss and prepare consommé, cream, clear, puree and bisque soups. Students will prepare a variety of stocks, including white, vegetable, beef, brown and chicken. Students will make a variety of sauces, including the mother sauces and several small sauces. Prerequisite(s): CULMGT-112, CULART-121.

CULART-123 Credits: 2
Vegetables, Starches and Grains
Basic principles of vegetables, starches and grains preparation and presentation are taught. Study is made of various cooking methods/styles/trends and procedures applied to these categories. Scientific principles relating to the physical composition of different foods and the chemical changes involved in the cooking process are analyzed. Principles include: heat transfer, food composition, sanitation practice, personal hygiene, foundation recipes, food processing tools and equipment, state of professionalism and knife skills. Prerequisite(s): CULART-121, CULMGT-112, and completion of or currently enrolled in CULART-122, CULART-124, CULART-126, CULART-127.

CULART-124 Credits: 1
Meat Identification/Fabrciations
This course introduces the student to the subject of meats and their application in food service operations, building a strong foundation that supports the principles to be learned in the cooking courses that follow. Through lectures, demonstrations, hands-on activities and reviews, students learn about the muscle and bone structure of beef, veal, pork, lamb and poultry; fabrication methods for sub-primal and food service cuts; inspection and proper tying and trussing methods. Lectures introduce meat inspection, quality and yield grading, costing and yield testing, purchasing specifications and basic information concerning the farm-to-table trail. Discussions include proper knife selection and butchery equipment with sanitation and safety standards stressed throughout. Current HACCP procedures and methods are used. Prerequisite(s): CULMGT-112, CULART-121, and completion of or currently enrolled in CULART-122, CULART-123, CULART-126 and CULART-127.

CULART-125 Credits: 5
Culinary Skills for Baking/Hospitality
Basic principles of food preparation and presentation are taught. A foundational study is made of various cooking methods, styles, trends and procedures applied to major food categories. Scientific principles relating to the physical composition of different foods and the chemical changes involved in the cooking process are analyzed. Principles include: heat transfer, food composition, sanitation practice, personal hygiene, foundation recipe and human relations skills. There will be an additional focus on classic and modern sandwiches, classic and modern salads, and barista specialty coffee drinks. Prerequisite(s): CULMGT-112.

CULART-126 Credits: 1
Seafood/Shellfish Cookery
This course is designed to focus on the various types of cooking methods of fish and seafood found in the restaurant industry. Students learn about the history of commercial fishing in the U.S. and other regions of the world. The emphasis of study will include: fabrication of fish and seafood, various cooking methods, aqua culture, sustainability in the seafood industry and applying various cooking techniques for all of the major seafoods to be studied. Students learn the difference between freshwater fish, farm-raised fish and seafood from the oceans around the world. Prerequisite(s): CULMGT-112, CULART-121, and completion of or currently enrolled in CULART-122, CULART-123, CULART-124, CULART-127.

CULART-127 Credits: 2
Center of the Plate — Meat Cookery
This course is designed to focus on the various types of cooking methods for proteins found in the restaurant industry, including beef, pork, lamb and veal. The emphasis of study includes various common plating standards used in the industry with the inclusion of starch and vegetables that complement the protein. The use of various garnishing techniques is demonstrated for the student. Prerequisite(s): CULMGT-112, CULART-121, and completion of or currently enrolled in CULART-122, CULART-123, CULART-124 and CULART-126.

CULART-134 Credits: 1
American Regional Cuisine
The American regions included in this study are: the Eastern Heartland, New England, the South, Louisiana, Far West, Northwest and West Coast, including Hawaii. A brief overview of the geography, history and culture of these various regions sets the stage for an introductory study of the primary ingredients and various cooking methods of each region's iconic dishes. Students prepare a variety of food items in lab. Prerequisite(s): CULMGT-112, CULART-121, and completion of or currently enrolled in CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-135, CULART-136, CULART-137.

CULART-135 Credits: 1
European and Mediterranean Cuisine
Students will discuss and prepare Mediterranean and European cuisines, discuss the history of those regions and the specific equipment and tools needed to prepare the cuisines. Students will adhere to basic kitchen principles of food safety. Prerequisite(s): CULMGT-112, CULART-121, CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-135, CULART-136, CULART-137.

CULART-136 Credits: 1
Asian Cuisine
This course provides a general overview of the geography, food history and culture of various areas in Asia, setting the stage for an introductory study of the primary ingredients and cooking methods of the region's traditional dishes. Students prepare a variety of food items in lab. Prerequisite(s): CULMGT-112, CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135, CULART-137.

CULART-137 Credits: 1
South and Latin American Cuisine
Students discuss the history of the Latin American region, prepare dishes from that cuisine using specific ingredients, equipment and tools needed, while adhering to basic kitchen principles of food safety. Prerequisite(s): CULMGT-112, CULART-121, CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135, CULART-136.

CULART-138 Credits: 2
Restaurant Operations
This course focuses on the concepts of managing a restaurant operation. Roles of management, quality service, cash handling, technology trends, food and beverage pairing, and beverage management are studied in this course. Prerequisite(s): CULART-115, CULMGT-112, and completion of or currently enrolled in CULART-115.

CULART-139 Credits: 1
Food Truck Operations
The Food Truck Operations course will expose students to the daily operating functions of running a food truck. Students will have lecture covering the legalities, menu planning, logistics, marketing, preparing the food and serving from the truck for the lab portion of the course. The locations of the truck may vary, and the planned menu will change based on the clientele. Each student will rotate through the stations of the truck to experience all aspects of running the business.

CULART-140 Credits: 2
Introduction to Culinary Arts
This course is a foundational food lab that focuses on various cooking methods/styles and procedures as they apply to the main food categories. The key topics are sanitation, use of tools and equipment, recipe dissemination, mise en place and cooking.
methods. Students will be exposed to meat, fish, poultry, stocks, sauces, and vegetable and starch cookery at an introductory level.

**CULMGT – Culinary Management (Department: 317)**

**CULMGT-101 Credits: 2**
**Menu Planning and Design**
Students learn to apply the principles of menu planning and menu design as they relate to a variety of hospitality operations.

**CULMGT-102 Credits: 2**
**Food and Beverage Procurement**
The concept of food and beverage purchasing are studied with emphasis on sourcing, writing specifications and controlling costs.

**CULMGT-105 Credits: 3**
**Culinary Math and Cost Control**
Emphasis is placed on methods used to solve mathematical problems that relate to food service operations. Topics covered include operations with decimals, percents, weights and measures, recipe conversion, menu pricing, food costs, inventories, break-even analysis and financial statements. Prerequisite(s): Must be admitted to one of these programs: Culinary Arts (10-316-1), Culinary Management (10-317-1), Culinary Assistant (31-316-1), Food and Beverage Management (31-317-2), Baking and Pastry Arts (10-314-1) or Baking Production (31-314-2).

**CULMGT-111 Credits: 3**
**Catering Operations**
This course will cover the basic elements of managing a food service catering operation. More specifically, the course will provide an overview of different types of catering services, along with a listing of fundamental skills necessary for success. Other topics will include strategies for developing event themes, menus and timelines within various physical, financial and legal constraints. Furthermore, students will gain experience planning, preparing and executing various catering functions. Prerequisite(s): CULART-112 and CULART-113.

**CULMGT-112 Credits: 2**
**Food Service Sanitation**
Professional standards and practices in the prevention of food-borne illnesses are presented. Students prepare for the National Restaurant Association ServSafe Certification exam.

**CULMGT-115 Credits: 1**
**Culinary Management Field Experience**
Students work 216 hours as regular employees in food service management. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility. Prerequisite(s): CULMGT-102, CULMGT-112, CULMGT-117, CULART-119 and INTRN-796.

**CULMGT-116 Credits: 2**
**Culinary Management Practicum**
This is a capstone course in which students will employ all the skills and knowledge gained in the program of study, including principles of management, marketing, finance, economics and the hospitality industry. The student will plan a project that incorporates specific content, establishes goals and objectives, identifies evaluation criteria, and establishes a monitoring and reporting schedule. Prerequisite(s): CULART-112 and CULART-113.

**CULMGT-117 Credits: 3**
**Hospitality Law and Liability**
This course provides a study of the nature and function of our legal system as applied to hospitality, restaurant and travel operations. Operator/guest relationships, contracts, torts, civil rights and insurable risks are emphasized.

**CULMGT-118 Credits: 2**
**Hospitality Leadership**
This course introduces students to the principles and techniques required to competitively manage a successful hospitality operation in a rapidly changing environment. The roles, responsibilities and competencies required to perform successfully are presented. Competencies covered include planning, leading, organizing and controlling to efficiently deliver quality products and services. Skills in creative problem-solving and team building are addressed.

**CULMGT-140 Credits: 3**
**Food and Beverage Operations**
The complete food and beverage operation in the hotel/motel complex is explored. A basic understanding of the principles of food production and service management, sanitation, menu planning, labor and cost controls, and purchasing is emphasized.

**CVTECH – Cardiovascular Technology (Department: 521)**

**CVTECH-102 Credits: 2**
**Introduction to CVT**
This course will introduce distinctive areas of cardiovascular technology (CVT) and the role of the technologist. Topics include invasive and noninvasive procedures, department orientation, medical terminology, blood-borne pathogens, medical ethics, emergent situations and nonpatient-related emergencies. Research papers on a variety of related topics and a group project will be required. Guest speakers and site visits to local healthcare/diagnostic facilities may be scheduled. Prerequisite(s): Admission to either the Cardiovascular Technology (10-521-1) or EKG Technician certificate (61-521-1) program.

**CVTECH-110 Credits: 2**
**EKG Analysis**
This course will explain the electrical activity of the heart and the various techniques for recording them. The differences between 3- and 12-lead electrocardiograms (EKGs) will be covered. Students will identify waveforms and rhythms, correlate them to the cardiac events, and troubleshoot and calibrate equipment. Prerequisite(s): Admission to either the Cardiovascular Technology (10-521-1) or Anesthesia Technology (10-541-1) program.

**CVTECH-115 Credits: 4**
**Essentials of Cardiac Care 1**
This course will concentrate on the cardiovascular system. The focus will be on the structure and function of a healthy adult heart, fetal development of the cardiac system and its respective changes at birth, and congenital and acquired pathologies. Prerequisite(s): Admission to either the Cardiovascular Technology (10-521-1) or EKG Technician certificate (61-521-1) program.

**CVTECH-117 Credits: 4**
**Invasive CVT Fundamentals 1**
Students are introduced to the cardiac catheterization laboratory. The various pieces of equipment and specific diagnostic and interventional procedures are presented. The student will learn the typical daily duties of an invasive cardiovascular technologist through didactic and laboratory instruction. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Admission to the Cardiovascular Technology (10-521-1) program.

**CVTECH-118 Credits: 3**
**Echocardiography Basics**
Echocardiography physics, principles and techniques will be introduced. Ultrasound and Doppler theory; M-Mode, 2D and Doppler echocardiography; instrumentation; artifacts; examination techniques; and physiologic views will be covered. Prerequisite(s): Admission to the Cardiovascular Technology (10-521-1) program.

**CVTECH-120 Credits: 2**
**CVT Clinical Procedures**
This four-week course is the student’s first opportunity to observe and gain experience in a healthcare facility. Twelve hours per week are scheduled in the hospital setting under direct supervision observing/participating in all aspects of the cardiac catheterization laboratory technologist’s duties. An additional four hours per week are required for on-campus lectures/discussion. Written documentation detailing the clinical phase of instruction will be required. Prerequisite(s): CVTECH-115 and CVTECH-117.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVTECH-121</td>
<td>2</td>
<td>Echocardiography Clinical Procedures</td>
<td>This four-week course is the student’s first opportunity to observe and gain experience in a healthcare facility. Twelve hours per week are scheduled in the hospital setting under direct supervision observing/participating in all aspects of an echocardiographer’s duties. An additional four hours per week are required for on-campus lectures/discussion. Written documentation detailing the clinical phase of instruction will be required. Prerequisite(s): CVTECH-115, CVTECH-118.</td>
</tr>
<tr>
<td>CVTECH-132</td>
<td>3</td>
<td>Physics of Medicine</td>
<td>This course introduces the theoretical and practical aspects of the physical sciences. The dependence of medical diagnostics and the analogous relationship of the human body to the sciences are emphasized. Topics include flow, pressure, resistance, electronic circuit analysis and Ohm's Law. Prerequisite(s): CVTECH-120 or ANTECH-120, and admission to either the Cardiovascular Technology (10-521) or Anesthesia Technology (10-541) program.</td>
</tr>
<tr>
<td>CVTECH-133</td>
<td>3</td>
<td>Cardiovascular Agents</td>
<td>The clinical importance of drug delivery is presented with an emphasis on the most commonly administered cardiovascular drugs, as well as other prophylactic medications. Additionally, the federal drug approval processes, various delivery methods, dose calculations and a review of the nervous system are presented. Prerequisite(s): CVTECH-120.</td>
</tr>
<tr>
<td>CVTECH-134</td>
<td>3</td>
<td>Hemodynamics</td>
<td>The significance of concise and correct procedural hemodynamic data is presented with an emphasis on understanding the concepts and principles underlying hemodynamics. Topics addressed will include: pericardial disease; appropriate equipment selection and troubleshooting; valvular heart disease; interpretation of arterial, atrial and ventricular waveforms; cardiac output measurement; cardiomyopathies; intracardiac shunt detection. Additionally, the relationship of the cardiovascular and pulmonary systems to hemodynamics is examined with a focus on the principles of PVR, SVR and stroke volume. Prerequisite(s): CVTECH-120.</td>
</tr>
<tr>
<td>CVTECH-135</td>
<td>4</td>
<td>Essentials of Cardiac Care 2</td>
<td>The structure and function of the major systems of the body are surveyed, with a focus on their interaction and reliance on the cardiovascular system. Lecture studies utilizing models will include cellular, cerebral and nervous, renal, hepatic, pulmonary, lymphatic, endocrine, digestive, muscular and skeletal systems. Prerequisite(s): CVTECH-115 and admission to Cardiovascular Technology (10-521) program.</td>
</tr>
<tr>
<td>CVTECH-137</td>
<td>4</td>
<td>Invasive CTV Fundamentals 2</td>
<td>This course further exposes the student into the profession of the cardiovascular technologist (CTV). Through the utilization of lectures and hands-on laboratory instruction, the student will expand their working knowledge of diagnostic and interventional procedures, hemodynamic monitoring, sterile technique, radiation and personal safety, radiographic imaging principles, specialized technologies, electrophysiology, implantable devices, radiographic image panning. Prerequisite(s): CVTECH-120.</td>
</tr>
<tr>
<td>CVTECH-139</td>
<td>2</td>
<td>Invasive CTV Clinical 1</td>
<td>This course presents the students with their first opportunity in a direct patient-care setting, while beginning to perform the duties of a cardiovascular technologist (CTV). Here the student will be able to correlate didactic and laboratory classes with the day-to-day duties of a CTV. Prerequisite(s): CVTECH-120.</td>
</tr>
<tr>
<td>CVTECH-140</td>
<td>4</td>
<td>Echocardiography Instrumentation</td>
<td>This course introduces the specialized techniques of noninvasive cardiovascular testing, and the evaluation of cardiovascular anatomy and physiology. Lectures will emphasize the performance and analysis of the echocardiogram, the correlation of echocardiographic findings to normal cardiac anatomy, and the measurement and calculation of specified hemodynamic parameters. Laboratory sessions will incorporate advanced instruction in M-Mode and two-dimensional echocardiography with emphasis on pulsed wave, continuous wave and color-flow Doppler techniques. Prerequisite(s): CVTECH-121.</td>
</tr>
<tr>
<td>CVTECH-142</td>
<td>3</td>
<td>Echocardiography Case Review</td>
<td>In this course, multiple cardiac pathologies will be studied and addressed through the presentation of echocardiographic case studies. Students will explore a variety of pathologies and how these anomalies can be evaluated through the utilization of cardiac sonography. This course will primarily involve the presentation of case studies and the assessment of clinical abnormalities as seen by cardiac imaging and advanced Doppler techniques. Prerequisite(s): CVTECH-140, CVTECH-144, CVTECH-145, CVTECH-149.</td>
</tr>
<tr>
<td>CVTECH-143</td>
<td>3</td>
<td>Ultrasound Principles and Physics</td>
<td>This course provides the basic knowledge of the physical principles and instrumentation of diagnostic ultrasound. Topics covered in this lecture course include transducers, color-flow imaging methodology, bioeffects and acoustic output labeling standards. Students will be introduced to how diagnostic ultrasound works, how to properly handle artifacts, scan safely, evaluate instrument performance, and ultimately prepare for board and registry examinations. Prerequisite(s): CVTECH-149.</td>
</tr>
<tr>
<td>CVTECH-144</td>
<td>3</td>
<td>Advanced Echocardiography Practicum</td>
<td>The structure and function of the cardiac system will be addressed by introducing the specialized techniques of noninvasive cardiovascular testing. There will be an evaluation of cardiovascular sonographic anatomy and physiology through advanced measurement techniques of specified hemodynamic parameters. This course will explore various pathologies and how these anomalies are evaluated by echocardiography. The student will learn how to assess clinical abnormalities of the human heart as it is seen by cardiac imaging and advanced Doppler techniques. Prerequisite(s): CVTECH-121.</td>
</tr>
<tr>
<td>CVTECH-145</td>
<td>4</td>
<td>Echocardiography Fundamentals</td>
<td>The structure and function of the cardiac system will be addressed, as well as how various pathologies and congenital anomalies are demonstrated and evaluated by echocardiography. Students learn how to assess clinical abnormalities of the human heart as it is seen by cardiac imaging, utilizing conventional and echocardiographic stress testing, intravascular. Prerequisite(s): CVTECH-121.</td>
</tr>
<tr>
<td>CVTECH-149</td>
<td>2</td>
<td>Echocardiography Clinical Experience 1</td>
<td>This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the echocardiographic clinical setting. A written journal detailing the clinical phase of the instruction will be required. Prerequisite(s): CVTECH-121.</td>
</tr>
<tr>
<td>CVTECH-185</td>
<td>2</td>
<td>Invasive CTV Clinical Seminar</td>
<td>Students will discuss with other students the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the written journal detailing the clinical phase of instruction. This course will help to prepare students for the written examinations, which lead to credentialing in their chosen specialty. Guest speakers may be scheduled. Résumé writing and interview skills will be covered. Prerequisite(s): CVTECH-139.</td>
</tr>
</tbody>
</table>
### CVTECH – DENHYG

#### DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

**CVTECH-186**  
Credits: 4  
Invasive CVT Clinical Experience 2  
This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting in the student’s choice of cardiovascular technology discipline. Prerequisite(s): Completion of or concurrent enrollment in CVTECH-185.

**CVTECH-187**  
Credits: 4  
Invasive CVT Clinical Experience 3  
This course is a continuation of CVTECH-186 and provides the practical application to perfect the skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with clinical duties. Prerequisite(s): CVTECH-186.

**CVTECH-195**  
Credits: 2  
Echocardiography Clinical Seminar  
Students will discuss the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the clinical phase of instruction. This course will help to prepare students for the written registry examination. Guest speakers may be scheduled. Résumé writing and interview skills will be covered. Prerequisite(s): CVTECH-149.

**CVTECH-196**  
Credits: 4  
Echocardiography Clinical Experience 2  
This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the echocardiographic clinical setting. Prerequisite(s): Completion of or currently enrolled in CVTECH-195.

**CVTECH-197**  
Credits: 4  
Echocardiography Clinical Experience 3  
The course is a continuation of CVTECH-196 and provides the practical application to perfect the skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with their clinical duties. Prerequisite(s): CVTECH-196.

**DENAST – Dental Assistant**  
(Department: 508)

**DENAST-302**  
Credits: 5  
Dental Chairside  
This course prepares dental assistant students to chart oral cavity structures, dental pathology and restorations, and to assist a dentist with basic dental procedures, including examinations, pain control, and restorative and cosmetic procedures. Students also will develop the ability to educate patients about preventive dentistry, brushing and flossing techniques and dental procedures using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. Prerequisite(s): Admission to the Dental Assistant (50-508-2) program and completion of or currently enrolled in DENAST-304, DENAST-305, DENAST-307, DENHYG-101.

**DENAST-304**  
Credits: 2  
Dental and General Anatomy  
This course prepares dental assisting students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. Prerequisite(s): Admission to the Dental Assistant (50-508-2) program.

**DENAST-305**  
Credits: 2  
Applied Dental Radiography  
Students develop skill in operation of X-ray units and in exposing bitewing, periapical, extra oral and occlusal radiographs. Emphasis is placed on protection against X-ray hazards. Students also will process, mount and evaluate radiographs for diagnostic value. In this course, students demonstrate competency on a mannequin. In addition, students will expose bitewing radiographs on an adult patient. Prerequisite(s): Completion of or currently enrolled in DENAST-304, DENHYG-101.

**DENAST-306**  
Credits: 3  
Dental Assistant Clinical  
Students apply skills developed in the Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography and Professionalism courses in a clinical setting with patients. Emphasizes integration of Career Essentials and basic occupational skills. Prerequisite(s): Completion of or currently enrolled in DENAST-302, DENAST-304, DENAST-307, DENHYG-101, DENHYG-113 and either DENHYG-103 or DENAST-305.

**DENAST-307**  
Credits: 1  
Dental Assistant Professionalism  
This course prepares dental assistant students for professional success in a dental practice or other dental healthcare environment. Students develop a professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the workforce, dental assistants develop or customize their portfolios and layout and in an ongoing, professional development plan. Prerequisite(s): Admission to the Dental Assistant (50-508-2) program.

**DENHYG – Dental Hygiene**  
(Department: 508)

**DENHYG-101**  
Credits: 1  
Dental Health Safety  
Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA standards and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; students will be required to show proof of certification before beginning the course.

**DENHYG-102**  
Credits: 4  
Oral Anatomy, Embryology, Histology  
Prepares dental hygiene students to apply detailed knowledge about oral anatomy to planning, implementation, assessment and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head and neck anatomy and its relationship to tooth development, eruption and health. Prerequisite(s): NATSCI-177, NATSCI-186, NATSCI-197 with minimum grade of B-. DENHYG-101, completion of or currently enrolled in DENHYG-105.

**DENHYG-103**  
Credits: 2  
Dental Radiography  
Prepares dental auxiliary students to operate X-ray units and expose bitewing, periapical, extra oral and occlusal images. Emphasis is placed on protection against X-ray hazards. Students also scan, process, mount and evaluate dental images for diagnostic value and interpret radiographic information. In this course, students demonstrate competency on a manikin and perform image receptor placement on a peer. In addition, students expose a full mouth series and double bitewing images on a patient. This course also provides the background in radiographic theory required for students to make informed decisions, adjustments and to communicate this information to faculty, staff and patients. Prerequisite(s): Completion of or currently enrolled in DENHYG-102.

**DENHYG-105**  
Credits: 4  
Dental Hygiene Process 1  
Introduces dental hygiene students to the basic technical/clinical skills required of practicing dental hygienists, including use of basic dental equipment, examination of patients and procedures within the dental unit. Under the direct supervision of an instructor, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. The course also reinforces the application of dental health safety skills. Prerequisite(s): Admission to Dental Hygiene (10-508-1) program and completion of or currently enrolled in DENHYG-103.
DENHYG – DIESEL DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

DENHYG-106 Credits: 4
Dental Hygiene Process 2
This clinical course builds on and expands the technical/clinical skills student dental hygienists began developing in Dental Hygiene Process 1. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients; and perio case type 0, I and II patients. Prerequisite(s): DENHYG-102, DENHYG-103 and DENHYG-105.

DENHYG-107 Credits: 1
Dental Hygiene Ethics and Professionalism
Helps student dental hygienists develop and apply high professionalism and ethical standards. Students apply the laws that govern the practice of dental hygiene to their work with patients, other members of a dental team and the community. Emphasis is placed on maintaining confidentiality and obtaining informed consent. Students enhance their ability to present a professional appearance. Prerequisite(s): DENHYG-101 and completion of or currently enrolled in DENHYG-105.

DENHYG-108 Credits: 3
Periodontology
This course prepares student dental hygienists to assess the periodontal health of patients, plan prevention and treatment of periodontal disease, and evaluate the effectiveness of periodontal treatment plans. Emphasis is placed on the recognition of the signs and causes of periodontal disease, and on selection of treatment modalities that minimize risk and restore periodontal health. Prerequisite(s): Completion of or currently enrolled in DENHYG-106.

DENHYG-109 Credits: 1
Cariology
This course focuses on the characteristics and contributing factors of dental decay. Dental hygiene students help patients minimize caries risk by developing treatment plans, communicating methods to patients and evaluating treatment results. Prerequisite(s): Completion of or currently enrolled in DENHYG-110.

DENHYG-111 Credits: 3
General and Oral Pathology
This course prepares the student dental hygienist to determine when to consult, treat or refer clients with various disease, infection or physiological conditions. Students learn to recognize the signs, causes and implications of common pathological conditions, including inflammatory responses, immune disorders, genetic disorders, developmental disorders of tissues and cysts, oral tissue trauma and neoplasm of the oral cavity. Prerequisite(s): DENHYG-102, DENHYG-103, DENHYG-105 and must be enrolled in a dental hygiene program in an accredited technical, community or four-year college, or with instructor's permission.

DENHYG-112 Credits: 5
Dental Hygiene Process 3
This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 2. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case type 1, 2 and 3 patients; and case type 0, I, II and III patients. Dental Hygiene Process 3 introduces root detoxification using hand- and ultrasonic-instruments, laser bacterial reduction, selection of dental implant prophylaxis treatment options and administration of chemotherapeutic agents. Students also adapt care plans to accommodate patients with special needs. Prerequisite(s): DENHYG-106, DENHYG-108, DENHYG-109, DENHYG-110, and completion of or currently enrolled in DENHYG-111.

DENHYG-113 Credits: 2
Dental Materials
Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products and impression materials. They also learn to take alginate impressions on manikins and peers, and to clean removable appliances. Prerequisite(s): Completion of currently enrolled in DENHYG-102 or DENAST-302.

DENHYG-114 Credits: 2
Dental Pharmacology
Prepares student dental hygienists to select safe and effective patient premedication, local anesthetic, chemotherapeutic and antimicrobial agents within the scope of dental hygiene practice. Students also will learn to recognize potential pharmacological contraindications for specific patients, and to take measures to avoid negative impact or alert other members of the dental team to possible negative impact. Prerequisite(s): Completion of or currently enrolled in DENHYG-106.

DENHYG-115 Credits: 2
Community Dental Health
This course prepares the dental hygienist student to play a proactive role in improving the dental health of community members of all ages. Students perform and interpret dental health research to determine community dental health needs. They also participate in the development, implementation and evaluation of a community dental health program. Prerequisite(s): Completion of or currently enrolled in DENHYG-111.

DENHYG-116 Credits: 1
Dental Pain Management
This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage pain for dental patients. Students learn to prevent and manage common emergencies related to administration of local anesthesia, prepare the armamentarium and administer local anesthesia. The course also addresses the recommendation of alternative pain control measures. Prerequisite(s): Completion of or currently enrolled in DENHYG-112 and DENHYG-114.

DENHYG-117 Credits: 4
Dental Hygiene Process 4
This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 3. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, I, II and III patients; and for perio case type 0, I, II and III patients. Emphasizes maximization of clinical efficiency and effectiveness. Prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation. Prerequisite(s): Completion of or currently enrolled in DENHYG-113, DENHYG-114 and DENHYG-118.

DENHYG-118 Credits: 2
Dental Anxiety and Pain Management
This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage anxiety and pain for dental patients. Students learn to prepare and administer local anesthesia and nitrous oxide safely. The course also addresses the recommendation of alternative pain control measures. Prerequisite(s): Completion of or currently enrolled in DENHYG-112 and DENHYG-114.

DENHYG-130 Credits: 1
Dental Hygiene: Transition Into Practice
This course will prepare students to transition from the educational dental hygiene setting to the career of dental hygiene. Students will prepare for various licensure examinations, prepare a résumé, visit various practice settings, critically evaluate dental hygiene publications, and apply quality assurance and management principles to the practice of dental hygiene. Prerequisite(s): Completion of or currently enrolled in DENHYG-117.

DIESEL – Diesel/Powertrain Servicing (Department: 412)

DIESEL-300 Credits: 2
Introduction to Transportation
This class is designed to help the entry-level technician of transportation classes (automotive, collision repair and diesel) transition into the classrooms. An emphasis will be placed on how to work safely in an industrial environment. The course also focuses on soft skills to help the student obtain and keep employment.
DIESEL – DIETNT

DIESEL-301 Credits: 2
Diesel Fuel Systems
Students will perform diagnosis, testing and repair procedures on diesel engine fuel-system mechanical components. Prerequisite(s): Admission to the Diesel and Powertrain Servicing (31-412-3) program.

DIESEL-306 Credits: 5
Engine Construction and Installation
Students will perform maintenance, adjustments, diagnosis, testing and engine construction. Students will remove and install an engine using the appropriate service manual procedures. Prerequisite(s): DIESEL-301, DIESEL-307.

DIESEL-307 Credits: 5
Electrical/Electronic Shop
Students become proficient in the use of digital volt/ohm meters (DVOM) and specialized test equipment used for diagnosing electrical/electronic systems. Students will perform diagnosis, testing and repairs using proper service manual procedures. Prerequisite(s): Admission to the Diesel and Powertrain Servicing (31-412-3) program.

DIESEL-308 Credits: 1
CNG Engine Operations Heavy-Duty Application
This course covers the principles of operation, maintenance and diagnosis of heavy-duty CNG engines. It utilizes the Cummins ISL-G engine as the basis for the instruction. Prerequisite(s): DIESEL-301, DIESEL-307.

DIESEL-319 Credits: 5
Driveline Components
Students will perform service procedures on heavy-duty clutch assemblies, manual transmissions, automatic transmissions, differentials and power dividers. Service procedures include maintenance, adjustments, diagnosis, testing, removal, disassembly, assembly and installation. Prerequisite(s): Completion of or currently enrolled in DIESEL-307 and DIESEL-345.

DIESEL-333 Credits: 2
Heavy Truck HVAC Systems
Students will learn the theory and operation of vehicle heating, ventilation and air conditioning (HVAC) systems. Manual and electronic controls, air distribution and A/C system operation are the focus. Students will learn federal and state laws that pertain to refrigerant usage in vehicle A/C systems. This includes identifying, recycling, recovering, storing and selling refrigerants. Prerequisite(s): DIESEL-307.

DIESEL-338 Credits: 2
Emission Control Systems
Students perform diagnosis and testing of emission systems on mechanical and electronically controlled diesel engines. There will be an emphasis on computer controlled fuel-system diagnosis, testing and repair. Prerequisite(s): DIESEL-301, DIESEL-307.

DIESEL-341 Credits: 5
Front-End, Brake and Suspension Systems
Students will perform diagnosis, testing and repair procedures of various types of steering and suspension systems, wheel alignment and heavy truck brake systems. Course content includes antilock brake systems (ABS) diagnosis, testing and repair. Prerequisite(s): DIESEL-307.

DIESEL-345 Credits: 2
Preventive Maintenance
Students will perform preventive maintenance inspections (PMI) on vehicles using industry-standard procedures. Students will gain an understanding of the proper materials, procedures, safe handling and documentation needed to perform a PMI. Prerequisite(s): Completion of or currently enrolled in DIESEL-307 and DIESEL-319.

DIENT – Dietetic Technician

DIETNT-106 Credits: 2
Food Service Sanitation
Professional standards and practices in the prevention of foodborne illnesses are presented. Students prepare for the National Restaurant Association ServSafe Certification exam. Food and Drug Administration (FDA) food code is reviewed. Prerequisite(s): Student must be enrolled in Dietetic Technician (10-313-1) program.

DIETNT-107 Credits: 2
Food Science
Students utilize scientific and medical nutrition therapy principles involved in the preparation of food to provide optimum nutrition and palatability. Laboratory preparation techniques emphasize food quality, sanitation and safety. Prerequisite(s): Student must be enrolled in Dietetic Technician (10-313-1) program.

DIETNT-108 Credits: 3
Food Service Management 1
Basic principles of procurement, production, distribution and service, as well as applied management principles required to deliver food and nutrition programs, are studied. Prerequisite(s): Must be admitted to the Dietetic Technician (10-313-1) program, and completion of or currently enrolled in DIETNT-106 or CULMGT-112.

DIETNT-118 Credits: 1
Food Service Management 1: Coordinated Practice
Basic principles of food service management, human resource management and sanitation are applied in a clinical setting. This course meets the food service management requirement of the Dietary Manager program. Prerequisite(s): CULMGT-100, CULMGT-112 or DIETNT-106, and completion of or currently enrolled in DIETNT-108; must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-120 Credits: 3
Nutrition for Living
This is an internet/Blackboard course focusing on practical solutions for everyday nutritional needs. Nutrition and menu planning tips will be reviewed for preventable diseases and the life cycle.

DIETNT-123 Credits: 1
Dietetic Technician Orientation
The policies of MATC, School of Health Sciences, Dietetic Technician program and The Academy of Nutrition and Dietetics are explained. Students identify and observe standards of practice to function with the healthcare team and to understand the healthcare system. Math calculations and vital signs used in nutritional assessment are introduced. Prerequisite(s): Must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-124 Credits: 3
Medical Nutrition Therapy 1
Students learn to access, plan, implement and evaluate the nutritional and educational needs of individuals at low to moderate nutritional risk. Prerequisite(s): DIETNT-151, and completion of or currently enrolled in DIETNT-152 and DIETNT-160.

DIETNT-125 Credits: 4
Medical Nutrition Therapy 2
A continuation of Medical Nutrition Therapy (MNT) 1, with emphasis on conditions of moderate to high nutritional risk. Students also evaluate the relevant scientific literature and develop personal resource files for professional practice. Prerequisite(s): DIETNT-124, DIETNT-134.

DIETNT-134 Credits: 1
Medical Nutrition Therapy 1: Coordinated Practice
Students learn through clinic activities to assess, plan, implement and evaluate the medical nutrition therapy (MNT) for conditions in adults at low to moderate risk in acute healthcare facilities. Prerequisite(s): DIETNT-123, DIETNT-151, and completion of or currently enrolled in DIETNT-124 and DIETNT-160; must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-135 Credits: 2
Medical Nutrition Therapy 2: Coordinated Practice
Students obtain clinical experiences in coordination with DIETNT-125 didactic learning activities in the classroom. Students learn through clinic activities to assess, plan, implement and evaluate the medical nutrition therapy (MNT) of patients in acute care, long-term care and outpatient settings. Prerequisite(s): DIETNT-123, DIETNT-151, and completion of or currently enrolled in DIETNT-125.
DIETNT – DLABT

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

DIETNT-136 Credits: 3
Medical Nutrition Therapy Field Experience
Through clinical experiences, students apply medical nutrition therapy and community principles in a healthcare facility or community health program. Career opportunities and preparation for the ADA registration exam will be discussed in an on-campus lecture format. Prerequisite(s): DIETNT-106, DIETNT-107, DIETNT-108, DIETNT-118, DIETNT-123, DIETNT-124, DIETNT-125, DIETNT-134, DIETNT-135, DIETNT-151, DIETNT-152, DIETNT-155, DIETNT-156, DIETNT-157, DIETNT-160, DIETNT-165, DIETNT-166, and completion of or currently enrolled in DIETNT-146 and DIETNT-170.

DIETNT-146 Credits: 3
Food and Nutrition Management Field Experience
Through clinical experiences, students apply management principles by completing department projects according to pertinent regulatory standards. Career opportunities and preparation for the ADA registration exam will be discussed in an on-campus lecture format. Prerequisite(s): DIETNT-106, DIETNT-107, DIETNT-108, DIETNT-118, DIETNT-123, DIETNT-124, DIETNT-125, DIETNT-134, DIETNT-135, DIETNT-151, DIETNT-152, DIETNT-155, DIETNT-156, DIETNT-157, DIETNT-160, DIETNT-165, DIETNT-166, and completion of or currently enrolled in DIETNT-136 and DIETNT-170.

DIETNT-151 Credits: 4
Nutrition for Dietetics
This course is a study of nutrients and the nutritional care process, including application to a clinic/lab supervised by a qualified preceptor. This course meets the nutrition care requirement of the Dietary Manager program. Prerequisite(s): Student must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-152 Credits: 3
Physiology for Dietetics
The physiology of human organ systems will be studied as it relates to nutrient requirements in health and disease. Organ systems emphasized include renal, liver, gastrointestinal, musculoskeletal, endocrine, nervous, sensory, lymphatic, respiratory, and cardiovascular. Prerequisite(s): Completion of or currently enrolled in DIETNT-160.

DIETNT-155 Credits: 3
Community Nutrition
This course exposes the student to the available nutrition and health resources in the community, including the utilization of local, state and federal nutrition education and food supplement programs. It prepares the student to identify the nutritional and educational needs of community groups to plan and develop culturally appropriate nutrition interventions that involve health promotion and disease prevention. The student learns through material discussions, service learning projects, guest speakers, skill-building activities and field trips. Prerequisite(s): DIETNT-124, DIETNT-156.

DIETNT-156 Credits: 2
Nutrition in the Life Cycle
The nutrient and nutritional counseling needs for normal growth and optimal health throughout the life cycle are explored. Prerequisite(s): Must be admitted to the Dietetic Technician (10-313-1) program. Completion of or currently enrolled in DIETNT-124.

DIETNT-157 Credits: 3
Food Service Management 2
Students learn management techniques in planning, organizing, controlling, delegating and communicating to meet the needs of the various healthcare systems and their regulatory agencies. Prerequisite(s): DIETNT-108, DIETNT-118, and must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-160 Credits: 1
Medical Terminology for the Dietetic Technician
Students study the components of medical words to learn medical terminology for communication with the members of the healthcare team. Emphasis is placed on recognition, pronunciation, definition and spelling of terms and abbreviations. Prerequisite(s): Must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-164 Credits: 1
Nutrition in the Life Cycle: Coordinated Practice
The nutrient and nutritional counseling needs for normal growth and optimal health throughout the life cycle are explored. Students develop and implement teaching plans for the various age groups in the clinical experience. Prerequisite(s): Must be admitted to the Dietetic Technician (10-313-1) program.

DIETNT-166 Credits: 2
Food Service Management 2: Coordinated Practice
Through clinic experiences, students learn modern management techniques to select and train employees, maintain departmental records, purchase food and supplies, supervise meal service, plan meetings, analyze, correct problems and develop interdepartmental communication. Prerequisite(s): DIETNT-108, DIETNT-118, and completion of or currently enrolled in DIETNT-157.

DIETNT-170 Credits: 2
Nutritional Counseling Skills
The role of the nutrition therapist is studied to develop counseling relationships with client in order to achieve behavior change for improved nutritional health. Prerequisite(s): DIETNT-125, DIETNT-156.

DLABT – Dental Laboratory Technology (Department: 507)

DLABT-102 Credits: 5
Dental Anatomy
This course is a study of the development of morphology, occlusion and function of the teeth. Laboratory sessions include tooth identification, functional waxing techniques and reproduction of the teeth in wax. Prerequisite(s): Admission to the Dental Technician (30-507-1) program.

DLABT-111 Credits: 5
Introduction to Complete Dentures
This course is an introduction to complete dentures. The lecture sessions will cover the theory of complete denture fabrication. The lab sessions will include the procedures utilized to fabricate complete dentures. Lab projects include fabricating custom impression trays, base plates and occlusion rims, model articulation, tooth arrangement, denture wax-up, investing, boiling-out and packing, processing, selective grinding, finishing and polishing complete dentures. Repairs and relines also will be studied. Prerequisite(s): Completion of or currently enrolled in DLABT-102.

DLABT-121 Credits: 5
Introduction to Crown and Bridge
This course is an introduction to the theories and techniques required to design and fabricate cast metal crowns and bridges. Lecture topics include the theories of model and die production, pattern design, pattern waxing, investing, casting, finishing and polishing cast metal crowns and bridges. In the laboratory sessions, cast metal crowns and bridges are fabricated. Projects include model and die production, pattern waxing, spruing and investing, burn-out, casting, and finishing and polishing metal crowns and bridges. Prerequisite(s): DLABT-102.

DLABT-128 Credits: 4
All Ceramic Techniques
This course is an introduction to the theories and techniques required to design and fabricate porcelain-fused-to-metal crowns and bridges. Lecture topics include substructure design, chemistry of dental porcelain and metal alloys, and fundamentals of porcelain application. Color science and shade modification also are studied. Laboratory projects include model and die production, substructure fabrication, porcelain application, and finishing and polishing procedures.
## EBUS – eBusiness (Department: 135)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
</table>
| EBUS-174    | 3       | Business Information Systems
Students will review the components needed to support ebusiness applications. The integration of traditional business systems such as inventory, purchasing and shipping into an ecommerce website will be discussed. Emphasis will be placed on the fulfillment side of the business. Differences between internet, intranet and extranet will be explored, and ebusiness also will be discussed including electronic data interchange (EDI) security, application development and web 2.0. |

## ECON – Economics (Department: 809)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
</table>
| ECON-195    | 3       | Economics
This course is designed to give an overview of how market-oriented economic systems operate, and it surveys the factors that influence national economic policies. Basic concept and analysis are illustrated by reference to variety of contemporary problems and public issues. Concepts include scarcity, alternative economic system, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and ecological and global economic issues. |
| ECON-201    | 3       | Principles of Microeconomics
This course covers the following topics: price mechanisms, price determination in the products and factors markets, analysis of market structures, business decisions with regard to cost analysis, output determinations and employing factors of production. Other topics such as regulation versus deregulation, international trade and economic development also will be discussed. |
| ECON-202    | 3       | Principles of Macroeconomics
This course covers national income and product analysis, financial institutions and the Federal Reserve System, and macroeconomic models and their application to the problems of inflation, unemployment and business fluctuations. The lines between economic problems, theory and public policy are emphasized. |
| ECON-215    | 3       | Economics of Discrimination
Economic theory is used to examine discrimination with an emphasis on the labor market and inequality in the U.S. Topics include: fundamental economic theory, the labor market, the basis and measurement of discrimination, inequality, and the laws and policies relating to discrimination. |

## ECON – Urban Economics (Department: 809)

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<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
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</table>
| ECON-216    | 3       | Urban Economics
Urban Economics provides research about the built environment. Using the tools of economic analysis, Urban Economics describes the outcomes of public and private decision-making with regard to land use and clusters of populations and their transportation. |
| ECON-218    | 3       | International Economics
Explores theories of trade, barriers and benefits to trade, exchange rate systems, the role of central banks, trade deficits and surpluses, and balance of payments. |
| ECON-219    | 3       | Personal Finance and Consumer Economics
This course is designed to provide the necessary knowledge to make the student more informed about personal finances and to help develop lifelong habits in planning, saving, and consumption decision-making. |
| ECON-223    | 3       | Ecological Economics
This course explores basic economic principles in the market-oriented global economy, including the limits to growth resulting from limited natural resources. Analyzes the mixed economy, which is a combination of private enterprise and government actions. Explains how an economy can achieve both a comfortable standard of living and ecological sustainability. |
| ECON-225    | 3       | Healthcare Economics
Healthcare Economics is a basic course in economics with an emphasis in healthcare. Topics include supply and demand, cost/benefit, resource allocation and production, as well as the conditions under which healthcare is provided by government. |

## ECON – Educational Foundations (Department: 809)

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<tr>
<th>Course Code</th>
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</table>
| ECON-219    | 3       | Issues in Urban Teaching
This course is designed to expose you to issues in urban education. Some of you may have already spent considerable time in classrooms as teacher aides or paraprofessionals, or maybe even as teachers. The majority of us spent time in schools as students. Now we are preparing to enter the vital and rewarding field of teaching. As we prepare for this role reversal, we must have a deeper understanding of schooling, particularly in urban settings, so that we can begin to tackle the challenges we will face both within and outside of the classroom. Throughout this course, we will challenge one another to grow not only in our understanding of the issues that affect urban education, but also insofar as our own personal philosophies of teaching are constantly evolving. Service learning is a vehicle we will use to get hands-on experience tackling issues impacting urban education. Prerequisite(s): EDF-249 or SOCSCI-249 with a minimum grade of C. |
| ECON-249    | 2       | Field Experience in Urban K-12 Classrooms
This is a field experience/service learning course that provides students who are completing the Teacher Education track to (1) deepen their understanding of how race, language and socioeconomic status impact teaching and learning, (2) observe and participate in classroom management strategies, (3) become familiar with the organization, culture and curriculum of schools and classrooms in the Milwaukee Public Schools system. Students complete 40+ hours of observation, which is accepted toward fieldwork requirements at several Schools of Education. Prerequisite(s): EDF-253 or SOCSCI-253. Also a TB (tuberculosis) test and criminal background check are required for school placement. |
| ECON-253    | 3       | Introduction to Teaching
This course is designed for students who wish to pursue a degree in education at a four-year college. The course introduces students to the profession of education and the roles of teachers. It provides an understanding of the context in which education is delivered in culturally pluralistic settings, and an opportunity to gain knowledge and experience in the interpersonal, observational and organizational skills that underlie teaching. Prerequisite(s): Consent of instructor is required to enroll in this course. |
### ELCTEC – Electronic Technology (Department: 605)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELCTEC-100</td>
<td>Electronics Co-Op</td>
<td>2</td>
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<tr>
<td>ELCTEC-108</td>
<td>Fundamentals of DC/AC 1</td>
<td>2</td>
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<tr>
<td>ELCTEC-110</td>
<td>DC and AC Electronics 1</td>
<td>4</td>
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<tr>
<td>ELCTEC-111</td>
<td>DC and AC Electronics 2</td>
<td>3</td>
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<tr>
<td>ELCTEC-112</td>
<td>DC and AC Electronics 3</td>
<td>3</td>
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<tr>
<td>ELCTEC-117</td>
<td>Digital Electronics</td>
<td>3</td>
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<tr>
<td>ELCTEC-118</td>
<td>Advanced Digital Electronics</td>
<td>3</td>
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<tr>
<td>ELCTEC-119</td>
<td>Advanced Biomedical Electronics</td>
<td>2</td>
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<tr>
<td>ELCTEC-120</td>
<td>Electronic Devices and Circuits</td>
<td>4</td>
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<tr>
<td>ELCTEC-121</td>
<td>Advanced Electronic Devices and Circuits</td>
<td>3</td>
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<tr>
<td>ELCTEC-122</td>
<td>Electronic Circuit Analysis</td>
<td>3</td>
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<tr>
<td>ELCTEC-123</td>
<td>Medical Imaging Equipment</td>
<td>4</td>
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<tr>
<td>ELCTEC-124</td>
<td>Applied Biomedical Imaging</td>
<td>3</td>
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<tr>
<td>ELCTEC-125</td>
<td>Clinical Imaging</td>
<td>3</td>
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<tr>
<td>ELCTEC-126</td>
<td>Clinical Imaging</td>
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<td>Clinical Imaging</td>
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<td>ELCTEC-128</td>
<td>Clinical Imaging</td>
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<td>ELCTEC-129</td>
<td>Clinical Imaging</td>
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<tr>
<td>ELCTEC-130</td>
<td>Medical Imaging Equipment</td>
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<tr>
<td>ELCTEC-131</td>
<td>Advanced Biomedical Electronics</td>
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<tr>
<td>ELCTEC-132</td>
<td>Advanced Biomedical Electronics</td>
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<td>ELCTEC-133</td>
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<td>ELCTEC-134</td>
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<tr>
<td>ELCTEC-135</td>
<td>Advanced Biomedical Electronics</td>
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**ELCTEC-100 Electronics Co-Op**

This course provides an opportunity to gain on-the-job training related to the electronics program in which the student is enrolled. The activities will be coordinated between industry and the student by the MATC co-op coordinator. Prerequisite(s): ELCTEC-119 or ELCTEC-140.

**ELCTEC-108 Fundamentals of DC/AC 1**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113.

**ELCTEC-110 DC and AC Electronics 1**

An introductory course that presents the scientific foundation used throughout electronics technology. Topics include DC/AC forms of current, voltage, resistance, capacitance, inductance and power. Troubleshooting practices will be emphasized, and computer technologies will be used to enhance abstract theory. Students perform laboratory experiments and prepare technical reports. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.

**ELCTEC-111 DC and AC Electronics 2**

An extension of and enhancement to DC and AC Electronics 1. More advanced topics such as complex networks, applicable theorems, polyphase systems and passive filters will be discussed. Computer simulation software will be used to reinforce theoretical analyses. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116.

**ELCTEC-112 DC and AC Electronics 3**

This course covers the advanced circuit analysis concepts and techniques used by electronic engineering technologists. After reviewing Kirchhoff's laws, phasors and impedance, focus is placed on superposition nodal analysis, Thevenin's and Norton's theorems, complex power and ideal transformers. Computer simulations will be used to reinforce theoretical analyses. Applications of KVL and KCL are examined with transistor bias networks. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ELCTEC-111 or ELCTEC-116 and ELCTEC-120 or ELCTEC-118 and MATH-197 or MATH-230, and completion of or currently enrolled in ELCTEC-121.

**ELCTEC-119 Advanced Digital Electronics**

This is a continuation of Digital Electronics. It provides an in-depth study of logic family specifications, sequential circuits, A/D and D/A, as well as PLC operation and design. Design procedures and design verifications will be demonstrated. Laboratory work will help students gain skill and competence in digital circuit design and troubleshooting. Prerequisite(s): ELCTEC-117 or ELCTEC-130, and completion of or currently enrolled in ELCTEC-120.

**ELCTEC-120 Electronic Devices and Circuits**

The basic operating principles of diodes, transistors, thyristors and linear integrated circuits are presented as they are used in rectifier, amplifier and oscillator circuits. Theory is reinforced with laboratory assembly, measurements, troubleshooting and technical report writing. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116 and ELCTEC-111.

**ELCTEC-121 Advanced Electronic Devices and Circuits**

This course is a continuation of ELCTEC-120 with additional emphasis on transistor models, IC amplifiers, oscillators, active filters, integrators and differentiators, waveshaping and control circuits. Circuit theory is reinforced with laboratory activities and technical report writing. Prerequisite(s): ELCTEC-118 or ELCTEC-120.

**ELCTEC-122 Electronic Circuit Analysis**

This course covers advanced topics associated with the analysis of electronic devices and circuits. Students are introduced to using frequency as a variable when analyzing electronic circuits. Bode plots will be used to describe circuit characteristics, and the analysis of resonant circuits will be covered in detail. Small signal analysis of transistor amplifiers will be emphasized to reinforce theoretical analyses. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ELCTEC-112 and ELCTEC-121.

**ELCTEC-123 Medical Imaging Equipment**

Students develop a foundation in the field of medical imaging with a focus on X-ray systems service. Topics include applications and equipment theory for radiographic, fluoroscopic, vascular and cardiac imaging systems. Classroom knowledge is enhanced through hands-on lab activities that replicate real work situations. Students will calibrate, troubleshoot and repair a variety of radiographic and mammographic equipment. Prerequisite(s): ELCTEC-134, ELCTEC-137, NATSCI-177, and completion of or currently enrolled in ELCTEC-176.

**ELCTEC-124 Applied Biomedical Imaging**

Students are introduced to the fundamentals of biomedical instrumentation and associated technologies. System and safety tests and measurements are performed using typical equipment found in area healthcare facilities. Students reinforce theoretical concepts while developing practical troubleshooting skills. Prerequisite(s): ELCTEC-111 or ELCTEC-116 and ELCTEC-120 or ELCTEC-118 and NATSCI-177 and ENG-152, and completion of or currently enrolled in ELCTEC-140.

**ELCTEC-125 Clinical Imaging**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.

**ELCTEC-126 Clinical Imaging**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.

**ELCTEC-127 Clinical Imaging**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.

**ELCTEC-128 Clinical Imaging**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.

**ELCTEC-129 Clinical Imaging**

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113, MATH-202, MATH-230, MATH-231 or MATH-232.
ELCTEC DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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<tr>
<th>Course Code</th>
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<th>Description</th>
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<tbody>
<tr>
<td>ELCTEC-140</td>
<td>3</td>
<td>Microprocessors</td>
<td>Students apply microprocessor and bus concepts by designing and building a parallel port, serial port, memory board and other modules that interface to an Intel-based PC system. Diagnostic software is written and oscilloscope measurements are made to test and troubleshoot interfaces built in the lab. Prerequisite(s): ELCTEC-110 or ELCTEC-115 and ELCTEC-117 or ELCTEC-130.</td>
</tr>
<tr>
<td>ELCTEC-141</td>
<td>3</td>
<td>Microcontrollers</td>
<td>This course covers the operation and applications of microcontrollers. Programming and interfacing of these devices and their peripherals are discussed in lecture and experienced in laboratory projects. Prerequisite(s): ELCTEC-111 or ELCTEC-140.</td>
</tr>
<tr>
<td>ELCTEC-150</td>
<td>3</td>
<td>Data Communications and Networking</td>
<td>This course extends the concepts of digital and analog signals to data communication and networking applications. Conceptual topics include network topology, the principles of signaling on physical links, transmission media, data formatting, analog-to-digital (A-to-D) conversion, multiplexing, modulation using digital data, error control, flow control, local area networks and ethernet protocols. The laboratory includes experiments on A-to-D conversion, data communication signaling and error control. Prerequisite(s): ELCTEC-111 and ELCTEC-120.</td>
</tr>
<tr>
<td>ELCTEC-154</td>
<td>3</td>
<td>Electronic Communications</td>
<td>The traditional aspects of electronic communications, such as amplitude modulation (AM) and frequency modulation (FM), are studied. Important elements underlying data communication theory and systems are focused on as well. A unique approach, with the aid of laboratory exercises, helps form abstract concepts into practical skills. Prerequisite(s): ELCTEC-111 or ELCTEC-116 and ELCTEC-118 or ELCTEC-120, and completion of or currently enrolled in ELCTEC-140.</td>
</tr>
<tr>
<td>ELCTEC-155</td>
<td>4</td>
<td>TV Broadcast Systems</td>
<td>This course focuses on the technical aspects of analog and digital broadcast television and radio. Transmit and receive systems, along with the discussion of operational parameters, are emphasized. Associated Federal Communications Commission (FCC) rules and regulations in the broadcast industry also are introduced. Signal analysis and equipment diagnosis are used in the lab to reinforce theory and aid in developing troubleshooting skills. Prerequisite(s): ELCTEC-118 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154.</td>
</tr>
<tr>
<td>ELCTEC-156</td>
<td>4</td>
<td>Advanced Electronic Communications</td>
<td>Advanced study in electronic communications is presented, including wireless communication systems and equipment. Wave propagation, antenna theory, high frequency systems and Federal Communications Commission (FCC) rules and regulations are introduced. Lab exercises incorporating working systems reinforce the theory. Prerequisite(s): ELCTEC-154.</td>
</tr>
<tr>
<td>ELCTEC-157</td>
<td>2</td>
<td>Telephone Systems</td>
<td>Students study plain old telephone systems (POTS) and equipment, with digital system theory incorporated where appropriate. The physical aspects of equipment interfacing with customer premise equipment, telephone switches, modems, computers and general data communication equipment are presented. Prerequisite(s): ELCTEC-119 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154.</td>
</tr>
<tr>
<td>ELCTEC-158</td>
<td>2</td>
<td>Digital Communications Systems</td>
<td>This course is an introduction to digital communication and modulation techniques. After the introduction of source and line coding, methods of modulation and demodulation are studied. A block diagrammatic approach is used for experimenting with various formats. Discovery-based learning driven by computer technologies is used to enhance the theoretical concepts. Prerequisite(s): ELCTEC-154.</td>
</tr>
<tr>
<td>ELCTEC-159</td>
<td>3</td>
<td>Computer Systems</td>
<td>Students install, configure and upgrade current computer-based hardware, including system boards, memory, interface cards, printers and drives. Windows XP with internet and printing capability is installed, configured, protected, updated and used. Word and Excel documents are created. Students browse, search, email and transfer files on the internet. The internet also is used to obtain drivers and current computer technical documentation. Prerequisite(s): Student must be admitted to one of the following Electronics programs: (10-605-1), (10-605-3), (10-605-6) or (10-605-7), and completion of or currently enrolled in MATGEN-109, MATGEN-110, MATH-115, MATH-202 or MATH-230.</td>
</tr>
<tr>
<td>ELCTEC-160</td>
<td>3</td>
<td>Input/Output Programming</td>
<td>Students develop C programming language and Intel microprocessor language programs that monitor and control keyboards, displays, printers, serial devices and disk drives. To perform these tasks efficiently, a library of input/output functions is built that consists of ROM BIOS, operating system and student-written function calls. Prerequisite(s): ELCTEC-119 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154.</td>
</tr>
<tr>
<td>ELCTEC-173</td>
<td>3</td>
<td>Computer Networks</td>
<td>Students install, configure, test and solve compatibility problems with networked workstations and servers. Print servers, TCP/IP printers, routers, switches and other network devices are installed, configured for security and tested. Web, FTP, DHCP and DNS services are added and tested on Windows and Netware servers. Fundamental user and group management tasks are performed. Various communications media and technologies are studied. Prerequisite(s): ELCTEC-119 or ELCTEC-140.</td>
</tr>
<tr>
<td>ELCTEC-174</td>
<td>3</td>
<td>Software Systems</td>
<td>Students install the current Windows operating systems, then add service packs, security, critical updates, printer and network services and other essential components. Configuration, maintenance, troubleshooting and repair tools, integrated into Windows, are examined and utilized. Command line tools also are used. The iMac OS X operating system is installed, upgraded and maintained. The internet is used as a tool to obtain drivers and technical information. Prerequisite(s): ELCTEC-119 or ELCTEC-140.</td>
</tr>
</tbody>
</table>
ELCTEC-199
Automated Systems
Building upon knowledge of machinery and control fundamentals from previous courses, the student will develop a systems approach to the control of manufacturing operations and industrial process. Systems are analyzed using block diagrams with programmable controllers and robotics incorporated into the systems. Prerequisite(s): ELCTEC-195, ELCTEC-196, and completion of or currently enrolled in ELCTEC-192.

ELECTY – Electricity
(Department: 413)

ELECTY-100
Principles of Electricity
This course presents the fundamentals of direct and alternating current circuits. Various topics such as electrical instruments, electrical test procedures and electrical symbols are covered. Lectures are reinforced by lab experiments.

ELECTY-308
Basic Skills for Electrical Wiring
Students learn the basic skills and basic code rules used in the electrical trade. Several of these skills are developed by repetition while wiring practical lighting control circuits. Prerequisite(s): Completion of or currently enrolled in ELECTY-390 or ELECTY-392, and must be admitted to the Electricity (31-413-1) or Manufacturing Maintenance (32-462-1) technical diploma programs.

ELECTY-310
Cable Wiring
Trade skills are developed through installing, connecting and controlling the common types of lighting circuits using metal-clad and nonmetallic sheathed cable. The work consists of practical shop jobs. Application of electrical code rules pertaining to concealed wiring is part of each job. Prerequisite(s): Completion of or currently enrolled in ELECTY-308 and must be admitted to the Electricity (31-413-1) technical diploma program.

ELECTY-312
Electrical Raceway Installation
Training is given in the use of hand benders. Mechanical benders, hydraulic benders and wire pulling techniques are covered. The bending skills are utilized by doing several typical conduit installation jobs. Prerequisite(s): Must be admitted to the Electricity (31-413-1) technical diploma program, and completion of or currently enrolled in ELECTY-308.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTY-323</td>
<td>4</td>
<td>Electrical Power Distribution 2B</td>
<td>This course is a continuation of ELECTY-322 and features underground (URD) and street lighting systems. Prerequisite(s): ELECTY-322.</td>
</tr>
<tr>
<td>ELECTY-324</td>
<td>4</td>
<td>Electrical Principles and Applied Math 2</td>
<td>This course continues and concludes the study of DC circuits. This is followed by an introduction to trigonometry with applications to AC circuits and devices. Prerequisite(s): Admission to Electrical Power Distribution/Line Mechanic (31-413-2) program, and completion of or currently enrolled in ELECTY-323.</td>
</tr>
<tr>
<td>ELECTY-328</td>
<td>2</td>
<td>Electric Motor Control Wiring</td>
<td>Motor control diagrams are analyzed. Shop jobs are applied to control circuits. Motor control wiring skills are developed. Prerequisite(s): ELECTY-308, ELECTY-340, ELECTY-392.</td>
</tr>
<tr>
<td>ELECTY-340</td>
<td>2</td>
<td>Electrical Code Fundamentals 1</td>
<td>A study is made of the code rules used most frequently by practicing electricians so that students may acquire a working knowledge of those rules. Methods for locating topics in the National Electrical Code (NEC®) are studied. The learner performs various types of calculations. Prerequisite(s): Must be admitted to the Electrical (31-413-1) technical diploma program. Completion of or currently enrolled in ELECTY-392 or ELECTY-390 and ELECTY-391, or an electrician with a working knowledge of electricity.</td>
</tr>
<tr>
<td>ELECTY-341</td>
<td>1</td>
<td>Electrical Code Fundamentals 2</td>
<td>The learner will perform a comprehensive review of the National Electrical Code (NEC®) and Wisconsin SPS 316, and will further develop skill in code interpretations and code calculations, as applied to all phases of electrical work. Prerequisite(s): ELECTY-340 or other code related experience, electrician currently working in the field.</td>
</tr>
<tr>
<td>ELECTY-378</td>
<td>1</td>
<td>Construction Blueprint Reading</td>
<td>Students study the various types of drawings used in building construction. The reading and interpretation of not only the electrical plan, but also the structural, plot floor, plumbing, sheet metal and other plans are presented. Prerequisite(s): Must be admitted to the Electricity (31-413-1) technical diploma program, and completion of or currently enrolled in ELECTY-308.</td>
</tr>
<tr>
<td>ELECTY-382</td>
<td>1</td>
<td>Electrical Equipment Circuit Analysis</td>
<td>The circuits, materials and installation of electrical equipment for residential heating, ventilating and air conditioning systems are studied. Various wiring diagrams are converted to practical installation layouts. Prerequisite(s): ELECTY-391 or ELECTY-392.</td>
</tr>
<tr>
<td>ELECTY-384</td>
<td>1</td>
<td>Electrical Design and Estimating</td>
<td>The student will draw on knowledge from previous wiring courses to design and estimate several typical residential installations. Municipal electrical licensing requirements and applicable code articles are studied. Prerequisite(s): ELECTY-310 and ELECTY-312.</td>
</tr>
<tr>
<td>ELECTY-386</td>
<td>2</td>
<td>Solid State Devices</td>
<td>This course presents a comprehensive overview of solid state devices. Emphasis is on the practical applications of solid state power control. All lectures are backed up by a lab to assure understanding of concepts. Prerequisite(s): ELECTY-391 or ELECTY-392.</td>
</tr>
<tr>
<td>ELECTY-390</td>
<td>3</td>
<td>Principles of Electricity 1</td>
<td>This introductory course in DC/AC fundamentals offers hands-on experience in both the theoretical and practical phases of electricity. Developing skills and techniques associated with electrical circuits and test equipment will be emphasized.</td>
</tr>
<tr>
<td>ELECTY-391</td>
<td>2</td>
<td>Principles of Electricity 2</td>
<td>This course is a continuation of Principles of Electricity 1. It provides a more in-depth study of DC/AC circuits with special emphasis on reactive circuits and power factor. In combination, the ELECTY-390 and ELECTY-391 course sequence equates in content to the five-credit ELECTY-392 course. Prerequisite(s): ELECTY-390.</td>
</tr>
<tr>
<td>ELECTY-392</td>
<td>5</td>
<td>Principles of Electricity</td>
<td>This course presents the fundamentals of direct and alternating current circuits. Various topics such as electrical instruments, electrical test procedures and electrical symbols are covered. Lectures are reinforced by lab experiments. Required math topics are presented during the course. Prerequisite(s): Must be admitted to the Electricity (31-413-1) technical diploma program.</td>
</tr>
<tr>
<td>ELECTY-394</td>
<td>4</td>
<td>Electrical Apparatus</td>
<td>This course covers the construction and principles of operation of transformers, and both DC and AC motors and generators. Lab experiments are designed to verify operational characteristics by testing the various types of electrical apparatus. Prerequisite(s): ELECTY-391 or ELECTY-392.</td>
</tr>
<tr>
<td>ELECTY-396</td>
<td>2</td>
<td>HVAC/R Electrical systems</td>
<td>This is a lab course designed to provide the student with the wiring methods used for heating, air conditioning and refrigeration systems. Students operate, analyze, describe sequences and test these systems using various test instruments. Prerequisite(s): Completion of or currently enrolled in ELECTY-398.</td>
</tr>
<tr>
<td>ELECTY-397</td>
<td>1</td>
<td>Electrical Wiring Methods for Air Conditioning and Refrigeration</td>
<td>This course is designed to familiarize the student with the wiring methods used for heating, air conditioning and refrigeration circuits. It also covers the use of wiring diagrams, and the application of specifications and wiring codes.</td>
</tr>
<tr>
<td>ELECTY-398</td>
<td>3</td>
<td>Electronic Circuits/Controls for HVAC/R</td>
<td>This course provides a practical knowledge of electricity, its measurement and the circuits used in the field of heating, air conditioning and refrigeration. It is a theory course that covers the functions of electronic circuits and controls, and explains servicing techniques and troubleshooting procedures.</td>
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</tbody>
</table>

**EMS — Emergency Medical Services (Department: 531)**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS-192</td>
<td>5</td>
<td>EMT (Emergency Medical Technician)</td>
<td>The Emergency Medical Technician course serves as a vital link in the chain of the healthcare team. The EMT can recognize the nature and seriousness of the patient condition, or extent of the injuries, to assess requirements for emergency medical care. The EMT must administer appropriate care based on assessment findings. The EMT will lift, move, position and otherwise handle and transport the patient to minimize discomfort and prevent further injury.</td>
</tr>
<tr>
<td>EMS-311</td>
<td>4</td>
<td>Advanced Intermediate Technician</td>
<td>EMT-Intermediate Technician students are Wisconsin licensed EMT-Basics seeking to upgrade their skills to the EMT Intermediate Technician level. EMT Intermediate Technician students perform emergency patient care, basic life support, and limited advanced life support in the field, transporting injured and ill patients to hospital emergency departments. They also perform care in hospital emergency departments. Prerequisite(s): EMS-301.</td>
</tr>
</tbody>
</table>
### EMS – ENG

#### DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS-911</td>
<td>2</td>
<td>EMS Fundamentals</td>
<td>Must be admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.</td>
</tr>
<tr>
<td>EMS-912</td>
<td>4</td>
<td>Paramedic Medical Principles</td>
<td>Completion of or currently enrolled in EMS-911, and admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.</td>
</tr>
<tr>
<td>EMS-913</td>
<td>3</td>
<td>Advanced Patient Assessment Principles</td>
<td>Completion of or currently enrolled in EMS-912, and admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.</td>
</tr>
<tr>
<td>EMS-914</td>
<td>3</td>
<td>Advanced Prehospital Pharmacology</td>
<td>Completion of or currently enrolled in EMS-913, and admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.</td>
</tr>
<tr>
<td>EMS-915</td>
<td>2</td>
<td>Paramedic Respiratory Management</td>
<td></td>
</tr>
<tr>
<td>EMS-916</td>
<td>4</td>
<td>Paramedic Cardiology</td>
<td>Completion of or currently enrolled in EMS-914.</td>
</tr>
<tr>
<td>EMS-917</td>
<td>3</td>
<td>Paramedic Clinical/Field 1</td>
<td></td>
</tr>
<tr>
<td>EMS-918</td>
<td>1</td>
<td>Advanced Emergency Resuscitation</td>
<td></td>
</tr>
<tr>
<td>EMS-919</td>
<td>4</td>
<td>Paramedic Medical Emergencies</td>
<td></td>
</tr>
<tr>
<td>EMS-920</td>
<td>3</td>
<td>Paramedic Trauma</td>
<td></td>
</tr>
<tr>
<td>EMS-921</td>
<td>3</td>
<td>Special Patient Populations</td>
<td>Completion of or currently enrolled in EMS-916 and EMS-919.</td>
</tr>
<tr>
<td>EMS-922</td>
<td>1</td>
<td>EMS Operations</td>
<td></td>
</tr>
<tr>
<td>EMS-923</td>
<td>4</td>
<td>Paramedic Clinical/Field 2</td>
<td></td>
</tr>
<tr>
<td>ENG-151</td>
<td>3</td>
<td>Communication Skills 1</td>
<td></td>
</tr>
</tbody>
</table>

**ENG – English (Department: 801)**

- **ENG-151**
  - **Communication Skills 1**

This course is designed to improve the student’s speaking, writing and listening skills through practical reading, writing, listening and speaking assignments. This course emphasizes summarizing, analyzing and synthesizing information from sources. It also focuses on the construction and presentation of short speeches. The class assumes competence in English grammar and paragraph structure. Prerequisite(s): (Accuplacer Reading score >= 67 or an ACT Reading score >= 16 or GENREA-105 or READPH-772) and (Accuplacer Sentence score >= 76 or an ACT English score >=16 or GENENG-103 or ENGLISH-772); GENREA-105 and GENENG-103 must have a minimum grade of C; READPH-772 and ENGLISH-772 must have a minimum grade of C, P.
ENG 152 Credit: 3
Communication Skills 2
A continuation of Communications Skills 1. Emphasis is placed on practical application of communication skills through group discussion and persuasion. Students learn to prepare business reports, write effective letters and memos, and create a job application portfolio. Students also learn to express themselves in a job interview, participate in a group discussion, and organize and deliver a professional presentation. Students apply principles of persuasion in all of these areas of communication. Prerequisite(s): ENG-151 with a minimum grade of C.

ENG 200 Credit: 3
College Reading and Writing
This course is for all students who wish to strengthen their college-level reading and writing skills. This is a reading- and writing-intensive course that prepares students to succeed in ENG-201. This course focuses on college-level reading and writing skills with an emphasis on critical thinking and analysis. ENG-200 does not meet the English writing or communications skills requirement of any degree program, but may be applied as elective credits. Prerequisite(s): (Accuplacer Reading score >= 55 or an ACT Reading score >= 13) and (Accuplacer Sentence score >= 60 or an ACT English score >=13).

ENG 201 Credit: 3
English 1
Introduces students to the basic principles of college-level composition, research, critical reading and critical thinking with an emphasis on academic writing conventions. In addition to examining the content and structure of academic essays, instruction in sentence structure and usage is provided as needed. Written work for this course consists of essays that are expository and analytical in nature. Major attention also is given to the preparation and writing of a research essay through writing assignments that emphasize finding, evaluating and incorporating appropriate secondary sources into students’ written work. Prerequisite(s): (Accuplacer Reading score >= 77 or an ACT Reading score >=18) and (Accuplacer Sentence score >= 89 or an ACT English score >= 18) or (ENG-152 or ENG-200 with a minimum grade of C).

ENG 202 Credit: 3
English 2
The intent is to give students training beyond ENG-201 in advanced composition, research and critical thinking by reading a selection of literary genres chosen by the instructor. Students will increase their understanding and appreciation of the genres by analyzing and writing about prose fiction, drama and poetry. Writing assignments and essays will consist of literary analysis, persuasion and, when appropriate, the use of secondary sources. Major attention also is given to the preparation and writing of a research essay through writing assignments that emphasize finding, evaluating and incorporating appropriate secondary sources into students’ written work. Prerequisite(s): ENG-201 with a minimum grade of C.

ENG 205 Credit: 3
Journalism 1
This is an introductory course in the principles and practices of news writing and reporting. It aims to develop the student’s ability and sense of responsibility in evaluating, gathering and writing news stories. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 207 Credit: 3
Creative Writing
The course will introduce students to the theory and practice of creative writing. Students will develop their reading and writing skills by working in a variety of literary genres and by participating in small-group writing workshops. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 208 Credit: 3
Technical Communications
This course introduces techniques and practices for writing, editing and developing technical communications. Students generate a number of documents, including but not limited to, technical reports, proposals and instructions using a variety of formats, styles, strategies and visuals. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 213 Credit: 3
American Literature to 1865
This course is an introduction to American writing from the age of exploration to the Civil War. Students will examine early literary sources and consider how literature reflects and influences the lives of those who have lived in what is now the United States. Approaches vary with instructor; materials studied are likely to include early Native American oral traditions and works by authors such as Adams, Bradstreet, Child, Dickinson, Douglass, Emerson, Franklin, Hawthorne, Jacobs, Melville, Murray, Poe, Rowlandson, Stowe, Thoreau, Wheatley and Whitman. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 214 Credit: 3
American Literature Since 1865
This course is a survey of the American literary tradition from post-Civil War writers to the present. Students will read a range of major American authors in order to trace the development, influence and practice of American literature. Authors may include Alexie, Baldwin, Cather, Chopin, Ellison, Erdrich, Faulkner, Frost, Gilman, Hemingway, Tan, Updike and Walker. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 215 Credit: 3
Contemporary Literature
Students study diverse contemporary authors and their work, which includes poetry, short stories, the novel, drama and nonfiction, both creative nonfiction and literary criticism. Historical, cultural, social and political contexts of contemporary literature are considered. The main objectives of the course are to introduce techniques and practices for interpreting, appreciating, discussing, writing and researching about contemporary literature, and to help students improve existing skills for composing and revising written work. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 218 Credit: 3
African-American Literature 1
African-American literature written during the period from 1760 to 1940 is studied, including slave narratives, poetry, short stories, speeches and essays. Students will consider the literature within a sociohistorical context, including such topics as the background of the African-American Renaissance, the Talented Tenth, double consciousness, the rise of the Black Intelligentsia and the Harlem school. This course will prepare students for critical thinking and academic writing about literature. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 219 Credit: 3
African-American Literature 2
This course covers literature written after the Harlem Renaissance to the present. Students will consider the literature within a sociohistorical context and will discuss such topics as the Wright school, protest writers, raceless novels, novels and plays of African-American life, the Black Arts Movement and existentialism in African-American letters. This course will prepare students for critical thinking and academic writing about literature. Students do not need to have completed ENG-218 in order to enroll. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG 220 Credit: 3
Native American Literature
Students examine literary works by contemporary and traditional Native American writers and oral tradition storytellers. Wisconsin Indian history, culture, tribal sovereignty and treaty rights will be covered within the context of literary analysis and critique. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.
ENG – ENVHEL

ENG-221 Credits: 3
Native American Women in Literature
This course is a study of literature written by and about Native American women from throughout North America. Literature by Wisconsin Indian women will be covered specifically to explore and understand Wisconsin Indian history, culture, tribal sovereignty and treaty rights. Students will explore, analyze and interpret Native American women’s literature from various genres and times: oral traditional tales to contemporary short stories, novels, poetry, plays, histories and essays. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG-222 Credits: 3
Images of Women in Literature
The course provides examples of images of women in literature as a creative reflection of, description of and reaction to their social, economic, familial, legal and personal status, both in the past and in the present. Students in the course will read and analyze literature to better understand the reasons and motivations for the portrayal of women in literary works that reflect cultural and historical values. Through literary analysis, students will strengthen their understanding of how women's roles, and the perception of these roles, have or have not changed. Students in the course will demonstrate appreciation for the literature and reflect on the perceptions of women in literature and society. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG-223 Credits: 3
African-American Literature By and About Black Women
This course provides a reflection of women's social, economic and legal status, both past and present. The course analyzes and evaluates literature written by and about black women, with the goal of focusing our critical energy on recovering “her-story,” as well as attaining keener insights into the important role of these women in both historical and contemporary life. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG-224 Credits: 3
Introduction to U.S. Latino Literature
This course examines contemporary fiction, creative nonfiction, drama and poetry written by authors of Latin American descent. Students will learn about the contemporary sociocultural concerns experienced by the U.S. Latino population. Major attention also is given to literary analysis and writing of the research paper. Prerequisite(s): ENG-151 or ENG-201 with a minimum grade of C.

ENG-235 Credits: 3
Utopian and Science Fiction Literature
A survey of selected utopian and science fiction literature that examines the various trends, themes and subgenres in speculative fiction. The course concentrates on the use of these literary genres as a vehicle for social criticism and exploring contemporary concerns. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201.

ENG-240 Credits: 3
Introduction to Modern Cinema
An introductory course in contemporary films. Students view and discuss how films communicate. The course also considers the major theories of film. Out-of-class assignments include viewing and critiquing films. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201 with a minimum grade of C.

ENG-340 Credits: 2
Workplace Communication
Workplace Communication focuses on listening, speaking, reading and writing in an employment-related context. In addition, participants in this course will focus on career preparation and develop the interpersonal skills and workplace habits necessary to successfully transition from their role as a student in a vocational training program to an active job-seeker.

ENTREP – Entrepreneurship

ENTREP-101 Credits: 3
Introduction to Entrepreneurship
This course takes the student from idea creation to development to monetization. Students will understand market forces, accentuate internal strengths and evaluate market potential. Sections on building the management team, constructing operations and financing the venture will be studied.

ENTREP-102 Credits: 3
New Product Development
This course takes the idea for the product or service, researches the size of the market and develops a plan to address the market. Understanding how the consumer values the product or service and how to increase that usage or awareness will be stressed. Sections covered will be estimating the physical size or value of the market, pricing, creating a cohesive marketing plan and building a distribution channel.

ENTREP-103 Credits: 3
Strategic Business Communication
This course develops the integrated marketing message via electronic and traditional methods. Once a product or service is designed, the next step is to build awareness through consistent means, mixing techniques to adapt and reach intended markets. Students will use a variety of different media to understand the potential of the tools. Students will explore the positioning of various products to utilize multiple channels to get the intended message to the proper segments. Students will create a media-supportive strategy for the business by utilizing and exploring current trends in marketing.

ENTREP-104 Credits: 3
Business Plan
This course covers in detail the writing aspects of the business plan. Starting with the executive summary describing the venture, to the building of the management team, explaining the operations, targeting the market goals and to projecting the detailed financials, a comprehensive document will be prepared. Accuracy and consistency of all sections of the plan will be expected.

ENTREP-105 Credits: 3
Strategic Business Communication 2
This course specifically develops the skills needed to present the business plan with slides, charts and graphics. Public speaking and team building will be used to enhance the presentation. Networking events will create a level of professionalism.

ENVHEL – Environmental Health (Department: 506)

ENVHEL-101 Credits: 3
Introduction to Environmental Health/ Water Quality
This is an introductory course to the field of environmental health and water quality. This study will include air, water, soil, and food quality, along with communicable and zoonotic diseases. The many career paths of the environmental practitioner include water quality, food safety, air quality, global environmental health, sustainability, energy conservation and related fields.

ENVHEL-102 Credits: 4
Environmental Biology
This course acquaints the student with basic principles of ecology pertinent to the field of environmental health with emphasis on aquatic ecosystems (ponds, lakes and streams). Various organisms are studied as indicators of environmental quality or degradation.

ENVHEL-104 Credits: 4
Industrial Hygiene Technology
This course deals with the recognition, evaluation and control of environmental factors in the workplace that affect the health, comfort, safety and well-being of the workers. Types of hazards (gases, vapors, particulates and diseases) are studied. Prerequisite(s): ENVHEL-101, ENVHEL-109 and MATH-107 or any 200-level MATH course.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVHEL-105</td>
<td>Fundamentals of Hazardous Materials Control</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ENVHEL-111</td>
<td>Applied Water Chemistry and Analysis</td>
<td>4</td>
<td>/envhel-102, MATH-107 or any 200-level MATH.</td>
</tr>
<tr>
<td>ENVHEL-115</td>
<td>Air Pollution Technology</td>
<td>4</td>
<td>/envhel-102, ENVHEL-109, MATH-107 or any 200-level MATH.</td>
</tr>
<tr>
<td>ENVHEL-135</td>
<td>Basic Drinking Water and Wastewater Treatment</td>
<td>3</td>
<td>/envhel-111 and ENVHEL-115.</td>
</tr>
</tbody>
</table>
EPROD – eProduction

(EDepartment: 701)

EPROD-150 Credits: 3
Introduction to eProduction
This survey course provides an introduction to eproduction — the process of creating content for emerging multiplatform delivery. The course examines the importance of traditional video production techniques and their application within emerging content delivery. It also explores the similarities and differences between broadcasting and narrowcasting, long- and short-form production and large-screen versus small-screen presentation. Learners differentiate between forms via hands-on exploration. Hardware and software products are surveyed, and students become familiar with the technology needed to implement promotional schemes for successful eproduction program distribution (e.g., via the web, social media outlets and mobile technology). Learners also review the legal ramifications of intellectual property ownership as applied to multiplatform digital authoring.

EPROD-151 Credits: 3
Data Content Management/Implementation
This program explores the workflow and organization of data from acquisition to editing to distribution to archive. By understanding the path that content takes from inception to delivery and beyond, the student will be able to plan distribution systems for content specifically designed for individual applications. Also, the learner will become competent in data asset management, file integration, understanding codecs and resolution, and transcoding and consolidation techniques.

EPROD-152 Credits: 3
eProduction Techniques/Implementation
This course focuses on the principles of design and operation of video systems as incorporated in multimedia, interactive and web design. This includes understanding, choosing and operating appropriate video cameras, digital SLRs, lighting techniques, audio acquisition and nonlinear editing. Students will produce and post-produce several productions of increasing complexity for multiplatform delivery as it pertains to eproduction.

EPROD-153 Credits: 3
eProduction Practicum 1
This course prepares students to work in the eproduction field by giving them practical real-job experience in a nontreathing environment. The fundamentals of teamwork, creative applications of technology and organization are emphasized. Job search techniques and job site observations also are discussed. Milwaukee PBS “College Place” initiative will serve as a practical lab for students whenever possible. Prerequisite(s): EPROD-150, EPROD-151 and EPROD-152.

EPROD-154 Credits: 3
eProduction Integration
As new media and technology evolve, students will need to not only problem-solve with current electronic tools, but also with an eye toward the future. This course will focus on the students’ application of their visual content creation skills and understanding of existing hardware and software to design an e-multiplatform presence using those current tools. Additionally, students will be challenged to anticipate the next wave of potential content distributors and plan for seamless multiversioned delivery of their message using the technology of the future.

EPROD-155 Credits: 3
eProduction Advanced Techniques
Students will learn how to incorporate their basic and intermediary understanding of multiplatform delivery of audio/visual content with the advanced tools of the trade. Multiversioning of content is emphasized, permitting the student producer to understand how to take concept to creation, as well as air, web, podcasting, social media, etc. An eye toward the future technologies and techniques is the focus.

FIN – Finance

(EDepartment: 114)

FIN-110 Credits: 3
Principles of Banking
An entry-level course designed to provide students who are new to banking a general understanding of the industry. Principles of Banking introduces fundamental banking concepts and principles, the basics of how banks operate as service providers and businesses, their obligation to operate in a safe and sound manner and manage risks, and the responsibilities of bank employees in a customer-focused financial services environment.

FIN-112 Credits: 3
Introduction to Banking
This course provides students with introductory knowledge of the business of the banking industry and the various products and services provided. Students will be able to explain the context, structure and operation of banks. Students will learn about the evolution of banking from its history to electronic banking systems. They will learn about the various roles in the organization. Key financial statements used within the industry are introduced, as well as the various instruments that constitute negotiable instruments, types of endorsements, payment process and fraud schemes. Personal financial planning will be emphasized for all individuals with it being a priority for anyone working in the field.

FIN-120 Credits: 3
Introduction to Money, Banking and Financial Markets
An introduction to the essential elements of money, banking and financial markets while emphasizing the relevance of each in the economy. Topics include financial markets and instruments, financial institutions, central banking, monetary policy and the Federal Reserve System, and business cycles. Prerequisite(s): FIN-110 and ECON-195 or any 200-level ECON course.

FIN-122 Credits: 3
Investment Principles
In this course, students are presented with the information, tools and guidance needed to make educated investing decisions. The investment simulation project provides hands-on experience stock trading and structuring a portfolio. Prerequisite(s): ACCTG-110 or ACCTG-111.

FIN-170 Credits: 3
Credit Management
This course provides the knowledge and tools to establish, manage, analyze and control both consumer and business credit. Topics include the credit process, credit management policies and procedures, financial statement analysis and regulation of consumer credit.

FIN-180 Credits: 3
Financial Statement Analysis
Financial Statement Analysis is a capstone course for the Banking and Financial Services program. Students learn the conceptual background and analytical tools necessary to understand the financial aspects of a business. Emphasis is placed on interpreting and analyzing financial statements to plan and forecast financial performance. Prerequisite(s): ACCTG-111 and BADM-126.

FIRE – Fire Protection Technician

(EDepartment: 503)

FIRE-104 Credits: 3
Fire Internship
This course provides an opportunity for students to experience learning and insight into fire department organization and procedures. Students are assigned to a local fire department where they can apply knowledge and skills they learned in the classroom while performing the same duties as a working member of that department. Prerequisite(s): EMS-144, EMS-301 or EMS-192.

FIRE-114 Credits: 3
Employability Skills
Employability Skills is a course designed to fine-tune the student’s skills, knowledge and abilities, and apply them to the application or promotion process within the fire service. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.
FIRE-116 Fire Department Management Credits: 3
Students are introduced to beginning management principles in dealing with personnel on the fire company and departmental level. These principles are adapted to both nonemergency and fire ground situations. The course includes the administrative management functions of planning and organizing, as well as the problems and guidelines related to the functions of the budgeting process and personnel management. Prerequisite(s): EMS-144, FIRE-109, FIRE-114, FIRE-152.

FIRE-142 Firefighting Principles Credits: 4
Describes basic fire behavior, techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for Firefighter Level 1 certification with the State of Wisconsin. Prerequisite(s): FIRE-143, FIRE-191, FIRE-192, FIRE-193; and completion of or currently enrolled in FIRE-153.

FIRE-143 Building Construction for Fire Protection Credits: 3
Provides the components of building construction that relate to fire and life safety. Students are taught the basic principles of structural design such as: masonry, frame, veneer, structural steel and reinforced concrete constructions. Building codes and fire ordinances as they apply to basic construction are also covered.

FIRE-144 Advanced Firefighting Principles Credits: 2
This course builds on Firefighter Level 1 skills with multiple practical sessions, including structural firefighting, vehicle extrication, natural gas fire emergencies, firefighting foam and more. Students will learn communications, incident reporting and the incident management system. Students will be put in command roles and coordinate on-scene operations for multiple fire and rescue companies during live fire attack sessions. This course meets all requirements of Firefighter Level II State of Wisconsin certification. Prerequisite(s): FIRE-142, FIRE-153.

FIRE-151 Fire Prevention Credits: 4
Provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. Meets all requirements for Fire Inspector I certification with the State of Wisconsin. Prerequisite(s): FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-153 Hazardous Materials Awareness and Operations Credits: 1
Examines characteristics relating to hazardous materials, including problems of recognition and mitigation. Prepares students to the Hazardous Materials Awareness and Operations Level. Prerequisite(s): FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-154 Hazardous Materials Chemistry Credits: 2
This course provides basic chemistry relating to the categories of hazardous materials, including recognition, identification, reactivity and health hazards encountered by emergency services.

FIRE-156 Strategies, Tactics and Incident Management Credits: 4
Provides an in-depth analysis of the principles of emergency response through utilization of an incident management system. Prepares students to pursue current, national ICS training requirements. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-157 Fire Investigation Credits: 3
Provides students with the fundamentals and technical knowledge needed for proper fire scene investigations. Many topics will be covered including: arson detection, conducting a fire investigation, determining whether the fire is accidental or incendiary, fire cause and origin. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-159 Principles of Emergency Services Credits: 2
This course will provide an overview of the fire protection and emergency services field. Topics include career opportunities, the history of fire and emergency services, chemistry and physics of fire, organization and function of public and private fire protection services, fire departments as part of local government, fire prevention, laws and ordinances affecting the fire service, and fire service nomenclature.

FIRE-192 Principles of Emergency Services Safety and Survival Credits: 3
This course introduces the basic principles and history related to the national firefighter life-safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

FIRE-193 Fire Protection Systems Credits: 3
This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

FIRE-194 Fire Protection Hydraulics Credits: 3
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection, and to apply hydraulic principles to analyze and to solve water-supply problems. Prerequisite(s): FIRE-193.

FIRE-195 Fire Behavior and Combustion Credits: 3
This course explores the theories and fundamentals of how and why fires start, spread and are controlled.

FLANG – Foreign Language
(Deartment: 802)

FLANG-101 Survival Spanish for Law Enforcement Officers Credits: 1
Upon completion, participants will be able to use Spanish to disarm a suspect, make arrests and ID individuals, stop and search a vehicle, conduct field sobriety tests, issue warrants, assist in emergencies, read the Miranda Warning, render aid to victims, and manage prisoners and bystanders.

FLANG-104 Spanish for Dental Staff Credits: 1
Upon completion, participants will be able to use Spanish to register patients, obtain medical history, engage in office etiquette, explain routine procedures, give directions to patients during procedures, explain anesthesia, explain billing procedures, instruct patients concerning medications, instruct patients concerning postoperative problems.

FLANG-105 Spanish for Nursing Credits: 1
Upon completion, participants will be able to use Spanish to obtain basic information and patient history, obtain vital signs, perform physical assessments, perform routine procedures, prepare patients for surgery or other procedures, administer medications and injections, feed and bathe patients, assist and interact with patients’ families, honor patients’ requests, assist in emergency situations, identify Hispanic culture traits relating to medical care, reduce patient’s fear of hospital settings, and understand Hispanic culture health-belief systems.

FLANG-107 Survival Spanish – Work and Travel America Credits: 1
This introductory approach to conversation presents everyday situations encountered in work and travel situations where Spanish is spoken. This course provides students with the basic vocabulary and cultural understanding needed when communicating in Spanish.
FLANG-111 Credits: 1
Spanish for Restaurants
Upon completion, participants will be able to use Spanish to greet and depart; compliment people; engage in etiquette and social niceties; use holiday greetings; direct kitchen staff, servers and busing staff; communicate general rules and safety issues.

FLANG-116 Credits: 3
Spanish for Child Care Professionals
This introductory approach to conversation provides students with the basic vocabulary and cultural understanding needed for talking with Spanish-speakers, both in the community and abroad. Specifically related to child care, participants will be able to use Spanish to greet and exchange general courtesies with parents and guardians, meet parents and register new students, speak about health issues, report on a child’s behavior, communicate with children, and teach basic songs and nursery rhymes.

FLANG-117 Credits: 3
Conversational Spanish for Service Occupations 1
This introductory approach to conversation presents everyday situations encountered on job sites. The course provides students with the basic vocabulary and cultural understanding needed for working with Spanish-speakers in targeted occupations, both at home and abroad.

FLANG-118 Credits: 3
Conversational Spanish for Service Occupations 2
This continuation of FLANG-117 enables students to advance their conversational skills in realistic work-related contexts while further developing valuable cross-cultural insights needed for successful interaction with Spanish-speaking employees and clients.

FLANG-119 Credits: 1
Survival Spanish for Educators
This is a comprehensive program designed to provide functional Spanish language skills for school personnel who have occasional contact with Spanish-speaking students and visitors. It also includes extensive training for non-Spanish-speaking classroom teachers who have Spanish-speaking children in their classroom.

FLANG-123 Credits: 3
Intermediate Spanish
This course is designed to help students build language proficiency and gain cultural awareness by discussing in the target language a variety of practical topics related to the Spanish-speaking community. One hour of language lab attendance per week is required.

FLANG-125 Credits: 1
Survival French – Work/Travel
Upon completion, participants will be able to use French to greet people, count and tell time, make telephone calls, communicate basic needs in business and travel situations, describe health issues, and order food and beverages at restaurants. They also will be able to identify and cope with common cross-cultural barriers.

FLANG-126 Credits: 1
French for the Culinary Arts
This course focuses on the acquisition of basic skills in French within the context of culinary arts. It emphasizes pronunciation, use of basic French in restaurants and food critique, study of French regional gastronomic specialties, and identification of values driving French culture.

FLANG-200 Credits: 2
Spanish 1A
For beginning students who feel they need more time to complete Spanish 1. This course is the first half of a curriculum that divides Spanish 1 into two semesters. It moves gradually and includes an emphasis on how to learn a foreign language. The course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of the cultures of the Spanish-speaking world. The course is college transferable as Spanish 1 only upon completion of both semesters.

FLANG-201 Credits: 2
Spanish 1B
A continuation of Spanish 1, first semester. This slower-paced course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of the culture of the Spanish-speaking world. Upon completion of this course and FLANG-200, students have the equivalent of Spanish 1. Prerequisite(s): FLANG-200 or satisfactory MATC placement test score.

FLANG-202 Credits: 4
Spanish 1
This Spanish course is designed to give you a strong base in the language and an increased awareness of the cultural perspectives offered. Part of learning Spanish is developing perspectives offered through the many Spanish-speaking cultures. The text will be used as a resource to help guide us; however, we will be expanding beyond the text when necessary.

FLANG-203 Credits: 2
Spanish 2A
This course is for continuing students who feel they need more time to complete Spanish 2. In this continuation of FLANG-201, students in Spanish 2A develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. The course is college transferable as Spanish 2 only upon completion of both semesters. Prerequisite(s): FLANG-201 or FLANG-202 or satisfactory MATC placement test score.

FLANG-204 Credits: 2
Spanish 2B
This course is for continuing students who feel they need more time to complete Spanish 2. In this second part of the continuation of FLANG-203, students in Spanish 2B develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. The course is college transferable as Spanish 2 only upon completion of both semesters. Prerequisite(s): FLANG-203 or satisfactory MATC placement test score.

FLANG-205 Credits: 4
Spanish 2
In this continuation of FLANG-202, students develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-201 or FLANG-202, or satisfactory MATC placement test score.

FLANG-213 Credits: 3
Spanish 3
This course is designed to help students build language proficiency and gain cultural awareness by discussing in the target language a variety of cultural topics and pertinent current issues. Students will refine grammar skills to improve conversational abilities. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-205 or satisfactory MATC placement test score.

FLANG-214 Credits: 3
Spanish 4
This course is continuation of FLANG-213. Students will continue to study cultural topics. Students will increase vocabulary, refine communicative skills and develop cultural insights. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-213 or satisfactory MATC placement test score.

FLANG-215 Credits: 2
Intermediate Spanish Grammar and Conversation 1
A composition/conversation course that presents a comprehensive review of grammatical principles, verbs and idioms while promoting the four basic language skills of listening, speaking, reading and writing. Language lab attendance of one period per week is mandatory. Prerequisite(s): FLANG-205.
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FLANG-216 Credits: 2
Intermediate Spanish Grammar and Conversation 2
A continuation of FLANG-215. Principles of grammar are systematically reviewed with emphasis on the use of the subjunctive and audiolingual practice, as well as the development of speaking, listening and writing skills. Language lab attendance one period per week is mandatory. Prerequisite(s): FLANG-215.

FLANG-218 Credits: 3
Spanish 5: Conversation, Grammar and Current Topics
This course focuses on developing accuracy and proficiency in spoken communication. Building on their experience in Spanish 4, students study the Spanish language in greater depth and breadth. Students continue to refine their language abilities through the study of the Hispanic culture. Current topics, cultural norms and a "tour" of the Hispanic world will offer students the opportunity to study the target culture while using the target language. Prerequisite(s): FLANG-221 or satisfactory MATC placement test score.

FLANG-219 Credits: 1
Spanish Immersion/Special Topics
The course is designed for the student who has obtained an advanced beginning proficiency normally acquired through the study of two semesters of college-level Spanish. The course is designed as a two-day-long (16 hours) immersion setting that will help you improve your Spanish fluency through conversation with other students. The cultural focus will allow you to discover a Spanish-speaking community through activities and games.

FLANG-221 Credits: 4
French 1
A conversational approach to French introduces the student to the four language skills – listening, speaking, reading and writing. Elementary rules of grammar and exercises are presented at the appropriate time. Use of the language laboratory one period each week is mandatory.

FLANG-222 Credits: 4
French 2
The student further develops the ability to comprehend and speak French. The student also completes the study of elementary grammar and applies the principles of French grammar and syntax to translations and short compositions. Longer and more complicated reading assignments test the student's comprehension. Use of the language lab one period each week is mandatory. Prerequisite(s): FLANG-221 or satisfactory placement test scores.

FLANG-228 Credits: 3
Spanish for Spanish-Speakers
Fosters further linguistic development through the emphasis on contemporary issues facing Latinos. This stresses the improvement of writing and speaking professional Spanish, as well as gaining a deeper understanding of the broader Spanish-speaking world. Upon successful completion, students possess an intermediate to mid-level of written and spoken Spanish. Prerequisite(s): FLANG-213 or satisfactory placement test score.

FLANG-262 Credits: 4
Arabic 1
This Arabic course is designed to give you a strong base in the language and an increased awareness of the cultural perspectives offered. Part of learning Arabic is developing perspectives offered through the many Arabic-speaking cultures. The text will be used as a resource to help guide us; however, we will be expanding beyond the text when necessary.

FLANG-263 Credits: 4
Arabic 2
In this continuation of FLANG-262, students develop additional communicative skills in real-life situations and gain a better understanding of the Arabic-speaking cultures of the world in relationship to their own. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-262 or consent of instructor.

FUNERL – Funeral Service (Department: 528)

FUNERL-100 Credits: 2
Introduction to Funeral Service
An orientation and overview of the funeral and funeral service profession. Primary objectives include the role of the funeral director, including personal, professional and ethical qualifications. Study also includes a survey of the history of funeral and burial practices from ancient times to the present. Prerequisite(s): Student must be admitted to the Funeral Service (10-528-1) program, and completion of or currently enrolled in FUNERL-116.

FUNERL-110 Credits: 2
Laws, Rules and Regulations of Funeral Service
The study of principles and rules guiding the practice of mortuary science as they relate to both practitioners and establishments. Topics include legal and disposal status of human remains, liability for funeral expenses, etc. Emphasis is on laws of the state of Wisconsin. Prerequisite(s): BADM-160 or BADM-165, and must be admitted to the Funeral Service (10-528-1) program.

FUNERL-114 Credits: 2
Pathology of Funeral Service
General disease processes, specific diseases and causative factors are presented. Clinical features are correlated with pathologic changes and necropsies are discussed. Particular emphasis is placed on diseases that tend to create embalming problems and situations with medicolegal implications. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program.

FUNERL-116 Credits: 4
Funeral Service Practices
The mechanics of funeralization from the first notification of death through the committal are presented, with emphasis on the funeral service procedures of various religions, as well as fraternal and military groups. Includes some computer application. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program.

FUNERL-117 Credits: 4
Funeral Service Management
The funeral director as an effective managerial person is presented. Coverage includes small business management concepts, FTC regulations, governmental death benefits, trusting, employer/employee relations and public relations. Merchandising – including casket/vault construction and merchandise arrangement, presentation and pricing – is presented, as well as computer applications to funeral service. Prerequisite(s): FUNERL-112, FUNERL-116.
GENREA – Reading-PLI
(Department: 851)

GENREA-105
Introduction to Reading and Study Skills
This course provides learners with opportunities to develop study skills and expand reading skills, including comprehension, fluency and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources. Prerequisite(s): Accuplacer Reading score >=35 or ACT Reading score >=13 or READPH-771 with a minimum grade of C or Pass.

GENST – General Studies
(Department: 890)

GENST-204
College Success Seminar
This course develops the student's ability to express meaning with graphic form by introducing basic knowledge of shape and space, unity and components, contrast, hierarchy, psychology of color, sign and symbol. Students also will learn how to utilize the available media and work within design constraints. Prerequisite(s): GRDS-107.

GRDS – Graphic Design
(Department: 201)

GRDS-103
Design Elements and Principles
This course develops the student's ability to express meaning with graphic form by introducing basic knowledge of shape and space, unity and components, contrast, hierarchy, psychology of color, sign and symbol. Students also will learn how to utilize the available media and work within design constraints. Prerequisite(s): GRDS-103.

GRDS-110
Layout and Publishing: InDesign
This course builds the essential skills in popular desktop publishing programs. Topics covered include integrating graphics and photos into publication, formatting type, creating tables, importing files, managing story threads, managing color and assembling pages. Design principles and process specific to publications will be emphasized. Creative assignments range from newsletters, magazines and books to electronic publications. Prerequisite(s): GRDS-115.

GRDS-111
Advertising Design
This course is an introduction to advertising layout, from rough concepts to comprehensive presentations. Students will explore effective design styles, use of typography and various rendering techniques. Prerequisite(s): GRDS-107.

GRDS-112
Graphic Design Workshop
In addition to a course facilitator, five visiting professionals who exemplify the broad spectrum of practice within the graphic arts industry will present mini seminars scheduled for three weeks each. These professionals will represent members of the regional graphic arts community, including graphic/web designers, art/creative directors, photographers and illustrators. Prerequisite(s): GRDS-121.

GRDS-113
Digital Media Preparation
An advanced layout and production course addressing the present advertising market. Students prepare concepts through campaign, for digital distribution. Topics covered include digital advertising, email marketing, basic web design, layout and coding, as well as interactive and social media design and considerations. Prerequisite(s): GRDS-116.
will help students evaluate their current checkpoint for program students. This course Portfolio Pathway

Credits: 1

Portfolio Pathway
Exit course for pathway students and portfolio checkpoint for program students. This course will help students evaluate their current portfolio, existing work, and modifications and improvements based on critique. Students will develop an online portfolio of work using Behance, WordPress or any blog platform. Prerequisite(s): GRDS-103.

GRDS-115 Credits: 3

Typographic Fundamentals
This course introduces typography history, vocabulary and basic skills. Students will learn the type anatomy, and the absolute and relative measurement system. Creative projects include both editorial and illustrative typography with proper typeface selection, composition, legibility, aesthetics and hierarchy. Students will learn basic tools in Fontographer in understanding the structure of digital type.

GRDS-116 Credits: 3

Interactive Media Design
Through examining experiences of using personal computers, hand-held devices and physical tools, environments and processes, this course introduces the fundamental concepts of interaction and interface design, including information structure, perceived affordance, icon, label, page layout, metaphor, navigation and orientation. Students will learn user-centered design methodology. The course also briefly surveys social, cultural, behavioral, cognitive and emotional human factors pertaining to complex design issues. Prerequisite(s): GRDS-110.

GRDS-117 Credits: 3

Packaging Design
This course focuses on seeing and designing in three dimensions for product packaging, point-of-purchase (POP) display and environmental graphics. Graphic continuity, content, client/customer research and aesthetic issues are dealt with at length. Students also will learn simple model-making techniques and choosing appropriate materials. Prerequisite(s): GRDS-122.

GRDS-121 Credits: 3

Exhibition Design
This course focuses on designing in three dimensions for larger-scale exhibit and display applications. Client research, exhibit functionality, technical file preparation and aesthetic issues are dealt with at length. Students will refine model-making techniques and learn methods of reproduction. Prerequisite(s): GRDS-117.

GRDS-122 Credits: 3

Vector Graphics: Adobe Illustrator
This course addresses the concepts and techniques of creating illustrations and images for use in print and digital applications utilizing current industry-standard drawing software: Adobe Illustrator. Assignments include the creation of logos, symbols, technical illustrations, information graphics and art for other applications.

GRDS-128 Credits: 1

Portfolio Pathway
Exit course for pathway students and portfolio checkpoint for program students. This course will help students evaluate their current applications.

HEALTH-101 Credits: 3

Medical Terminology
Focuses on the component parts of medical terms: prefixes, suffixes and root words. You will practice formation, analysis and reconstruction of terms. This course’s emphasis is on spelling, definition and pronunciation. It provides an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

HEALTH-104 Credits: 2

Culture of Healthcare
An introduction to the culture of healthcare for students interested in working in various healthcare settings. Learners examine professionalism, interpersonal and written communication skills, problem-solving skills, and patient privacy and confidentiality issues as they relate to healthcare.

HEALTH-107 Credits: 2

Digital Literacy for Healthcare
The focus of this course is the use of technology in healthcare. Learners use common business software applications, including word processing, presentation, spreadsheet and databases. Communication methods using technology are addressed. Learners gain experience with using the electronic health record (EHR). Healthcare EHR security issues, social media use and digital healthcare resources are examined.

HEALTH-110 Credits: 1

Basic Nutrition for Health Professionals
The Basic Nutrition for Health Professionals course is designed to provide students with a baseline understanding of how diets are recommended for patients.

HEALTH-160 Credits: 2

Study Strategies for Health Occupations
This course focuses on creative thinking, brain-based learning principles, information processing and memory strategies, as well as life management skills. Learning strategies are taught to assist learners in integrating and processing technical information in a meaningful way.

HEALTH-308 Credits: 2

Pharmacology for Allied Health
Introduces student to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparations, and administration of medications used by the major body systems. Prerequisite(s): HEALTH-101, MEDAST-302.

HIST – History (Department: 803)

HIST-203 Credits: 3

Western Civilization From Ancient Times to 1776
This course surveys the evolution of Western civilization from ancient times to 1776. Special emphasis is placed on the development and interactions of the political, social, religious and economic institutions that form the foundations of Western civilization today.

HIST-204 Credits: 3

Western Civilization from 1776
This course surveys the evolution of Western civilization from 1776 to the present time. Special emphasis is placed on the development and interactions of the political, social, religious and economic institutions that form the foundations of Western civilization today.

HIST-206 Credits: 3

America Since 1945
This course analyzes domestic and foreign policy of the United States since World War II. Beginning with the Truman administration, it moves through the current time. The emphasis is on changes in America’s role in international affairs, growth in presidential power and changes within American society. Special attention is devoted to the Middle East, Asia, Latin America, the Civil Rights Movement, the cultural revolution of the ‘60s and New Federalism.

HIST-210 Credits: 3

Women in American History
This course provides an analysis of the experiences of women in the development of America. Emphasis is placed on the impact of women in the political, economic and social events that shaped the nation, and the growing awareness in women of their role in society.

HIST-211 Credits: 3

America Through 1877
A survey of the history of the United States from 1800 to 1877. Emphasis is placed on colonial development, the movement for independence and the establishment of government under the Constitution. Special attention is devoted to the evolution of political democracy, economic developments, emergence of the sectional controversy leading to the Civil War, and the period of Reconstruction that followed.

HEALTH-308 Credits: 2

Pharmacology for Allied Health
Introduces student to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparations, and administration of medications used by the major body systems. Prerequisite(s): HEALTH-101, MEDAST-302.
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HIST-212 Credits: 3
America Since 1877
The major developments in United States history from the 1870s to the present are traced. Attention is focused on industrialization, urbanization, development of the West, reform movements, and the emergence of the United States as a world power.

HIST-213 Credits: 3
America: 1921-1945
This course focuses on America in prosperity, Depression and war. It assesses the successes and failures of people, famous and not so famous, who confronted economic and social disasters at home and tyranny abroad.

HIST-214 Credits: 3
African-American History
A comprehensive introduction to the historical and sociological background of African-American people. An African-centered approach will be used to focus on the political, economic and cultural history of African-Americans from 3900 B.C. to 1865. An analysis is made of the cultural and historical policies and practices that have shaped African-American people’s relationship to other people of the world.

HIST-215 Credits: 3
African-American History and Culture
A comprehensive study of African-American history since the Civil War. An African-centered approach will be utilized to analyze the political, economic and cultural history of African-Americans from 1865 to the present.

HIST-216 Credits: 3
History of American Minorities
This course highlights the role of minorities in the history of America. The cultural, social and political history of African-Americans, Hispanic-Americans, Asian-Americans and other European immigrants are studied. A cross-cultural approach shows the distinctive cultural patterns of the various groups and their contributions to the dominant culture.

HIST-217 Credits: 3
Contemporary Civil Rights
This course familiarizes the student with the period of history commonly referred to as the modern civil rights era, 1953 to 1969. It introduces the student to the events, individuals, social, political and religious linkages and activities that give this period its historical relevance and prominence.

HIST-218 Credits: 3
Native American History
The purpose of this course is to provide an introduction to Native American history and culture. Indian/non-Indian relationships over time will be the central focus of the course.

HIST-219 Credits: 3
Wisconsin Indians Past/Present/Future
This course presenting the history of Wisconsin Indians is designed to provide all Wisconsin residents, Indian and non-Indian, with an in-depth understanding of indigenous people from Wisconsin. The course provides the student with data, prehistorical and historical, in order to cover the broad range of time involved in the study of the Wisconsin Indian Nations.

HIST-220 Credits: 3
World History to 1500
This course examines global history for the world’s last five centuries, stressing its cultural contact and geography in a way that enhances understanding about the way in which we live today.

HIST-221 Credits: 3
American Indian History
This course familiarizes the student with the historical and sociocultural background of American Indian people. An American-centered approach will be utilized to analyze the political, economic and cultural history of Wisconsin Indians from Wisconsin, and Milwaukee’s unique social, political and economic history, with special focus on the rich and diverse multicultural heritage in the backdrop of Wisconsin’s seasonal array of natural beauty, wonderlands and festivals.

HIST-222 Credits: 3
African History 1: Before 1800 C.E.
This course discusses African history from human origins to the start of European expansion into tropical Africa in the 19th century. It examines precolonial African civilizations such as the kingdoms and empires developed in the northeast, west, central and southern Africa. It examines the early contact of Africans with the outside world; for example, through the spread of Islam and Christianity, and the migration of the major African ethnic groups. It explores the internal African slave trade; the political, economic and sociocultural institutions, and the regional diversity of Africa at the eve of colonial rule.

HIST-223 Credits: 3
African History 2: Since 1800 C.E.
This course explores the major political, economic and sociocultural transformations taking place in Africa, from the start of European territorial expansion in the early 19th century to the present. It examines the implementation and challenges of colonial rule, the decolonization process, the rise of African nationalism, and the diverse conditions facing independent African countries. It explores the challenges of African governments at nation building, and the different strategies adopted in that effort.

HIST-224 Credits: 3
World History to 1500
This course examines global history for antiquity to 1500 C.E. It explores the first river valley civilizations through the Bronze Age, to the development of writing, the depiction of the human form and the creation of new communities in the Middle East. It examines the spread of world religions and the building of huge empires in Europe, Asia, the Americas and Africa. The course stresses that history, with its different definitions and ways of studying the past, is not reserved for a particular group. It embodies written and material culture and activities carried out by people all over the world.

HIST-225 Credits: 3
World History Since 1500
World History Since 1500 is a survey of the world’s last five centuries, stressing its social diversity, interconnectedness, cross-cultural contact and geography in a way that enhances understanding about the way in which we live today.

HIST-226 Credits: 3
Latin American History
This course is subdivided into the following topics: precolonial civilizations, the colonial period, independence, the republican period and contemporary Latin America. Special emphasis is given to U.S.-Latin American relations, and to the problems of development.

HIST-227 Credits: 3
History of Wisconsin
This course covers the history of the state of Wisconsin and of Milwaukee as a Wisconsin hub city. It traces the formative and developmental stages and patterns in Wisconsin, and Milwaukee’s unique social, political and economic history, with special focus on the rich and diverse multicultural heritage in the backdrop of Wisconsin’s seasonal array of natural beauty, wonderlands and festivals.

HIT – Health Information Technology (Department: 530)

HIT-161 Credits: 3
Health Quality Management
Explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment and improvement, required monitoring activities, risk management and patient safety, utilization management, and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data. Prerequisite(s): HIT-163.

HIT-162 Credits: 3
Foundations of HIM
Introduces learners to the healthcare delivery system and the external forces that influence healthcare delivery. Sets an understanding for the expectations and standards related to professional ethics, confidentiality and security of health information management (HIM). Differentiates the use and structure of healthcare data elements, data standards and the relationships between them. Prepares learners to collect and maintain health data to ensure a complete and accurate health record. Prerequisite(s): HEALTH-101, and completion of or currently enrolled in HEALTH-107.
HIT – HORT

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

HIT-163 Credits: 3
Healthcare Stats and Research
Explores the management of medical data for statistical purposes focusing on descriptive and inferential statistics, including definition, collection, calculation and compilation of numerical data. Examines data analytics, retrieval, presentation and research methodologies. Prerequisite(s): HEALTH-107, HIT-162.

HIT-164 Credits: 3
Introduction to Health Informatics
Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business and health information software applications. Learners will develop skills to assist in enterprise information management, and database architecture design and implementation. Prerequisite(s): HEALTH-107, HIT-162.

HIT-165 Credits: 3
Intermediate Coding
Prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation and official coding guidance to support appropriate reimbursement. Students will participate in CDI activities, including preparation of appropriate physician queries in accordance with compliance guidelines. Prerequisite(s): HIT-197, HIT-199, and completion of or currently enrolled in HIT-184 and HIT-185.

HIT-166 Credits: 1
HIT Capstone
Explore technical skills and professional attributes desired for the health information management (HIM) profession, and conduct activities to assess one’s own readiness to enter the health information industry. Prerequisite(s): Completion of or currently enrolled in HIT-196.

HIT-167 Credits: 3
Management of HIM Resources
Examines the principles of management to include planning, organizing, human resource management, directing and controlling as related to the health information department. Prerequisite(s): HIT-162, HIT-165.

HIT-178 Credits: 2
Healthcare Law and Ethics
Examines regulations for the content, use, confidentiality, disclosure and retention of health information. An overview of the legal system and ethical issues are addressed. Prerequisite(s): HIT-162.

HIT-182 Credits: 3
Human Disease for Health Professions
This course focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests and treatment (including pharmacologic) of each disease. Prerequisite(s): NATSCI-177, NATSCI-189 or both NATSCI-201 and NATSCI-202, and HEALTH-101 with a minimum grade of C.

HIT-184 Credits: 3
CPT Coding
This course prepares students to assign CPT codes, supported by medical documentation, with entry-level proficiency. Students apply CPT instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. Prerequisite(s): HEALTH-101, HEALTH-107 with a minimum grade of C and either NATSCI-177, NATSCI-189 or NATSCI-201 and NATSCI-202 with a minimum grade of C, and must be admitted to the Medical Coding (30-530-2) or the Health Information Technology (10-530-1) program.

HIT-185 Credits: 2
Healthcare Reimbursement
This course prepares students to compare and contrast healthcare payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs) and Resource Utilization Groups (RUGs) with entry-level proficiency, using computerized encoding and grouping software. Prerequisite(s): HIT-182, HIT-197, HIT-199, and completion of or currently enrolled in HIT-165 and HIT-184, and admitted to Medical Coding (30-530-2 or 31-530-2) program.

HIT-196 Credits: 3
Professional Practice
Applies previously acquired skills and knowledge by means of clinical experiences in the technical procedures of health record systems and discussion of clinical situations. Student may participate in a supervised, clinical experience in healthcare facilities. Prerequisite(s): HIT-165 and completion of or currently enrolled in HIT-161, HIT-164 and HIT-166, and must be admitted to Health Information Technology (10-530-1) or Medical Coding (31-530-2) program.

HIT-197 Credits: 3
ICD Diagnosis Coding
This course prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. Prerequisite(s): NATSCI-177, NATSCI-189 or NATSCI-201 and NATSCI-202, HEALTH-101 and HEALTH-107 with a minimum grade of C, and completion of or currently enrolled in HIT-182; and must be admitted to Health Information Technology (10-530-1) or Medical Coding (31-530-2) program.

HIT-199 Credits: 2
ICD Procedure Coding
This course prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. Prerequisite(s): NATSCI-177, NATSCI-189, or NATSCI-201 and NATSCI-202; HEALTH-101 and HEALTH-104 with a minimum grade of C; completion of or currently enrolled in HIT-182; must be admitted to the Medical Coding (31-530-2) or Health Information Technology (10-530-1) program.

HORT – Horticulture (Department: 001)

HORT-111 Credits: 3
Introduction to Horticulture
This course provides an overview of the horticulture profession. Its role and importance throughout history, current trends and career opportunities will be covered. Particular attention is given to horticulture crops, plant classification, their use and the interrelationships between the environment, plant growth and plant development.

HORT-112 Credits: 3
Horticulture Soils
This course explores the properties of soils and applies them to horticultural uses as a growing medium and as an engineering base for landscaping.

HORT-113 Credits: 3
Ornamental Plant Health Care
The identification of and control of insects and diseases, with a focus on plant health care and maintenance, will be emphasized. An integrated pest management approach in diagnosing pest problems and the control of pests using biological, cultural, physical and chemical applications will be included. Calibrations, laws, regulations, safety and ecological impact also are covered. Training and testing for the Wisconsin State Certified Pesticide Applicator Exam, Category 3.0, Landscape, Turf and Interiorscape is part of this course. Students who pass the exam will receive state certification.

HORT-114 Credits: 3
Woody Ornamental Plants
Plant classification and the techniques of plant identification are explained. The student utilizes these techniques in identifying commonly used deciduous and evergreen trees and shrubs.
HORT-116 Credits: 3
Landscape Equipment
This course covers maintenance, adjustment and productive use of specialized rolling stock and tools used in landscaping. Students practice safe operation of an array of landscape equipment.

HORT-117 Credits: 3
Landscape Equipment II
This course covers advanced operation and safety skills involved in using landscape construction equipment. Grading, drainage and sculpting, and materials handling are emphasized using specialized equipment attachments and implements. Skills learned contribute toward passing the Certified Landscape Technician test administered at MATC by the Professional Landscape Network (PLANET).

HORT-118 Credits: 3
Landscape Business Principles
This course outlines the processes involved in running a business that are unique to landscaping. This includes finding property, boundaries and determining restrictions on what can be done to land. Landscaping contracts and the process of expediting work on land are included. The landscape business is approached from the standpoint of financial management, human resource management and project management.

HORT-119 Credits: 3
Landscape Construction I
This course provides an overview of the installation of hardscape features of the landscape. Included are basic construction techniques for retaining walls, outdoor steps, paving (patios, walks and drives), decks and fences. Limitations in executing hardscape designs are discussed.

HORT-120 Credits: 3
Landscape Construction II
This course focuses on developing proficiency in landscape installation. Students practice skill development with specialized, landscape construction equipment that enhances labor efficiency in completing projects.

HORT-121 Credits: 3
Irrigation, Lighting and Ponds
These landscape accessories augment both the greenscape and the rest of the hardscape. They are increasingly popular add-ons to commercial, as well as residential, projects. As part of a national trend, irrigation, low-voltage lighting and water features contribute to more sophisticated outdoor living areas.

HORT-122 Credits: 3
Landscape Design I
This course provides the student with the initial experience needed to understand the fundamental processes used in creation of a landscape design. This includes contracting with a client, assessing fundamental client needs, site measurement, client analysis, environmental analysis, functional analysis, the use of geometric form, and planting design principles.

HORT-123 Credits: 3
Landscape Horticulture – Design II
Learn to draw landscape graphics and understand what makes them readable. Review and practice design processes, including planting design and its basic elements. Practice planting design developed first in a class client-contact project. Prerequisite(s): HORT-122.

HORT-124 Credits: 2
Landscape Design III
This course briefly reviews outdoor rooms and planting design. Actual situations with clients are used. Projects include study and design of vehicular circulation, steps and walls, a community project and a specialty project. There will be class collaboration and class presentations to clients. Students are encouraged to review each other’s work. Color projects also are encouraged. Prerequisite(s): HORT-123.

HORT-125 Credits: 3
Landscape Maintenance Application
Students will learn concepts in landscape management and health such as establishment, pruning, weed control, mulching, fertilization, winter protection and basic turf management.

HORT-126 Credits: 3
Landscape Estimating and Bidding
The numerical aspects of landscape installations and maintenance are studied, including estimation of labor and material costs. Linear, area and volume calculations of materials needed for landscape projects from landscape plans are thoroughly covered, as well as garden center figuring, landscape design calculations, nursery and greenhouse setup, and fertilizer materials and calibration.

HORT-127 Credits: 3
Arboriculture I
Students will learn tree establishment, pruning, bracing and cabling, problem treatments, fertilization, rigging and removal, avoidance and treatment of construction damage, tree risk and decay detection, rope and harness tree climbing and knot tying, Brush chippers, stump cutters, aerial lifts, root excavators and chainsaws are demonstrated and operated. The current Safety Requirement Standards (ANSI Z133) and Standard Practices (ANSI A300) are stressed.

HORT-128 Credits: 3
Arboriculture II – Climbing and Pruning
In an outdoor setting, this course provides practical application to principles presented in the previous arboriculture course. The students observe and perform skills in tree climbing and pruning, as well as tree repair, practical rigging and tree removal, as opportunities present themselves. Knowledge of safe tree-care operations and tree pruning standards are stressed, and students gain skills in knot tying, aerial rescue and clear communication.

HORT-129 Credits: 3
Arboriculture III – Rigging and Removal
In an outdoor setting, students rig and remove trees using various techniques and equipment. Students become competent in determining methods of tree removal, and skilled in operation of chainsaws and selection of removal equipment. Safe work practices, clear communication and knots needed for removals are stressed.

HORT-130 Credits: 3
Communications and Marketing
The course discusses communication and marketing skills, techniques and strategies as they apply to the horticulture profession. Students will learn and practice interpersonal skills as they relate to customers, co-workers, employees and employers.

HORT-131 Credits: 3
Turf Management and Related Equipment
The description and identification of turf grasses used in the landscape industry are studied. Emphasis is on cultural requirements, pest problems, and equipment used in establishing and maintaining turf.

HORT-132 Credits: 3
Greenhouse Production Fall Crops
This course provides an overview of greenhouse production of crops grown in fall and winter. Planning and growing of the crops are the main focus.

HORT-133 Credits: 3
CAD Landscape Design 1
This course provides the horticulture student with the skills and knowledge to draw landscape plans with a computer-aided design (LandCAD) program. The concepts of the program will be discussed, and an understanding of the basic commands of AutoCAD and the site planning module of LandCAD will be covered.

HORT-134 Credits: 3
CAD Landscape Design 2
Provides the horticulture student with the skills and knowledge to draw landscape plans with AutoCAD and Land F/X, computer-aided design (CAD) programs. The concepts of Land F/X will be discussed and an understanding of the landscape design-related commands of Land F/X will be covered. Prerequisite(s): HORT-140.

HORT-135 Credits: 3
Greenhouse Production – Spring
Students will grow spring greenhouse crops from propagation, to transplanting and
fertilization, and to market. Cultural care for each crop will be done under greenhouse growing conditions. Schedules of crops and planning of greenhouse space will be covered.

HORT-159 Survey of Herbaceous Plants
Commonly used herbaceous annuals, perennials and bulb plants are studied with an emphasis on identifying flower and foliage characteristics, and their use in the landscape.

HORT-160 Landscape Plants – Trees
The study of landscape trees is broadened to include evergreen and deciduous tree cultivars (landscape zone five and colder) used in the landscape industry. Emphasis is on identification, cultural requirements and uses in various landscape settings.

HORT-161 Landscape Plants – Shrubs
The study of landscape shrubs is broadened to include evergreen and deciduous shrub cultivars (hardiness zone five and colder) used in the landscape industry. Emphasis is on identification, cultural requirements and uses in various landscape settings.

HORT-162 Advanced Study of Herbaceous Plants
This course expands on the study of herbaceous plants used in the landscape industry. Emphasis is on recognizing the attributes of new and less frequently used cultivars. Their requirements and their specific utilization in the landscape are stressed.

HORT-163 Native Plants – Fall
In this course, students identify the basic plant communities that are native to Wisconsin, especially to southeastern Wisconsin. Students become familiar with a selection of native plants that make each of these communities unique. Students also study how to cultivate these plants for use in ecologically based landscape design.

HORT-171 Exterior Plant Pests
The animal, insect and disease pests and abiotic disorders of woody landscape plants are studied, along with control methods specific to each. Emphasis is on correct diagnosis and use of a plant health care system of control.

HORT-177 Landscape Design IV
Course provides students with additional hands-on assignments that will assist them in gaining greater expertise in landscape practices.

HORT-193 Native Plants – Spring
This course teaches landscaping with native plants through onsite observation of native plant communities. Students also learn basic preservation and restoration techniques for native plant communities. Landscape design principles will be observed and noted.

HOTEL – Hotel/Hospitality
(Department: 109)

HOTEL-105 Hospitality Marketing and Sales Revenue Strategy
Fundamental principles of marketing and sales serving the hospitality industry are developed through discussion and analysis. The functions and responsibilities of the sales department are presented, including advertising and sales techniques.

HOTEL-110 Front Office Procedures and Management
This course emphasizes front office techniques and management principles for the organization, and operation of the lodging facility. The human and public relations responsibilities of the front office, as well as routine procedures, are an integral part of the course.

HOTEL-112 Front Office Computerized Procedures
This course emphasizes computerized front-office techniques. The student uses the latest software for hotel/hospitality management, reservation systems to daily reports and management reports. Up-to-date housekeeping reports are generated as needed.

HOTEL-120 Building Operations and Security
Technical information necessary to establish effective maintenance and engineering functions is explored. An effective energy-management program is discussed. Common mechanical problems and the procedures to correct them are emphasized. Security management to protect guests is reviewed.

HOTEL-122 Basic Hospitality Accounting
The basic structure of hospitality accounting is studied. The student will recognize the differences in hotel/hospitality accounting. Emphasis is placed on analysis and interpretation, as well as recording, classifying and summarizing phases.

HOTEL-124 Managerial Accounting for the Hospitality Industry
Accounting data is an aid to managerial decision-making. Emphasis is placed on the use of internal cost and segment data. Managerial accounting is an integral tool in planning and controlling operations.

HOTEL-130 Internship – Hotel/Meeting Management
The internship affords students the opportunity to experience employment while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete a 16-week practical experience in an off-campus location. Prerequisite(s): INTRN-796 with a minimum grade of C or P.

HOTEL-133 Supervision in the Hospitality Industry
Topics related to hospitality supervision and obligations to the owners, customers and employees are addressed, including line supervising, planning and problem-solving. Learning to make good decisions, and transitions from worker to supervisor to line management and top management also are covered.

HOTEL-135 Hospitality Professional Service and Development
Course content focuses on approaching every business situation with a strong belief in your skills and a clear knowledge of how your presence will impress and affect others. Emphasis is on telephone etiquette, body language, color analysis, body typing and voice projection.

HOTEL-150 Housekeeping Operations
This course investigates the functions of the housekeeping department and the role of its managers in operating the department, and introduces students to basic production skills. The housekeeping department is the training ground for room-division managers.

HRMGT – Human Resources Management
(Department: 116)

HRMGT-133 Legal Issues and Employment Law
Students apply the skills and tools necessary for human resource professionals to effectively perform related functions in today’s work environment. Each student will demonstrate the application of legal practices in both union and nonunion environments, analysis of the impact of U.S. employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring and firing process, dealing with harassment issues and privacy issues, and summarizing legal issues facing contemporary human resource professionals.
HRMGT – HSM

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

HRMGT-136 Credits: 3
Safety in the Workplace
In this course, students apply the skills and tools necessary to provide a safe and secure work environment. Each student demonstrates the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, risk analysis, issues of workplace violence, substance abuse, health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

HRMGT-169 Credits: 3
Diversity and Change Management
In this course, students apply the skills and tools necessary to implement and maintain a diverse work environment that values change. Each student demonstrates the application of assessing the current extent of diversity in the workplace; analyzes the effect of perceptions, attitudes, biases and organization culture on diversity; deals with barriers; changes management strategy and processes reactions; measures progress andcelebrates success.

HRMGT-170 Credits: 3
Employee and Labor Relations
The student gains a fundamental understanding of employee and labor relations that involve the process of analyzing, developing, implementing, administering and performing ongoing evaluation of the workplace relationship between the employer and employee. It also includes the collective bargaining process.

HRMGT-192 Credits: 3
Strategic Management
Strategic Management focuses on understanding the operation of the total business enterprise. This course will help the student understand the challenges and the environment in which the business operates, the direction the management tends to head, the strategic plans for getting the enterprise moving in the intended direction and tasks of implementing the chosen strategy successfully. This course aims to equip the student with the core concepts, frameworks and techniques of strategic management that will allow you to understand what managers must do to make an organization achieve superior performance.

HRMGT-193 Credits: 3
Human Resource Management
In this course, students apply the skills and tools necessary to effectively value and apply employees’ abilities and needs to organization goals. Each student demonstrates the application of the various functions performed in contemporary human resources management, including impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies and procedures, training, performance management, employee counseling, and development and effective use of compensation and benefit strategies.

HRMGT-194 Credits: 3
Fundamentals of Compensation
In this course, students apply the skills and tools necessary to develop and manage an effective compensation and benefit program for organizational employees. Each student demonstrates through application how to use compensation strategies to reinforce organizational goals, and to recruit and retain a motivated workforce; determine wage ranges tied to internal and external equity; develop incentive programs for different types of positions; establish a cost-effective benefit program; and comply with legal requirements.

HRMGT-196 Credits: 3
Recruiting and Selection
In this course, students will learn the importance of effective recruitment and selection processes as related to organizational effectiveness, sustainability and competitive advantage. Students will gain an understanding of the role of human resource management in strategic planning (specifically as it relates or links to employment and workforce planning). Emphasis will be placed on the recruitment process, recruitment budget and critical steps in the selection process, selection assessments, interviewing, and compliance with state and federal employment laws, regulatory agencies and internal company policies.

HRMGT-197 Credits: 3
Employee Training and Development
Students will learn the fundamentals of training and development coordination. Emphasis will be placed on terminology, the systems approach to training (needs assessments, design, implementation and evaluation), learning principles, training methodology and evaluation criteria, as well as various employee development initiatives. Students will be able to effectively report the return-on-investment and value-added of training initiatives, and the impact on overall strategic goal achievement. Prerequisite(s): HRMGT-196.

HRMGT-198 Credits: 3
Business Ethics
Through this course, students will explore business ethics and corporate social responsibility in management practices and business activities. Students will review and examine ethical responsibilities and relationships between organizational departments, divisions, business management and the public. Through analysis of case studies, practical application projects and discussion groups, students will determine and evaluate specific strategies and courses of action that affect the individual and organization.

HRMGT-199 Credits: 3

HSM – Healthcare Services Management (Department: 530)

HSM-139 Credits: 4
Bioethics, Human Research Practice and Compliance
Learners investigate the Human Research Protection Program (HRP) to ensure the rights, welfare and privacy of all individuals participating in research activities. Topics include: foundations and concepts of Institutional Research Board (IRB) practices, organizational knowledge, IRB operational functions, as well as documentation practices. Prerequisite(s): Instructor consent required.

HSM-140 Credits: 3
Health Unit Coordinator Procedures 1
This is an introduction to the health unit coordinator (HUC) profession. The course will introduce students to the environment, communication, management of client information, order, process and transcription of physician’s orders in healthcare. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3.A) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-141 Credits: 3
Health Unit Coordinator Procedures 2
This is a more advanced course that introduces the student to transcription of laboratory and diagnostic orders, interdisciplinary treatment orders and specialty unit orders. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3.A) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-142 Credits: 3
Health Unit Coordinator Clinical
In this course you will apply the concepts and skills of the health unit coordinator in a clinical setting. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3.A) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-144 Credits: 3
Introduction to the Business of Healthcare
Students explore the dynamic environment of the American healthcare system and how it relates to their role in the healthcare services management profession. Students will be introduced to the many stakeholders involved in the domestic healthcare delivery system, including public/private insurance/reimbursement systems, regulations/ regulatory agencies, healthcare reform, managed care, as well as other related topics. An introduction to the usage of electronic health records will be presented. Prerequisite(s): Admitted to the Healthcare Services Management (10-530-3) program and instructor consent is required. Also completion of or currently enrolled in BADM-155.
HSM – HVAC

**DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS**

**HSM-145**  
**Healthcare Law, Ethics and Professional Standards**  
Credits: 3  
Student will delve into aspects of healthcare that directly impact the healthcare professional. Topics that will be investigated include federal/local healthcare legislation, HIPAA, Patient Bill of Rights, EMR/TALA, Healthcare Reform Act, ethical behavior, professionalism, organizational culture, service-centered care delivery standards and service-centered care, and other related topics. Prerequisite(s): Admitted to the Healthcare Services Management (10-530-3) program and instructor's consent is required.

**HSM-146**  
**Leadership in Healthcare Organizations**  
Credits: 3  
This course prepares students to investigate healthcare leadership within various healthcare organization environments. Topics include leadership styles, policies and procedures, motivation, teamwork, strategy, organizational behavior, diversity, and effective communication in the workplace. Prerequisite(s): Instructor consent is required to register, and HSM-144, HSM-145, and completion of or currently enrolled in HSMGT-193.

**HUMSVC – Human Services**  
*Department: 520*

**HUMSVC-101**  
**Introduction to Human Services**  
Credits: 3  
The primary focus is to introduce the beginning student to human service concepts and the broad range of occupations, professions and training requirements within the field. Field experiences and volunteer work are required. Prerequisite(s): Admission to the Human Service Associate (10-520-3) program, and completion of or currently enrolled in HUMSVC-144.

**HUMSVC-102**  
**Interviewing Skills**  
Credits: 3  
Students will practice and refine mastery of effective interviewing skills relevant to a wide range of human service practices. Prerequisite(s): HUMSVC-101, HUMSVC-144.

**HUMSVC-103**  
**Group Work Skills**  
Credits: 3  
This is a practice-oriented course with a primary focus on developing skills, techniques and strategies utilized in a broad range of human service practice settings. A key component is to develop and demonstrate a workable knowledge base, and awareness of the complexity of human behavior in groups. Prerequisite(s): HUMSVC-101, HUMSVC-144.

**HUMSVC-104**  
**Field Preparation**  
Credits: 1  
Students make formal preparations for their field experience assignment, as well as prepare to secure employment after graduation. Students develop a professional portfolio, practice interview skills and reinforce their overall employment/work skills. Prerequisite(s): HUMSVC-101, HUMSVC-102, HUMSVC-105, HUMSVC-113, HUMSVC-114, and completion of or currently enrolled in HUMSVC-115.

**HUMSVC-106**  
**Advanced Field Experience**  
Credits: 4  
Advanced Field Experience must be taken concurrently with HUMSVC-107 Field Experience Seminar. Students will be assigned to field experiences within the professional setting. Students apply the material from their coursework to real work situations. Prerequisite(s): Completion of or currently enrolled in HUMSVC-101 and HUMSVC-115.

**HUMSVC-107**  
**Field Experience Seminar**  
Credits: 2  
Field Experience Seminar must be taken concurrently with HUMSVC-106 Advanced Field Experience. This seminar provides the opportunity for students to discuss their field placements and engage in consultation, networking and problem-solving. Students develop a strong knowledge base of community human service agencies and resources. Prerequisite(s): HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-104, HUMSVC-113, HUMSVC-115, HUMSVC-144, and completion of or currently enrolled in HUMSVC-106.

**HUMSVC-113**  
**Documentation and Recordkeeping**  
Credits: 3  
Students will practice techniques involved with maintaining clinical records, documentation of referrals, staffing and consultations. Prerequisite(s): HUMSVC-101, HUMSVC-144.

**HUMSVC-115**  
**Methods of Social Casework**  
Credits: 3  
The application of casework theories, models and techniques, along with the management and coordination of case records, is the major focus of this course. Exercises will be designed to reflect variations in casework intervention techniques, depending upon the goals of the practice setting. This course should be taken the semester before entering Field Placement. A competency exam is given in the final stages of the course. Prerequisite(s): HUMSVC-102, HUMSVC-103, HUMSVC-113, and completion of or currently enrolled in HUMSVC-104.

**HUMSVC-118**  
**Introduction to Gerontology**  
Credits: 3  
This introductory course includes a demographic, cultural and ethnic profile of older adults. Major theories about aging are explored, as well as the interrelationships of biological, psychological and social aspects of aging.

**HUMSVC-121**  
**Family Issues and Interventions**  
Credits: 3  
This course focuses on issues related to families and family functioning relevant to the human services field. Special attention is paid to child maltreatment, domestic violence and addiction, with emphasis on the helping skills and services that are most effective. Prerequisite(s): Completion of or currently enrolled in HUMSVC-101 and HUMSVC-144.

**HUMSVC-127**  
**Disabilities and the Helping Profession**  
Credits: 3  
This course emphasizes awareness of physical, psychological and developmental disabilities, and examines the unique needs and resources of people with disabilities. Emphasis is placed on developing effective strategies for working with clients who are disabled.

**HUMSVC-142**  
**Multicultural Competence in Human Service Profession**  
Credits: 3  
This course focuses on issues related to families and family functioning relevant to the human services field. Special attention is paid to child maltreatment, domestic violence and addiction, with emphasis on the helping skills and services that are most effective. Prerequisite(s): Completion of or currently enrolled in HUMSVC-101 and HUMSVC-144.

**HUMSVC-144**  
**Ethics in the Human Service Profession**  
Credits: 3  
This is a survey course for the Human Service Associate major. Relationships between client and worker are emphasized, as well as the responsibilities of workers to engage in decision-making reflective of exemplary ethics codes. Prerequisite(s): Admission to the Human Service Associate (10-520-3) program, and completion of or currently enrolled in HUMSVC-101.

**HVICC – HVAC**  
*Department: 401*

**HVCC1-300**  
**Basic Refrigeration/ System Operations**  
Credits: 4  
Course includes theory and principles of refrigeration, and includes practical lab work. Students perform such skills as tube bending, flaring, soldering and brazing. The pressure and temperature relationship of refrigerants and pressure/enthalphy diagrams are studied to understand the basic refrigeration cycle. Refrigeration system leak checking, evacuation and charging are performed, along with refrigerant recovery in accordance with Environmental Protection Agency (EPA) regulations.
HVAC1 – HVAC2

HVAC1-301 Credits: 4
Introduction to Refrigerator Service/Applications
This course is designed to help the student understand types of compressor, refrigerant expansion devices, condensers, evaporators, accessories and system applications. Refrigeration piping design and installation are discussed and practiced. Refrigerant and oil management, recovery, recycling, reclaiming and retrofit are practiced following proper Environmental Protection Agency (EPA) procedures. Service and troubleshooting of small hermetic, commercial and central air conditioning systems are covered. Prerequisite(s): HVAC1-300.

HVAC1-325 Credits: 3
Oil Furnace Service and Maintenance
This is a lecture/discussion and lab course that focuses on the basics of residential oil-fired forced air heating systems and its use as a commercial fuel. Students will learn such skills as knowing the components of high-pressure gun oil burners, learning the sequence of operations, understanding wire schematics, basic servicing skills, troubleshooting, and combustion testing.

HVAC1-326 Credits: 3
Gas Furnace Servicing and Maintenance
This is a lecture/discussion and lab course which focuses on the basics of natural gas-fired forced air heating systems. The course includes covering basic atmospheric furnaces, induced draft and high efficient condensing furnaces. Students will learn such skills as knowing the components, learning the sequence of operations, understanding wire schematics, basic servicing skills, troubleshooting and digital combustion testing. Also included is an overview of the use of sustainable solar energy in residential hydronic heating. Prerequisite(s): HVAC1-325.

HVAC1-332 Credits: 2
Math for Heating, Ventilation, Air Conditioning and Refrigeration Service Technicians
This math course provides a step-by-step approach to math problems that students will encounter as heating and cooling technicians. This course provides the basic computational and problem-solving skills required for many aspects of HVAC industry and for further study in trades’ math and in intermediate-level algebra, geometry and trigonometry. Topics include: whole numbers, fractions, decimals, proportion, percent, graphs, statistics, measurement and geometry.

HVAC1-350 Credits: 2
Air Conditioning Principles
This basic course covers air distribution, heating, filtering and refrigeration as applied to air conditioning for residential, commercial and industrial applications. Calculating heat gains and the use of a psychrometric chart are included.

HVAC2 – Air Conditioning and Refrigeration Technology
(Department: 601)

HVAC2-109 Credits: 1
Introduction to the HVAC Industry
Students are introduced to the career opportunities and responsibilities in the air conditioning, heating and refrigeration industry. This course offers an orientation to the different duties, educational requirements and specialty areas within the HVAC industry.

HVAC2-110 Credits: 3
Air Conditioning Fundamentals
This course is a study of the fundamentals of air conditioning, including heating, cooling, humidification, human comfort and psychrometrics. The laboratory will cover the use of measuring instruments during operation of boilers, pumps, furnaces and air-handling units.

HVAC2-113 Credits: 3
Electrical Fundamentals
This course provides experience with electrical theories, circuits, devices and equipment that may be needed by those who work in the field of heating, air conditioning and refrigeration.

HVAC2-114 Credits: 4
Electrical Controls and Systems
The function and basic operating principles of the controls and circuit components are verified as students wire complete heating and cooling systems on panel boards in the lab. Servicing and troubleshooting procedures also are covered. Prerequisite(s): HVAC2-113.

HVAC2-115 Credits: 4
Refrigeration 1
Studies and calculations are made of the basic refrigeration cycle using the Mollier diagram. The operation of the major parts is discussed, along with the use of service tools such as gages, meters, vacuum pumps and refrigeration recovery. Prerequisite(s): HVAC2-110, HVAC2-113.

HVAC2-116 Credits: 4
Refrigeration 2
Studies and calculations are made of commercial and industrial refrigeration systems, along with the design and selection of equipment. Meters and service tools are used to diagnose and troubleshoot compressors, coolers, ice makers and freezers. Prerequisite(s): HVAC2-115.

HVAC2-120 Credits: 4
Heating Systems 1
This lecture and laboratory course on forced-air systems covers the principles of gas and oil combustion units. Also included are large industrial complex designs and their practicability, with emphasis on variable volume, dual duct and multi-type systems. Prerequisite(s): HVAC2-110, HVAC2-113.

HVAC2-121 Credits: 4
Heating Systems 2
This course includes instruction and laboratory work on hydronic hot-water systems and steam applications. Students will be able to design systems, estimate load conditions, and size pumps and expansion tanks. Prerequisite(s): HVAC2-120.

HVAC2-125 Credits: 4
Control Application and Circuits
This course is designed to give students an understanding of the operation of various types of control devices, and how combinations of these devices can be applied and varied to secure the desired conditions in heating and cooling systems. Prerequisite(s): HVAC2-116, HVAC2-121.

HVAC2-126 Credits: 3
Air Conditioning Systems
A practical approach to design, equipment selection and energy conservation for an air conditioning system, with a visit to a commercial building to observe the operation of a complete mechanical and HVAC system with computer operation and monitoring. Prerequisite(s): HVAC2-116, HVAC2-121.

HVAC2-132 Credits: 4
Architectural and Mechanical Fundamentals
Instruction is given in design, application, blueprint reading, symbols and drawings of mechanical systems. Outlays of various heating and cooling systems in relation to architectural buildings are used. Proper mechanical schematics, isometric piping and flow diagrams are discussed and drawn.

HVAC2-144 Credits: 3
Servicing and Troubleshooting Refrigeration and Air Conditioning
Various methods of troubleshooting and servicing of refrigeration and air conditioning systems are studied together with the use of service tools and meters on commercial and industrial equipment. Prerequisite(s): HVAC2-116.

HVAC2-146 Credits: 2
Digital Energy Management Systems
Major types of automatic electrical control systems are described and compared. Programs, sensing and control points, signal transmission and processing, and other peripheral equipment that make up a complete building monitoring and control automation system also are explored. Prerequisite(s): HVAC2-114.

HVAC2-148 Credits: 3
Heat Pumps
This course is aimed at the servicing and installation of heat pumps. The curriculum provides instruction on equipment and...
procedures needed to check the heating and cooling performance of a heat pump system. Calculating heat gains and the use of a psychrometric chart are included in this course. Due to concerns for both comfort and energy conservation, there is a need for technicians who have current training in the installation, trouble-shooting and repair of heat pump equipment. Prerequisite(s): HVAC1-300 or HVAC2-115.

HVAC2-149
HVAC Summer Internship
This course is designed to place students with active HVAC/R contractors in Wisconsin in temporary, summer hire positions. This provides students with the opportunity to apply learned skills to actual jobsite situations. This course is open only to associate degree program students and is subject to prerequisites. A total of 192 hours of on-the-job experience is required to complete this course. Prerequisite(s): HVAC2-109, HVAC2-110, HVAC2-113, HVAC2-114, HVAC2-115, HVAC2-120, and consent of instructor is required.

HVAC2-150
Wiring Diagram Interpretation for HVAC/R
This course is designed to enhance the student’s ability to interpret modern wiring diagrams for HVAC/R. The curriculum provides instruction on the usage, design and interpretation of wiring diagrams such as the schematic, pictorial, installation and hybrid. Instruction will include the interpretation of actual equipment wiring diagrams, as well as designing wiring diagrams. Prerequisite(s): HVAC-114 or ELECTY-396 and ELECTY-398.

HYDPNU – Hydraulics-Pneumatics

HYDPNU-338
Mechanical Systems
This course teaches the fundamentals of mechanical transmission systems and allows for the practice of industry-relevant skills, including how to operate, install, maintain, troubleshoot and design basic mechanical transmission systems using chains, V-belts, spur gears, bearings and couplings. The installation, operation and applications of laser shaft alignment will be taught.

HYDPNU-339
Pneumatic Systems
This course will introduce students to the basic components of pneumatic systems and will provide instruction on the usage, design and interpretation of schematic diagrams for pneumatic systems. The curriculum provides instruction on the usage, design and interpretation of schematic diagrams for pneumatic systems. Instruction will include the interpretation of actual equipment schematic diagrams, as well as designing schematic diagrams. Prerequisite(s): HVAC-114 or ELECTY-396 and ELECTY-398.

INDSGN – Interior Design

INDSGN-100
Introduction to Interior Design
This course will cover the principles and elements of design (including line, form, balance, harmony, unity, rhythm, pattern, color, etc.). Pencil and ink sketching techniques will be explored to obtain a comfort level with loose drawings and quick sketches. Shade, shadow and color will be introduced as hand-rendering techniques. Students will be introduced to the concept and construction of the interior design presentation board. Students will learn to incorporate sustainable design concepts.

INDSGN-102
Basic Architectural Drawing
This course will introduce students to basic manual and computer-aided drawing for interior design. Students will learn how to properly use equipment and produce two-dimensional drawings.

INDSGN-104
Interior Elements of Building Construction
This course will introduce students to basic components of building construction, including structural components and mechanical systems. Construction techniques will be converted and applied to the furniture design process, with emphasis on millwork and custom cabinetry design. Sustainable design, and the health and welfare of occupants will be considered throughout.

INDSGN-106
Materials and Furniture Design
This course will explore appropriate material and furniture selections and specifications including sustainable solutions. Exploration will include quality control and design applications used in the furniture industry.

INDSGN-108
Residential Studio
This course will explore residential planning guidelines and safety codes. Students will learn the basic design process from programming through design development. An emphasis will be placed on appropriate furniture and material selections and specifications. Housing styles, both aesthetic and functional, will be addressed. Prerequisite(s): INDSGN-102.

INDSGN-110
Advanced Architectural Drawing
This course will build on the Basic Architectural Drawing coursework and further develop student skills in both manual and computer-aided drawing techniques for interior design. Computer-aided three dimensional modeling will also be introduced and explored as a method of communicating design. Prerequisite(s): INDSGN-102.

INDSGN-112
Color and Light
This course will delve into the theory and practical application of color in interior environments. Students will explore how color can affect the perception of space due to physical, emotional and biological connotations. Emphasis will be placed on proper lighting techniques for true color selection. Students will learn to differentiate lamps and light sources, and create lighting and switching plans. Prerequisite(s): INDSGN-100.

INDSGN-116
Kitchen and Bathroom Design
This course will cover the methods of functional kitchen and bathroom planning, as well as the activities of a professional kitchen and bathroom designer. Emphasis is placed on design techniques that are current with industry standards. NKBA guidelines will be addressed, along with the presentation and planning techniques of industry-specific software. Prerequisite(s): INDSGN-102.

INDSGN-118
Commercial Studio
This course will explore the work required to pursue design work within the commercial sector, including planning conditions, including planning and the ADA. Emphasis will be placed on furniture and material selection and specification. Students will explore industry-specific software. Prerequisite(s): INDSGN-102.

INDSGN-120
Interior Design Internship
This course will explore the contact design industry and expose students to basic planning conditions, including planning guides and the ADA. Emphasis will be placed on furniture and material selection and specification. Students will explore industry-specific software. Prerequisite(s): INDSGN-110, INTRN-796.
INDSGN – ITDEV

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

INDSGN-122 Credits: 3
Styles of Furniture and Architecture
This course will explore the evolution of interior design and the applied arts, including art and architecture. Students will related political, socioeconomic and demographic influences of each period, from antiquity to contemporary style.

INDSGN-124 Credits: 3
Advanced Commercial Studio
Course will continue to establish the important role of code compliancy in commercial interiors. Emphasis will be placed on key industry segments of facilities and healthcare design. Advanced design techniques and strategies, such as schedules, legends and reflected ceiling plans will be covered, as well as an introduction to planning and specifying systems furniture. Students will learn Revit, an industry-standard software, as it applies to the interior design process. Prerequisite(s): INDSGN-118.

INDSGN-126 Credits: 3
Trends in Interior Design
This course will emphasize current issues and topics of concern as it relates to the field of interior design. Students will learn to identify and research design solutions and trends. Prerequisite(s): INDSGN-102.

INDSGN-128 Credits: 3
Designer/Client Relationships
This course will focus on presentation and marketing strategies of interior design services and solutions. Emphasis is on cultivating and maintaining partnerships with clients and vendors. Students will develop oral, written and graphic presentations for residential and commercial design scenarios.

INDSGN-130 Credits: 2
Portfolio Development and Application
This course will prepare students for entry-level job interviews. Emphasis will be on appropriate use of industry terminology and presentation skills and tools. Students will organize a portfolio of best work and will participate in a series of mock interviews. Prerequisite(s): INDSGN-110.

INDVTS – Individualized Technical Studies
(Department: 825)

INDVTS-102 Credits: 3
Career Assessment and Portfolio Development
This course is the preliminary component in the Individualized Technical Studies degree program. Students will develop a career portfolio that identifies their career goals and enables them to create a formal educational plan to attain their goals. The portfolio will document employment history, educational experiences and military and community service, and identify the skills and competencies students have acquired related to their career goals. The completed portfolio will be the basis for establishing an Individualized Technical Studies degree path.

INTP – Interpreter Technician
(Department: 533)

INTP-126 Credits: 3
American Sign Language 1
The intent of this course is to provide the student with a basic understanding of American Sign Language – the form of sign language most commonly used by deaf adults when communicating with each other. This course will be taught in American Sign Language with some additional use of written English rather than spoken English. Five hours of participation in Deaf community events are required outside of class time. Students enrolled in programs other than Interpreter Technician may be able to use this course (and INTP-127) to satisfy elective requirements.

INTP-127 Credits: 3
American Sign Language 2
This course is a continuation of American Sign Language 1 and is designed to further provide students with knowledge of fundamental survival signs. Students also acquire an awareness of the differences between deaf and hearing cultures. This course will be taught in American Sign Language with some additional use of written English rather than spoken English. Ten hours of participation in Deaf community events are required outside of class time. Prerequisite(s): INTP-126 with a minimum grade of C, or instructor consent.

INTP-128 Credits: 3
American Sign Language 3
This course is a continuation of American Sign Language 2. It is designed to build daily conversational skills and to increase cultural awareness and sensitivity. Students will refine grammatical skills and practice sentence types in guided ASL conversations and formal presentations. This course will be taught in American Sign Language with some additional use of written English rather than spoken English. Fifteen hours of participation in Deaf community events are required outside of class time. Prerequisite(s): INTP-127 with a minimum grade of C, or instructor consent.

INTP-129 Credits: 3
American Sign Language 4
This course is a continuation of American Sign Language 3 and is designed to broaden the topics students are able to discuss in ASL. News events, daily lives and social activities will be discussed and formal presentations will be made. Conversational proficiency is expected by the end of this course. This course will be taught in American Sign Language with some additional use of written English rather than spoken English. Twenty hours of participation in Deaf community events are required outside of class time. Prerequisite(s): INTP-128 with a minimum grade of C, or instructor consent.

IT – Information Technology
(Department: 107)

ITDEV – IT Programming/Development
(Department: 152)

ITDEV-110 Credits: 3
Introduction to Object-Oriented Programming Using C#
This course introduces the fundamental concepts of programming from an object-oriented perspective. Topics include class design, simple data types, control structures, storage allocation, scope and simple data structures (arrays). Students will develop algorithms to solve programming problems and use debugging techniques to test their solutions. The course emphasizes good software engineering principles while developing fundamental programming skills in the context of a language that supports the object-oriented paradigm. Emphasis will be placed on class design, implementation and problem-solving. MATC strongly recommends that students take this course concurrently with ITDEV-117 Logic and Problem-Solving. Prerequisite(s): ITDEV-117.

ITDEV-115 Credits: 3
Intermediate Object-Oriented Programming
This course focuses on intermediate object-oriented concepts, such as encapsulation, data hiding, inheritance and polymorphism. Students will be introduced to file I/O, data abstraction, pointers and database access. Emphasis will be on class design, implementation and problem-solving using databases. MATC strongly recommends that students complete ITDEV-110, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-110.
Prerequisite(s): ITDEV-160.

This course covers interactive web programming using AJAX, API's, PHP, MySQL and Angular JS. Students publish their pages to a web server. Prerequisite(s): ITDEV-160.

ITDEV-184 Credits: 3
Mobile Application Development
Students will learn the basics of the iPhone mobile technologies introduced in ITDEV-181. Students will create a mobile app from the conceptual idea to publishing on the Google Play store. They will design, using an appropriate design pattern, code and publish the mobile app. Advanced mobile technologies such as multithreading, accessibility, localization, camera, Google maps and cloud-based services will be explored. Prerequisite(s): ITDEV-184.

ITDEV-185 Credits: 3
Advanced Object-Oriented (OO) Programming
This course continues to focus on Android Mobile Technologies introduced in ITDEV-181. Students will create a mobile app from the conceptual idea to publishing on the Google Play store. They will design, using an appropriate design pattern, code and publish the mobile app. Advanced mobile technologies such as multithreading, accessibility, localization, camera, Google maps and cloud-based services will be explored. Prerequisite(s): ITDEV-184.

ITDEV-199 Credits: 2
Integrated Project
The Integrated Project course is a capstone project that reflects the student's culminating experience in the program. In this course, students integrate their knowledge and skills in IT, reflect upon their work into writing, demonstrate core ability skills, and display overall comprehension of their own discipline through the implementation, demonstration and documentation of the capstone project. Students evaluate their learning based on the program’s specific learning outcomes. MATC strongly recommends that students take this course concurrently with ITDEV-198.

ITNET – IT Networking
(Department: 150)

ITNET-101 Credits: 3
Network Communications (Network+)
This course provides an introduction to networking technologies and provides good background material for students interested in preparing for CompTIA's broad-based, vendor-independent networking certification exam, Network+. This course covers a wide range of material about networking such as LAN components, OSI model and standards organizations, transmission media, topologies, protocols (such as TCP/IP), interconnecting devices, wide area networks and security. Through hands-on exercises, demonstration and discussion, students will develop an understanding of what is involved in basic network design, network management, security and troubleshooting.
ITNET-105 Credits: 1
Remote Management – Windows Client
Students will set up various network configurations on the Windows client through hands-on lab activities. This includes configuring shared resources, advanced file and folder management, remote desktop, remote assistance, virtual private networks and the basics in enterprise computing. This class provides preparation for the networking section of Microsoft Windows client certification exams. It is recommended that students enrolling in this class have completed ITNET-110 Networking Basics and ITNET-104 Windows OS Fundamentals, or have basic knowledge in networking and familiarity with the Windows client operating system.

ITNET-110 Credits: 3
Managing Windows Desktop (Client) Operating System
This course provides preparation for the Microsoft Certified Solutions Associate (MCSA) Windows 10 certification (70-697 Configuring Windows Devices and 70-698 Installing and Configuring Windows 10). Students are introduced to the Microsoft Windows 10 operating system through lectures, demonstrations, discussions and hands-on lab activities. Topics include: installation, configuration, hardware and application management, troubleshooting, networking and securing Windows 10.

ITNET-111 Credits: 3
Microsoft Server Administration 2
This course provides certification exam preparation for Windows Server 2016 (70-742). Topics include: installation, configuration, management and maintenance of Active Directory Domain Services (AD DS); management of group policies; and various other Active Directory and server services. Through discussions, demonstrations and hands-on labs, ITNET-111 advances the content presented in ITNET-110 and ITNET-112. MATC strongly recommends that students complete ITNET-112, or have equivalent skills, prior to enrollment in this course.

ITNET-112 Credits: 3
Microsoft Server Administration 1
This course provides certification exam preparation for Windows Server 2016 (70-740). Topics include: server installation, storage, configuration and management; file and share access; print and document services; Active Directory; Group Policy; DNS; DHCP; and various OS features available in Windows Server 2016. Through discussions, demonstrations and hands-on labs, ITNET-112 advances the content presented in ITNET-110. MATC strongly recommends that students complete ITNET-110, or have equivalent skills, prior to enrollment of this course.

ITNET-131 Credits: 3
Introduction to Networks (Cisco 1)
This is the first of four classes designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. Instruction includes networking, networking terminology and protocols, network standards, LANs, WANS, OSI models, cabling, IP addressing and network standards. Students who complete all four courses will be prepared to take the Cisco Certified Networking Associate (CCNA) exam, as well as the CompTIA Network+ exam at MATC’s VUE test center.

ITNET-132 Credits: 3
Routing and Switching Essentials (Cisco 2)
This is the second of four classes designed to provide students with classroom and laboratory experience in networking technology. Instruction includes Ethernet, TCP/IP, EIGRP, OSPF and the Cisco IOS. Emphasis is placed on router and switch configuration. MATC strongly recommends that students complete ITNET-131, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITNET-131.

ITNET-133 Credits: 3
Scaling Networks (Cisco 3)
This is the third of four courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis was used in the development of the content standards. The focus of this course continues with objectives from the CCNA exam. Subjects include VLSM, EIGRP, OSPF, Ethernet Switching, VLANs and Rapid Spanning Tree Protocol (STP). Prerequisite(s): ITNET-132.

ITNET-134 Credits: 3
Connecting Networks (Cisco 4)
This is the fourth and final in a series of classes designed to provide students with classroom and laboratory experience in networking technology. The focus of this course continues with objectives from the CCNA exam. Subjects include Virtual Private Network (VPN), Broadband technologies, PPP and WAN concepts. MATC strongly recommends that students complete ITNET-133, or have the equivalent skills, prior to enrollment in this course.

ITNET-157 Credits: 3
Emerging Network Technologies
This hands-on training course explores installation, configuration and management of VMware vSphere, which consists of VMware ESXi, ESX and VMware vCenter Server. Students are introduced to virtualization and storage management concepts using VMware server virtualization products. This course is required for individuals to sit for the VMware Certified Professional (VCP) examination. Students should be concurrently enrolled in (or have completed) ITNET-111 and ITNET-134 prior to taking this course.

ITNET-159 Credits: 3
Cloud Infrastructure Services
Cloud Infrastructure Services is an “open” course focused on virtualization, and the technology concepts and principles required to build a cloud infrastructure. This vendor-neutral class is applicable to all IT professionals whose responsibilities are expanding across all technology domains, including servers, storage, networking and applications.

ITNET-161 Credits: 2
Linux Overview
This course introduces the basics of Linux operating systems. Students learn how to install, configure and use Linux. The main emphasis is on the Linux shell commands and simple shell scripts.

ITNET-198 Credits: 1
Linux Overview
This course introduces the basics of Linux operating systems. Students learn how to install, configure and use Linux. The main emphasis is on the Linux shell commands and simple shell scripts.

ITNET-199 Credits: 2
Integrated Project – Network Specialist
The Integrated Project is a capstone project that reflects the student’s culminating experience in their program. In this course, students integrate their knowledge and skills in IT, reflect upon the work they have produced throughout their program, put their thoughts about their work into writing, demonstrate core ability skills and display overall comprehension of their program. MATC strongly recommends that students complete or enroll in ITNET-134, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): INTRN-796.
ITSEC – IT Information System Security (Department: 150)

ITSEC-106 Credit: 1
Securing Windows Client
Through hands-on activities, students will cover how to enhance security protection on Windows clients. This includes creating security policies and templates, auditing, authentication, software restrictions, encryption and best practices on hardening the Windows client operating system. This class provides good background material for the security content of Microsoft’s client certification exam. It is recommended that students enrolling in this class have either completed ITNET-104 Windows OS Fundamentals or have a working knowledge of the Windows client operating system.

ITSEC-120 Credit: 3
Security Policies and Procedures
In this course, students learn how to develop a security vision and effective policies to protect information, people and property. Ethics versus law issues in information systems are addressed. Examining emerging technologies, such as IoT, cloud technologies, security containers and smart buildings, security devices, also are covered in this class. MATC strongly recommends that students take ITNET-131 (or ITNET-101) and ITSEC-124 before taking this course, or have the equivalent skills prior to enrollment in this course.

ITSEC-122 Credit: 3
Web/Application Security
This course is designed to educate students about the security issues of the web, web browser and web services. In particular, students will learn about the client, as well as server-side security measures. At course completion, students will be able to define, design and implement a secure website, as well as establish an end-to-end secure web link between a client and server. Topics such as SSL, open SSL and CGI Security are covered. MATC strongly recommends that students complete ITSEC-124, or have the equivalent skills, prior to enrollment in this course.

ITSEC-124 Credit: 3
Network Security (Security+)
Students will focus on the fundamentals and implementation of network security, including secure access methods and vulnerabilities in network protocols, operating systems and network applications. Students will use techniques and tools for developing secure infrastructure. MATC strongly recommends that students complete ITSEC-101, or have the equivalent skills, prior to enrollment in this course.

ITSEC-126 Credit: 3
Computer Forensics
This course familiarizes the student with methods of properly conducting a computer forensics investigation, beginning with a discussion of ethics. The goal is to conduct a structured investigation to determine exactly what happened and who was responsible, and to perform the investigation in such a way that the results are useful in a criminal proceeding. Students will practice how to collect and analyze the digital evidence left behind at a crime scene. This course maps to the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. MATC strongly recommends that students complete ITSUP-102, or have the equivalent skills, prior to enrollment in this course.

ITSEC-136 Credit: 3
Unix/Linux Administration and Security
Unix/Linux Server hardening methods and tools are covered in this course. In addition, the security tools and application inside Unix/Linux are taught. Particularly, students will learn how to protect password files, monitor log files, use port scanners, network scanners, traceroute and ping. Additional topics include secure remote connections such as SSH. MATC strongly recommends that students complete ITSEC-124 and ITNET-161, or have the equivalent skills, prior to enrollment in this course.

ITSEC-140 Credit: 3
Router Security
This course covers general network security and introduces routers and their configurations, routing and routed protocols, assess list, NAT, configuring network access server for Cisco Secure ACS and TACACS+, and RADIUS. Basic firewall configuration and IDS/IPS concepts also are covered. MATC strongly recommends that students complete ITSEC-124, or have the equivalent skills, prior to enrollment in this course.

ITSEC-145 Credit: 3
Perimeter Security
This course covers advanced router configuration, advanced firewall configuration and management, VPN solutions, configuration and management of IDS/IPS, log monitoring, consolidation and reporting. Designing secure network architectures also is covered. Labs utilize a variety of equipment and software from a number of different vendors. MATC strongly recommends that students complete ITSEC-140, or have the equivalent skills, prior to enrollment in this course.

ITSEC-146 Credit: 3
Security Measures and Intrusion Detection
This course is concerned with the collection of events from audit trails, network monitoring systems and intrusion detection systems, as well as designing a system to provide early warning of information attack. The class teaches students how to identify, exploit and secure well-known and little-known vulnerabilities in Microsoft Windows and UNIX/Linux operating systems. Moreover, it explores common weaknesses in router and firewall installations, teaching the methods that are used to circumvent traditional and “hardened” security filters or firewalls. This core technology area also is concerned with fusion of data from multiple sensors to form a real-time picture of the Information Assurance battle space. Protective measures and Incident Response Checklist are covered in this course.

MATC strongly recommends that students complete ITSEC-135 or ITSEC-136, or have the equivalent skills, prior to enrollment in this course.

ITSEC-148 Credit: 3
Securing Wireless Devices and Networks
Students learn wireless network fundamentals and physical layer standards to build and secure WLAN; to install, configure and manage Cisco Air connect and 3Com Air Connect security and network security settings; and troubleshooting. Devices such as PDAs, wireless cameras and other cutting-edge technologies will be explored. MATC strongly recommends that students complete ITSEC-124, or have the equivalent skills, prior to enrollment in this course.

ITSEC-151 Credit: 3
IT – Auditing
In this course, all six domains of the Certified Information Systems Auditor (CISA) exam is covered, including the knowledge and technical concepts as specified by CISA certification. These domains include Information System Auditing Process, IT Governance, System and Infrastructure Lifecycle Management, IT Service Delivery and Support, Protection of Information Assets, Business Continuity and Disaster Recovery. MATC strongly recommends that students complete ITSEC-114, or have the equivalent skills, prior to enrollment in this course.

ITSEC-152 Credit: 3
Information Security Risk Management
This course will introduce the student to information security risk management frameworks, based on internationally accepted standards from the National Institute of Standards and Technology (NIST), the International Organization for Standardization (ISO) and others. Students will become familiar with the basic aspects of the various standards and will practice their use in measuring risks related to security, regulatory compliance and audits. At course completion, students will have an understanding of risk management strategies and practices, as well as some basic skill in practical application of those strategies.
**ITSEC – ITSUP DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS**

**ITSEC-156 Credits: 3**
**Mobile Devices Forensics**
In this course, students will learn the history and evolution of mobile forensics, understand the cellular network and components, learn the legal aspects in obtaining cellular evidence. Also, the class will cover imaging mobile devices, understanding cellular records and their use in cellular evidence. Students will learn the ability to utilize forensics tools to conduct analysis of mobile devices, in addition to being able to create evidence case reports. Prerequisite(s): ITSEC-126.

**ITSEC-164 Credits: 1**
**Packet Analysis (Wireshark/Nmap)**
In this course, students will be introduced to Wireshark and Nmap. Wireshark is a tool used for troubleshooting network problems, where Nmap is used as a penetration testing tool. Students will be introduced to Wireshark interface, how to capture traffic, create and apply capture filters, define time values and interpret basic trace files such as ARP, HTTP, HTTPS, Telnet, FTP, SSH. Students will also be introduced to Nmap and its capability as a security tool to scan different operating systems.

**ITSEC-166 Credits: 3**
**Advanced Forensics**
This course will address advanced topics in computer forensics, mobile forensics, network forensics and incident response. Topics include data hiding, encryption, advanced Windows registry, steganography and password recovery. Prerequisite(s): ITSEC-126.

**ITSEC-176 Credits: 3**
**Malware Forensics**
This course will start from malware basics and gradually teach the learners how to perform a malware forensic investigation as a part of incident response. In addition, an introduction to reverse-engineering malware will be provided. Since familiarity with programming is necessary for this course, an introduction to programming using Python and/or C is covered at the beginning of the course. In addition, general familiarity with networking and TCP/IP, operating system internals (Windows and Unix), computer security, digital forensics and incident response is very essential for this course.

**ITSEC-191 Credits: 1**
**Information Systems Security Internship**
Students will explore the field of professional computing, information technology and information systems security by working in a real work environment, and applying the skills gained from previously taken courses from the information systems security program. The practical work experience will be gained under the supervision of an information technology professional supervisor in day-to-day, onsite technical work. Prerequisite(s): INTRN-796.

**ITSEC-194 Credits: 1**
**Security Project Implementation**
This course helps students gain in-demand skills. The course emphasizes real and hands-on experience in different areas of security such as security assessment, virtualization, log file consolidation, design, and installation of security tools such as firewalls, IDSs, VPNs, and other existing or new technologies.

**ITSUP – IT Support (Department: 154)**

**ITSUP-106 Credits: 1**
**Linux Support**
Students will acquire a practical understanding of how Linux works. This course will include Linux OS fundamentals, basic commands and file system management as it applies to technical support. Students will work on hands-on labs that will use the GUI interface as well as command line tools.

**ITSUP-108 Credits: 3**
**Enterprise Desktop Support Technician**
This course prepares students for Microsoft Enterprise Desktop Support Technician (MCITP 70-665) certification. Students learn how to identify the cause and resolve Windows desktop application issues, resolve networking and security issues, identify and resolve performance issues, solve hardware failures, solve enterprise wireless connectivity issues, solve enterprise remote access issues, troubleshoot VPN access and provide enterprise support, identify and solve enterprise security issues, solve enterprise storage issues, and resolve enterprise software update issues.

**ITSUP-109 Credits: 3**
**Microsoft Office for IT Professionals**
This course prepares students to effectively utilize Microsoft Office in IT organization. Students will learn features of latest versions of Microsoft Excel, Microsoft Word, Microsoft Access, OneNote and PowerPoint through hands-on labs, comprehensive projects and business scenarios.

**ITSUP-110 Credits: 3**
**Supporting Microsoft Windows**
This course prepares students to pass Microsoft MCP, MCSA and MCSE Certification Exam 70-688. Students learn how to effectively manage and maintain current version of Microsoft Windows enterprise system. Through hands-on labs, students work on OS installation, configuration, remote access, authentication, authorization and security configuration, support of desktop apps and much more.

**ITSUP-140 Credits: 3**
**Support Center Analyst (HDI-SCA, HDI-DST, ITIL)**
This course prepares students for HDI-SCA (Help Desk Institute Support Center Analyst), HDI-DST (Desktop Support Technician) and ITIL Foundation certifications by teaching how to provide front-line support for customers. The course focuses on strategies for effective customer service with an emphasis on problem-solving and troubleshooting skills, call-handling procedures, incident management and call tracking applications. Topics such as active listening skills and effective communication strategies will be covered, as well as strategies for improving customer interactions.
Mobile Device Repair and Maintenance

This course provides students with expert mobile device repair knowledge and advanced repair skills. It incorporates both classroom education and hands-on real-world repair scenarios where students will gain immediate knowledge to service and repair smartphones, cellular phones and hand-held devices. Students learn how to disassemble and repair iOS Android and Windows Mobile devices. Students also learn how to troubleshoot phone issues, resolve network communication issues on the device, and replace batteries, LCD, broken lens, cameras and touchscreens. Course also teaches students the concepts of data transfer and recovery, jailbreaking, and cellphone locking and unlocking.

Apple OS X Certified Support Professional (ACSP)

This hands-on course provides an in-depth exploration of troubleshooting of the Apple OS X operating systems and prepares students for Apple OSC Certified Support Professional (ACSP) Certification. This course will teach students the best methods for effectively supporting users of the Apple OS X operating system. Course covers labs on installation, setup and configuration, OS X Recovery, software updates, file system, FileVault, permissions and sharing, data management, application and processes, network configuration, network services, peripherals, printing and system startup. The course is a combination of lecture and hands-on case study exercises that provide practical real-world experience.

CompTIA Mobility+ (IOS, Android, Windows)

This hands-on course prepares students for the CompTIA Mobility+ Certification exam. Students will gain knowledge and hands-on skills required to understand and research capabilities of mobile devices and features of over-the-air technology. Students will learn device administration for three major mobile platforms: iOS, Android and Windows Mobile. They also will learn how to deploy, integrate, support and manage a mobile environment, ensuring proper security measures are implemented for devices and platforms while maintaining usability. Students will learn various encryption methods used for securing mobile devices, authentication best practices, disk and folder encryption, and other security concepts to help secure and protect data on mobile devices. This course is the combination of lectures and hands-on exercises with iPad, Google Nexus and Microsoft Surface Pro devices.

Technology and Computer Hardware

Through hands-on lab activities, students will practice building, installing and configuring computer systems. Hardware topics include motherboards, BIOS, CPUs, RAM, power supplies, ESD, expansion cards, connection interfaces, storage devices, display devices, printers and other peripheral devices. This class provides good background material for the Hardware and Operational Procedures content of the current CompTIA A+ exam.

IT Career Skills

This course prepares students for careers in information technology. Students learn about a variety of positions available in IT computer support, different career paths in IT, how to prepare a quality résumé, search for the job and apply for a position, go through the interview process, complete a background check and secure the employment. Students participate in mock interviews and learn how to use social media to increase their chances to get hired.

Introduction to IT Projects, Teamwork and Self-Management

This course prepares students for teamwork and working on IT projects. Students learn about a variety of project concepts, and learn how to work with colleagues, team members and stakeholders. Concept of self-management will be introduced to help students organize their work and improve their soft skills. Students will learn the concept of “return on investment” and “value delivery” for the organization. Students participate in group exercises, create and execute project plans, and work together on team activities.

Business Data Analytics

Through labs and hands-on exercises, students will learn about business data analytics. Students will learn to report, inspect, clean, transform and model business data with the goal of discovering useful information, suggesting conclusions, and supporting organizational decision-making.

Computer Support Specialist Internship

This internship course directs students to obtain an IT internship at local area employers. Based on the jobs available, students will perform required IT computer specialist support activities, configure and install new software, and troubleshoot and solve issues with hardware, OS and applications, networks, and virtual setups and configurations. Prerequisite(s): INTRN-796.

Integrated Project – Computer Support Specialist

The integrated project course is a capstone project that reflects student’s culminating experience in the IT Computer Support Specialist program. In this course, students integrate their knowledge and skills in IT by working on the final project, demonstrating core ability skills and displaying overall comprehension of the discipline.

LOGMGT – Logistics Transportation/Materials Management (Department: 182)

Enterprise Resource Planning

This course will provide the fundamentals of enterprise resource planning (ERP) systems concepts and the importance of integrated information systems in an organization. The focus of this course is on illustrating procurement, production and sales business processes using ERP software. Students will receive application experience utilizing an SAP (Systems, Applications and Products) database.

eCommerce Logistics

The continued double-digit growth of e-commerce is not solely a matter of retailers readjusting and getting smarter about their products and last-mile shipping strategies. In fact, the impact of digital commerce and the subsequent challenge of Omni-channel fulfillment cuts across every part of the organization. This course will observe supply chain management through the lens of retail and ecommerce. Students will investigate emerging logistics strategies, tools and technologies that enable order fulfillment in the rapidly evolving ecommerce space. Because satisfied customers lead to return visits and increased sales, the fundamental lesson of this course will reveal how choices at the beginning of the retail value chain affect service aspects at the end of the logistics chain.

Production Planning and Inventory Control

This course focuses on inventory and planning concerns. The planning side of operations is examined, including master scheduling, requirements planning, capacity management, shop floor control and forecasting.

Operations Management

This course is designed to acquaint students with the specialized vocabulary and problems encountered in manufacturing management. Tools and techniques for solving production process problems are presented with an emphasis on quality and productivity.
LOGMGT – Supply Chain Management
This course provides the student with an overview of supply chain management. Topics covered in the course include transportation, distribution, customer relationship management, supply management, forecasting, Just-In-Time, inventory management, Total Quality Management and facilities management.

LOGMGT-170 Procurement
This course includes an analysis of the purchasing process, a review of purchasing activities and identification of purchasing problems in modern organizations. Attention is given to the role of purchasing in the organization, supplier selection, negotiation, sourcing issues, inventory management and quality concerns.

LOGMGT-184 International Logistics
In the management of international logistics, both import and export are studied. Attention is given to the data necessary for accurate preparation of export documentation. Management and selection of international transportation modes and associated regulations are explained.

LOGMGT-190 Logistics
This course provides an understanding of the key logistics concepts and the issues affecting the movement and storage of goods. Particular emphasis will be placed on providing a broad and general exposure to business logistics. This will include the development of a basic understanding of the concepts and techniques important to analyzing business logistics problems. The course also will examine how the various logistics activities are related to each other and other functional areas within an organization. Finally, the course will introduce management and control techniques that are critical in the area of logistics. The course is designed for students who have had little or no previous coursework or professional experience in logistics.

LOGMGT-191 Integrated Supply Chain Management Capstone
This course will provide the student with hands-on, cumulative application experience. Students will use the knowledge gained in the previous six courses within the Supply Chain Management associate degree program to develop operational strategies for business applications. Simulations and industry projects will be utilized in this capstone course.

LOGMGT-192 Introduction to CNC Setup and Operations
Introduction to CNC Setup and Operations prepares the student to write basic programs for CNC turning and CNC vertical milling machines. Application of the Cartesian coordinate system is taught along with programming format. The CNC Vertical Milling Center students will write basic programs using linear and rapid moves, circular interpolation, geometry offsets and a variety of canned cycles. CNC turning portion of the course will require the student to write programs that include linear and rapid moves, circular interpolation with tool nose radius compensation, canned cycles and threading cycles. Prerequisite(s): Completion of or currently enrolled in MACHTL-320 and MACHTL-322.

MACHTL-309 Manual Vertical Milling Machine 2
This course offers more advanced instruction for machining operations on a manual vertical milling machine. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Students also will learn how to set up and operate a vertical band saw and a cut off saw. Additionally, students will perform off-hand grinding on a pedestal grinder.

MACHTL-310 Manual Vertical Milling Machine 3
This course offers further advanced instruction for machining operations on a manual vertical milling machine. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Students also will learn how to set up and perform multiple operations on a drill press. Prerequisite(s): MACHTL-309.

MACHTL-320 Introduction to CNC Turning Centers
Students are introduced to basic CNC turning setup and operation. The course begins with the student loading and running existing programs. After becoming familiar with the controls and the setup process, the student begins to edit existing programs. By the end of the course, the student produces parts to print specifications from programs developed on their own.

MACHTL-324 Introduction to CNC Programming
Introduction to CNC Programming prepares the student to write basic programs for CNC turning and CNC vertical milling machines. Application of the Cartesian coordinates system is taught along with programming format. The CNC vertical milling center students will write basic programs using linear and rapid moves, circular interpolation, geometry offsets and a variety of canned cycles. CNC turning portion of the course will require the student to write programs that include linear and rapid moves, circular interpolation with tool nose radius compensation, canned cycles and threading cycles. Prerequisite(s): Completion of or currently enrolled in MACHTL-320 and MACHTL-322.
MACHTL-322  Credits: 4  
Introduction to CNC Vertical Machining Centers  
Students are introduced to basic CNC milling machine setup and operation. The course begins with the student loading and running existing programs. After becoming familiar with the controls and the setup process, the student begins to edit existing programs. By the end of the course, the students produce parts to print specifications from programs developed on their own. Prerequisite(s): MACHTL-310.

MACHTL-325  Credits: 4  
Surface Grinding  
This course is designed to teach the student the basics of surface grinding on a manual surface grinder. General maintenance of the machine will be covered along with wheel mounting, chuck preparation and work holding. The student will learn a variety of methods for squaring blocks, slot grinding and angular grinding also will be covered.

MACHTL-346  Credits: 2  
Machine Shop for Related Trades  
Instruction in this course is based upon selected operations performed on the bench, drill press, engine lathe, milling machine and pedestal grinder.

MACHTL-347  Credits: 3  
Single Spindle Automatic Screw Machine 1  
This course offers instruction on the basic operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Items of instruction will include using basic tools, tool sharpening, machine layout, part inspection, safety and job organization. Detailed information will be given on the screw machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate an automatic screw machine and produce parts that require basic operations. Prerequisite(s): MACHTL-348.

MACHTL-360  Credits: 1  
Metrology  
Students are introduced to inspection terminology, measuring instruments, instrument handling and measuring techniques. Along with hands-on use of each measuring instrument, the course provides the student with criteria for proper instrument selection based on part print requirements.

MACHTL-361  Credits: 3  
Multiple Spindle Automatic Screw Machine 1  
This course offers instruction on the basic operations on a multiple spindle automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will include using basic tools, tool sharpening, machine layout, part inspection, safety and job organization. Detailed information will be given on the basic screw machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require basic operations. Prerequisite(s): MACHTL-348.

MACHTL-362  Credits: 3  
Multiple Spindle Automatic Screw Machine 2  
Instruction is expanded to more operations on a multiple spindle automatic screw machine. Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the multiple spindle screw machine tooling used for turning, reaming and recessing. The student will be introduced to the steps for calculating a layout for the machine. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require advanced operations. Prerequisite(s): MACHTL-361.

MACHTL-367  Credits: 1  
Machine Tool Technology  
This course is designed to teach the student safety, terminology and theory for the basic machine tools found in the common machine shop. Machine types, components, operations, tooling, machining applications and work holding are discussed. The student also will learn about different materials, machine ability and cutting tool selection.

MACHTL-371  Credits: 4  
CNC Swiss Turning Center 1  
This course offers instruction on the basic operations and setup of a CNC automatic turning machine. Instruction will include basic setup, use of the CNC control, tools, machine layout, part inspection, safety and job organization. Detailed information will be given on the basic machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a CNC automatic turning machine and produce parts that require basic operations such as turning, drilling and reaming.

MACHTL-372  Credits: 4  
CNC Swiss Turning Center 2  
This course offers instruction on the more complex operations on a CNC automatic turning machine. Items of instruction will include editing of the CNC program, calculations for the CNC program and more complex machining operations on the CNC automatic turning machine. Upon completion of the course, the student will be able to edit a CNC program, set up and operate a CNC automatic turning machine and produce parts that have complex operations such as boring, grooving and canned cycles. Prerequisite(s): MACHTL-371.

MACHTL-373  Credits: 4  
CNC Swiss Turning Center 3  
This course offers instruction on the more complex operations on a CNC automatic turning machine. Items of instruction will include creating a CNC program, calculations for the CNC program and more complex machining operations on the CNC automatic turning machine. Upon completion of the course, the student will be able to edit a CNC program, transfer the program and set up and operate a CNC automatic turning machine using complex operations such as external and internal threading and tapping. Prerequisite(s): MACHTL-372.

MACHTL-384  Credits: 1  
Machine Trades Mathematics 1  
This course provides students with the necessary mathematical foundation for problem-solving in the metalworking trades. A review of the basic principles of arithmetic and algebra is offered.

MACHTL-385  Credits: 1  
Machine Trades Mathematics 2  
This course presents an introduction to geometric methods applicable to the machine shop. It also provides students with an opportunity to analyze and solve a variety of practical, machine trade applications and problems. Prerequisite(s): MACHTL-384.

MACHTL-386  Credits: 1  
Machine Trades Mathematics 3  
This course presents an introduction to the trigonometric solution of shop problems. The basic right triangle functions and oblique triangle laws of sine and cosine are used to solve problems. Prerequisite(s): MACHTL-385.

MACHTL-387  Credits: 1  
Machine Trades Mathematics 4  
The application of trigonometry in the solution of more complex shop problems is presented. Included are problems with tapers, sine bar, dovetails, correlate distances, hole locations, measurement of screw threads, and measurement using rods and balls. Prerequisite(s): MACHTL-386.
MACHTL – MATH

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MACHTL-391
Quality Control
This course is a continuation of MACHTL-360 Metrology. The level of precision is increased as more precise instruments and methods of inspection are taught. Gage blocks, the optical comparator, dial bore gages and the coordinate measuring machine (CMM) are just some of the advanced pieces of equipment that are introduced. The basic concept of statistical process control (SPC) also is presented. Prerequisite(s): MACHTL-360.

MASON – Bricklaying and Masonry (Department: 408)

MASON-190
Current Topics in Masonry
This course explores current topics and trends in the masonry and bricklaying fields. Students may participate in hands-on demonstrations of new technology, site visits to manufacturers and suppliers to the trade, and other topics that provide the student a well-rounded view of the masonry and bricklaying trade and innovative construction methods.

MASON-300
Fundamental Bricklaying
This course provides training inlaying brick and blocks, with application to straight walls, corners and jambs. Students develop skills in the handling of bricklaying tools, spreading mortar, laying bricks and blocks to a line, and striking joints. Prerequisite(s): Must be admitted to the Bricklaying and Masonry (30-408-2) program.

MASON-303
Advanced Bricklaying
This course provides training in constructing walls with various brick bonds, brick sills, blocked walls and details of veneering. Emphasis is on developing masonry skills to accepted trade standards. Prerequisite(s): Completion of or currently enrolled in MASON-300, and must be admitted to the Bricklaying and Masonry (30-408-2) program.

MASON-306
Advanced Masonry Techniques 1
Efficiency, productivity and professional workmanship are emphasized, while hands-on projects prepare the student for employment. Chimney construction and layout of a working masonry fireplace are practiced. Prerequisite(s): MASON-303.

MASON-308
Job Safety and Layout
The proper use, care and maintenance of tools and equipment of the trowel trades are studied with specific emphasis on construction safety. Basic building layout is taught as it relates to masonry. Prerequisite(s): Must be admitted to the Bricklaying and Masonry (30-408-2) program.

MASON-310
Advanced Masonry Techniques 2
A hands-on course covering construction of arches, brick panels and stone work for various bonds and arches. Practical work is given in layout for arches, panels and stone work. The cutting of brick and stone are practiced. Glass block and thin veneer techniques are taught. Prerequisite(s): MASON-306.

MASON-356
Methods 1 – Fundamentals
This is a basic technical course in the practice and methods of the masonry trade. Through analysis, demonstration and discussion, various operations used in the trade are studied. Prerequisite(s): Completion of or currently enrolled in MASON-300 and must be admitted to the Bricklaying and Masonory (30-408-2) program.

MASON-357
Methods 2 – Advanced
Through analysis, demonstration and discussion, various phases of work, which are part of the masonry trade, are studied to understand the entire scope of masonry. Prerequisite(s): MASON-356.

MASON-381
Mathematics for Bricklayers 2
Prepared specifically for bricklayers and masons, this course includes mathematics of linear, square and cubic measurements; weights; application of formulas; and organizing procedures in determining qualities of materials. Prerequisite(s): MASON-380.

MASON-387
Blueprint Reading for Masons
Students are trained to visualize and interpret evaluations, plan views, sections and details from blueprints, and translate them into practical situations. Interpretations of symbols, conventions and abbreviations are taught.

MATGEN – Mathematics - PLI (Department: 854)

MATGEN-109
Pre-Algebra
This course will help prepare you for your required math course. This course introduces many basic topics in algebra and arithmetic processes. This transition course prepares students to succeed in their next math class (elementary algebra and subsequent algebra-related courses). Prerequisite(s): Satisfactory MATC placement test score.

MATGEN-110
Elementary Algebra With Applications
This course will help prepare you for your required math course. This course offers traditional algebra topics with applications. Learners develop algebraic problem-solving techniques needed for technical problem-solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses. Prerequisite(s): MATGEN-109 with a minimum grade of C, or a satisfactory MATC placement test score.

MATH – Mathematics (Department: 804)

MATH-107
College Mathematics
This course is designed to review and develop fundamental concepts of mathematics in the areas of algebra, geometry, trigonometry, measurement and data. Algebra topics emphasize simplifying algebraic expressions, solving linear equations and inequalities with one variable, solving proportions and percent applications. Geometry and trigonometry topics include finding areas and volumes of geometric figures, applying similar and congruent triangles, applying Pythagorean Theorem and solving right triangles using trigonometric ratios. Measurement topics emphasize the application of measurement concepts and conversion techniques within and between U.S. customary and metric system to solve problems. Data topics emphasize data organization and summarization skills, including frequency distributions, central tendency, relative position and measures of dispersion. Special emphasis is placed on problem-solving, critical thinking and logical reasoning, making connections and using calculators. Prerequisite(s): MATGEN-109 with a minimum grade of C, or satisfactory placement test score.

MATH-113
College Technical Mathematics 1A
(Applied Algebra)
Topics include solving linear, quadratic and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1. Prerequisite(s): MATGEN-110 with a minimum grade of C, or satisfactory placement test scores.
MATH-114 Credits: 2
College Technical Mathematics 1B
(Applied Geometry and Trigonometry)
This course is a continuation of College Technical Mathematics 1A. Topics include measurement systems, computational geometry, right and oblique triangle trigonometry, and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems. Prerequisite(s): MATH-113 with a minimum grade of C.

MATH-115 Credits: 5
College Technical Mathematics 1
Topics include solving linear, quadratic and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B. Completion of MATH-113 and MATH-114 with a grade of C or better is equivalent to MATH-115. Also College Algebra and Trigonometry (MATH-230), or College Algebra (MATH-201) and Trigonometry (MATH-202) may substitute for MATH-115 and MATH-116 when taken in combination. Prerequisite(s): MATGEN-110 with a minimum grade of C, or satisfactory MATC placement test score.

MATH-116 Credits: 4
College Technical Mathematics 2
Topics include vectors, trigonometric functions and their graphs, identities, exponential and logarithmic functions and equations, radical equations, equations with rational exponents, dimension of a circle, velocity, sine and cosine graphs, complex numbers in polar and rectangular form, trigonometric equations, conic sections, and analysis of statistical data. Emphasis will be on the application of skills to technical problems. Prerequisite(s): MATH-114 or MATH-115 with a minimum grade of C.

MATH-123 Credits: 3
Math With Business Applications
This course integrates algebraic concepts, proportions, percents, simple interest, compound interest, annuities and basic statistics with business/consumer scenarios. It also applies math concepts to the purchasing/buying and selling processes. Prerequisite(s): MATGEN-109 with a minimum grade of C, or satisfactory MATC placement test score.

MATH-189 Credits: 3
Introductory Statistics
Students taking Introductory Statistics display data with graphs, describe distributions with numbers, perform correlation and regression analyses and design experiments. They use probability and distributions to make predictions, estimate parameters and test hypotheses. They draw inferences about relationships including ANOVA. Prerequisite(s): MATGEN-110, MATH-113, MATH-141, or satisfactory MATC placement test score.

MATH-197 Credits: 5
College Algebra and Trigonometry With Applications
This course covers those skills needed for success in calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatorics and the binomial theorem. Prerequisite(s): MATH-116 or MATH-200 with a minimum grade of B, or satisfactory MATC placement test score.

MATH-200 Credits: 4
Intermediate Algebra
Students study the construction and resulting properties of the real number system. Students simplify and factor algebraic expressions using fundamental laws and order of operations; solve first and second degree equations and inequalities in one variable, systems of equations and exponential and logarithmic equations, graph first degree and second degree equations and inequalities in two variables; inverse functions and solve equations involving rational expressions, fractional exponents and radicals. Students will learn the basic definitions of relations and functions, and perform operations on functions. Prerequisite(s): MATGEN-110 with a minimum grade of C, or a satisfactory MATC placement test score.

MATH-201 Credits: 4
College Algebra
Students study properties of the real and complex number system; quadratic, polynomial, rational, exponential and logarithmic functions; equations and inequalities; combinatorics; the binomial theorem; the use of matrices and determinants in solving systems of equations, systems of inequalities, nonlinear systems, sequences, series and probability. Course includes use of a graphing calculator. Prerequisite(s): MATH-200 with a minimum grade of C, or satisfactory MATC placement test score.

MATH-202 Credits: 3
Trigonometry
Topics include circular functions, graphing of trigonometric functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's Theorem, polar coordinates and vectors. Learning involves extensive use of a graphing calculator. Prerequisite(s): MATH-201 with a minimum grade of C.

MATH-211 Credits: 4
Survey in Calculus and Analytic Geometry
A one-semester survey with applications to business administration, economics and non-physical sciences. Topics include coordinate systems, equations of curves, limits, differentiation, integration and applications. May not be used as a prerequisite for MATH-232. Prerequisite(s): MATH-200.

MATH-230 Credits: 5
College Algebra and Trigonometry
This course prepares students for calculus. Topics include real and complex number systems, equations, inequalities, functions (linear, polynomial, rational, radical, exponential, logarithmic and trigonometric) and their graphs, systems of equations and inequalities (linear and nonlinear), conic sections, theory of equations, matrix methods of solution of linear equations, analytic trigonometry and applications of trigonometry. Learning involves extensive use of a graphing calculator. Prerequisite(s): MATH-116 or MATH-200 with a minimum grade of B, or satisfactory MATC placement test score.

MATH-231 Credits: 5
Analytic Geometry and Calculus 1
Introduces the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic, trigonometric and elementary and transcendental functions and their applications of derivatives, the indefinite integral and its applications including areas, derivatives and integrals involving logarithmic exponential, inverse trigonometric and hyperbolic functions, curve sketching, finding maxima and minima. Use of a graphing calculator is required. Lecture. Prerequisite(s): MATH-202 or MATH-230 with a minimum grade of C, or four years of high school math (including two years of algebra, one year of geometry and one semester of trigonometry) with a minimum grade of B, or a satisfactory score on MATC placement test.

MATH-232 Credits: 5
Analytic Geometry and Calculus 2
This course is a continuation of MATH-231. Topics include integration applications and techniques, improper integrals, indeterminate forms, infinite series, Taylor polynomials, conics, parametric equations and polar equations. Use of a graphing calculator is required. Prerequisite(s): MATH-231 with a minimum grade of C.
Emphasis is placed on calculating principles of plane geometry. Concepts in basic algebra, along with skills, formulas, percents and measurement numbers, fractions, decimals, calculator skills, and introduction to algebra, estimation and problem-solving strategies. This course uses 2D and 3D CAD to introduce thread terminology, tolerances and fits, secondary auxiliary views, structural steel and weldments. The relationship between parts is explored through assemblies created from downloaded components and student-created models. This course introduces parametric solid modeling using SolidWorks software. Students focus on part modeling and assembly skills with an emphasis on design. Detail drawing with dimensioning and rapid prototyping techniques also are introduced.
### MCDESG – DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCDESG-116</td>
<td>3</td>
<td>Design Elements</td>
<td>This course instructs students on the selection of machine elements (components) and their strength analysis. These elements include belts, chains, spur gears, keys, couplings, seals, bearings, clutches, brakes, electric motors and fasteners. Strength of materials concepts and fits are applied to the shafts that carry these elements. Prerequisite(s): MCDESG-106, MCDESG-130 and CIVIL-105.</td>
</tr>
<tr>
<td>MCDESG-118</td>
<td>3</td>
<td>Kinematics</td>
<td>This course covers the displacement, velocity and acceleration of four bar linkages, slider-cranes, crank-shapers and compound mechanisms using graphical and analytical methods. Also covered are cam displacement diagrams, profiles, gear trains and epicycles. Prerequisite(s): MCDESG-104 and CIVIL-105 and MATH-116 or MATH-202, and completion of an Introduction to AutoCAD course.</td>
</tr>
<tr>
<td>MCDESG-120</td>
<td>1</td>
<td>Basic AutoCAD</td>
<td>Students are introduced to the use of AutoCAD software. The course is designed to be an introductory course enabling students to learn and apply computer-aided drafting (CAD) concepts relative to the preparation of construction drawings.</td>
</tr>
<tr>
<td>MCDESG-124</td>
<td>2</td>
<td>SolidWorks 2</td>
<td>This course introduces advanced solid modeling techniques using SolidWorks software with an emphasis on mechanical design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-114.</td>
</tr>
<tr>
<td>MCDESG-125</td>
<td>3</td>
<td>Design Problems</td>
<td>This is the capstone course for the Mechanical Design Technology associate degree. Students take the knowledge and skills acquired in other courses – Drafting, Statics, Strength of Materials, Machine Elements, Mechanisms – and apply them to a design project. Students select their own project, define the scope and the path of the completion of the projects, perform necessary computations and complete all working drawings. Prerequisite(s): MCDESG-106, MCDESG-114, MCDESG-130 and completion of or currently enrolled in MCDESG-116.</td>
</tr>
<tr>
<td>MCDESG-130</td>
<td>3</td>
<td>Strength of Materials</td>
<td>Students analyze internal stresses on linear members. The course focuses on axial, direct shear, torsional shear and bending stresses. These stresses also are combined using Mohr’s circle. Prerequisite(s): MCDESG-160.</td>
</tr>
<tr>
<td>MCDESG-133</td>
<td>2</td>
<td>Inventor 1</td>
<td>This course introduces parametric solid modeling using Inventor software. Course is focused on modeling skills for creating parts, assemblies, detail drawings. Rapid prototyping techniques also are introduced.</td>
</tr>
<tr>
<td>MCDESG-134</td>
<td>2</td>
<td>Inventor 2</td>
<td>This course introduces advanced solid modeling techniques using Inventor software with a focus on design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-133.</td>
</tr>
<tr>
<td>MCDESG-135</td>
<td>2</td>
<td>PTC Creo (Pro/E) 1</td>
<td>This course introduces parametric solid modeling techniques using PTC Creo (Pro/E) software with a focus on design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-104 and CIVIL-105 and MATH-116 or MATH-202, and completion of or currently enrolled in MCDESG-116.</td>
</tr>
<tr>
<td>MCDESG-136</td>
<td>2</td>
<td>Coordinate Blueprint Reading 1</td>
<td>This course covers the basic principles essential for visualization and interpreting blueprints and freehand sketches of basic machine part details. Emphasis is placed on orthographic projection, pictorial drawing and the principles of Geometric Dimensioning and Tolerance (GD&amp;T).</td>
</tr>
<tr>
<td>MCDESG-137</td>
<td>2</td>
<td>Machine Blueprint Reading 1</td>
<td>This course covers the basic principles essential for visualization and interpreting blueprints and freehand sketches of basic machine part details. Emphasis is placed on orthographic projection, pictorial drawing and the principles of Geometric Dimensioning and Tolerance (GD&amp;T).</td>
</tr>
<tr>
<td>MDRAFT-320</td>
<td>1</td>
<td>Machine Blueprint Reading</td>
<td>This course covers the basic principles essential for visualization and interpreting blueprints and freehand sketches of basic machine part details. Emphasis is placed on orthographic projection, pictorial drawing and the principles of Geometric Dimensioning and Tolerance (GD&amp;T).</td>
</tr>
<tr>
<td>MDRAFT-385</td>
<td>1</td>
<td>Machine Blueprint Reading 2</td>
<td>This course covers the basic principles essential for visualization and interpreting blueprints and freehand sketches of basic machine part details. Emphasis is placed on orthographic projection, pictorial drawing and the principles of Geometric Dimensioning and Tolerance (GD&amp;T).</td>
</tr>
<tr>
<td>MEDAST – Medical Assistant</td>
<td>(Department: 509)</td>
<td>Medical Assistant Administrative Procedures</td>
<td>This course introduces students to office management and business administration in the medical office. The student learns to schedule appointments; perform filing, record keeping, telephone and reception duties; communicate effectively with patients and other medical office staff; and keep an inventory of supplies. Students apply introductory medical coding skills and managed care terminology. Prerequisite(s): Admission to Medical Assistant (31-509-1) program, and completion of or currently enrolled in HEALTH-107.</td>
</tr>
</tbody>
</table>
MEDAST-302 Credits: 3
Human Body in Health and Disease
Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs and symptoms of diseases of the major body systems, as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. Prerequisite(s): HEALTH-101 and must be admitted to the Medical Assistant (31-509-1) program.

MEDAST-303 Credits: 2
Medical Assistant Lab Procedures 1
Introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform Clinical Laboratory Improvement Amendment (CLIA) waived routine laboratory procedures commonly performed in the ambulatory care setting. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology and urinalysis testing. Prerequisite(s): Admission to the Medical Assistant (31-509-1) program.

MEDAST-304 Credits: 4
Medical Assistant Clinical Procedures 1
Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills, including screening, vital signs, patient history, minor surgery, and patient preparation for routine and specialty exams in the ambulatory care setting. Prerequisite(s): HEALTH-101 and must be admitted to the Medical Assistant (31-509-1) program.

MEDAST-305 Credits: 2
Medical Assistant Laboratory Procedures 2
Prepares student to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology and chemistry laboratory procedures. Prerequisite(s): MEDAST-303 or CLABT-303.

MEDAST-306 Credits: 3
Medical Assistant Clinical Procedures 2
Prepares medical assistant students to perform patient care skills in the medical office setting. Students perform clinical procedures, including administering medications, performing an electrocardiogram, assisting with respiratory testing, coaching patients and assisting with emergency situations in an ambulatory care setting. Students learn preventive care and principles of nutrition. Prerequisite(s): MEDAST-304.

MEDAST-307 Credits: 2
Medical Office Insurance and Finance
Introduces medical assistant students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance-related duties. Prerequisite(s): MEDAST-302 and must be admitted to the Medical Assistant (31-509-1) program.

MEDAST-309 Credits: 2
Medical Law, Ethics and Professionalism
Prepares students to display professionalism and perform within ethical and legal boundaries in the healthcare setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues. Prerequisite(s): Student must be admitted to Medical Assistant (31-509-1) or Medical Interpreter (30-538-1) program.

MEDAST-310 Credits: 3
Medical Assistant Practicum
Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient care settings. Students perform medical assistant administrative, clinical and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. Current CPR and first aid certificate required. Prerequisite(s): HEALTH-101, MEDAST-301, MEDAST-302, MEDAST-306, and MEDAST-303 or CLABT-303, and completion of or currently enrolled in MEDAST-305, MEDAST-307 and MEDAST-309.

MEDINT – Medical Interpreting
(Department: 538)

MEDINT-101 Credits: 3
Cultural Awareness
Recognize, respect and accept differences in customs, beliefs and behaviors in others. Learners will examine people's specific differences and learn to respond from a variety of cultures.

MEDINT-102 Credits: 3
Spanish Regionalisms/English Variants
Students will explore words and expressions utilized in different countries as they relate to health, work and everyday living. Cultural ethnic background, historical and immigration factors also are examined. Prerequisite(s): Dual language proficiency (English/Spanish).

MEDINT-103 Credits: 3
Introduction to Medical Interpretation
This course introduces the professions of translation and interpretation. The different types of translation and interpretation are explored. Actual translations will be done in class, as well as interpretation exercises. The language industry will be discussed, which includes freelance translation and interpretation. Comprehension assessment done during the class will determine the learner's competency in both working languages. Prerequisite(s): Admission to the Medical Interpreter (30-538-1) program.

MEDINT-104 Credits: 3
Applied Medical Interpretation 1
Develop interpreting skills needed within the healthcare environment. Learning centers around general information on healthcare and the healthcare system, functions within hospital departments' healthcare procedures, and the terms needed for interaction in the healthcare environment. Culture in interpreting and communication skills for advocacy are analyzed.

MEDINT-106 Credits: 3
Introduction to Medical Translation
Fundamental overview of the intricacies of converting texts from one language to another within the context of healthcare services. Coursework includes analysis and comprehension of English or Spanish source texts and the correct construction of writing in target languages. Students explore selected materials, including patient information, medical journal articles and medico-legal documents, and use sources available to medical translators. Prerequisite(s): Dual language proficiency (English/Spanish).

MEDINT-107 Credits: 5
Bilingual Medical Terminology
This course delineates a detailed analysis and application of medical terms in English and Spanish. It offers the competencies required to meet or exceed the demands of medical interpreters and bilingual personnel within our nation's healthcare systems as they work with patients of limited English proficiency. Prerequisite(s): Dual language proficiency (English/Spanish).

MEDINT-108 Credits: 3
Ethics and Standards for Medical Interpreters
This course delineates a critical overview of the applied ethics, risk management and legal practices found at local and national levels within healthcare organizations. It delineates the scope of service that must be observed by medical interpreters and bilingual personnel while working with patients of limited English proficiency. Prerequisite(s): Dual language proficiency (English/Spanish).

MEDINT-110 Credits: 3
Applied Medical Interpretation 2
Students continue to develop accurate interpreting skills through practice and analysis. Simultaneous interpretation, managing communication, documentation, legal boundaries and interpreting in healthcare specialty areas are emphasized.
MEET – Meeting and Event Planning (Department: 109)

MEET-151 Credits: 3
Introduction to Hospitality/Tourism
This course introduces the various components of the travel services industry, including basic terminologies and tourism vocabulary. The course provides a general orientation to the program and a survey of travel career opportunities. Students learn to integrate current knowledge with ongoing events, and trends of the travel and tourism industry.

MEET-178 Credits: 3
Meeting and Convention Planning
This course introduces students to the meetings industry, including promotional activities, negotiating for meeting services, convention market salesmanship, customer service and convention servicing. Course content includes a study of the planning, marketing, execution and follow-up of meetings, conferences, conventions and package promotions. Facilities and event planning, as well as convention methods and techniques, are explored in depth. Prerequisite(s): MEET-180, MEET-181.

MEET-180 Credits: 3
Registration and Housing Logistics
This course enables the students to identify and develop tools that allow attendees to have a seamless meeting experience. One critical tool the students will learn in this course is to design a functional registration process. Students also will develop a housing process by creating rooming lists, coordinating the housing logistics and managing sleeping guests from blocks. Prerequisite(s): MEET-181.

MEET-181 Credits: 3
Exposition/Special Event Management
This course focuses on the planning of special events of all types, including expositions, meetings, conventions, trade shows, retail events, festivals and nonprofit events in the hospitality and event management industry. Emphasis is placed on the methodology of event planning, including theme setting, building the target sponsorship, contracts, negotiations, site selections, planning event specifications and working with budgets. Prerequisite(s): MEET-151.

MEET-184 Credits: 3
Negotiation/Risk Management
This course focuses on the art and science of negotiations, crisis planning and risk management, and contract and legal issues in the meetings industry. Students learn to identify issues that are negotiable, the steps in the negotiation process and commonly used negotiation techniques. The course also focuses on basic contract provisions and key clauses of a facility contract, as well as the unique elements and differences of hotel and convention center contracts. Prerequisite(s): MEET-180.

MEFGMTNT – Manufacturing Maintenance (Department: 462)

MEFGMTNT-332 Credits: 2
Rigging and Lifting
This system teaches how to safely move loads of different shapes and sizes using a variety of methods. Also teaches additional types of rigging skills, including equipment movement, wire mesh slings, synthetic slings, knots, load turning and cranes. This course includes additional hoists, slings, loads, and student-learning materials for theory and lab. This course also covers the operation, function and maintenance of wire mesh slings and fiber ropes, load movement and rigging knots. Proper rigging techniques are vital for efficient movement of loads and worker’s safety.

MEFGMTNT-353 Credits: 2
Mechanical Drives 2
Mechanical Drives 2 covers heavy-duty V-belt drives, including conventional, multiple, wedge and variable speed V-belt drives. This course describes V-belt selection and maintenance by covering V-belt size specification, component identification and troubleshooting. Learners will develop fundamental knowledge of synchronous belt drives, lubrication concepts, precision shaft alignment and coupling. Also covered are heavy-duty chain drives, which will describe silent chain drives, multiple-strand systems, chain selection, chain lubrication, chain maintenance and troubleshooting. Prerequisite(s): MEFGMTNT-352.

MEFGMTNT-359 Credits: 2
Mechanical Fabrication
Mechanical Fabrication grounds learners in the basic knowledge needed for assembly. Learners focus on the proper and safe application of hand tools. The course builds knowledge in the many types of bolts, wrenches and other fittings commonly used in industry and how to properly apply them, including pneumatic fabrication fittings. Focuses on proper techniques for checking connections and testing fittings with an emphasis on safety. Proper tool use helps in many ways, including injury avoidance, fewer product quality issues and lower tool breakage costs.

MGTDEV – Management Development (Department: 196)

MGTDEV-134 Credits: 3
Legal Issues for Supervisors
Students apply the skills and tools necessary for supervisors to effectively function in today’s legal work environment. Each student will demonstrate the application of legal practices in both union and nonunion environments, analysis of the impact of U.S. employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring and firing process, dealing with harassment issues and privacy issues, and summarizing legal issues facing contemporary supervisors.

MGTDEV-164 Credits: 3
Personal Skills for Supervisors
In this course, students apply the skills and tools necessary to deal with time management, stress, and related challenges of a supervisor. Each student demonstrates the application of time management techniques, personal planning, continuous learning, valuing rights and responsibilities of others, effective communication, assertiveness and dealing effectively with stress.
MGTDEV – MKTG

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MGTDEV-188 Credits: 3
Project Management
In this course, students apply the skills and tools necessary to design, implement and evaluate formal projects. Each student demonstrates the application of the role of project management, develops a project proposal, uses relevant software, works with project teams, sequences tasks, charts progress and deals with variations, budgets and resources, implementation and assessment.

MGTDEV-189 Credits: 3
Team Building and Problem-Solving
In this course, students apply the skills and tools necessary to facilitate problem-solving in a team environment. Each student demonstrates the application of the benefits and challenges of group work, including necessary roles in a team, stages of team development, different approaches to problem-solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation and evaluation.

MGTDEV-190 Credits: 3
Leadership Development
In this course, students apply the skills and tools necessary to fulfill their role as a modern leader. Each student demonstrates the application of evaluating leadership effectiveness and organization requirements, including individual and group motivation strategies, implementing the mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change and effective conflict resolution.

MGTDEV-191 Credits: 3
Supervision
In this course, students apply the skills and tools necessary to perform the functions of a frontline leader. Each student demonstrates the application of strategies and transition to a contemporary supervisory role, including day-to-day operations, analysis, delegation, controlling, staffing, leadership, problem-solving, team skills, motivation and training.

MGTDEV-192 Credits: 3
Managing for Quality
In this course, students apply the skills and tools necessary to implement and maintain a continuous improvement environment. Each student demonstrates the application of a personal philosophy of quality, including identifying all stakeholder relationships, meeting/exceeding customer expectations, having a systems-focused approach, using appropriate models and tools, managing a quality improvement project and measuring effectiveness of continuous improvement activities.

MGTDEV-195 Credits: 3
Managerial Communications
In this course, students apply the skills and tools necessary to effectively deliver management messages in a written and oral format. Each student demonstrates the application of analyzing the communication situation, including planning and preparing the message; developing persuasive, informational and negative messages in written and oral formats; demonstrating skills in basic writing mechanics and English grammar; demonstrating effective delivery of oral presentations; incorporating visual aids; and showing sensitivity to diverse audiences.

MKTG – Marketing
(Department: 104)

MKTG-102 Credits: 3
Marketing Principles
This course covers the study of the marketing process as it relates to the problems and policies of the profitable operation of a business enterprise. Special attention is given to the role and significance of distribution channels, evaluation of consumer needs, price determination, promotional and sales strategy, and governmental regulations.

MKTG-104 Credits: 3
Selling Principles
The philosophy of salesmanship is introduced through learning to understand the societal role of salespersons and human behaviors, as well as to sell ideas, products, services and self. Students prepare sales presentations, including the use of computer graphics, and practice various selling techniques while building self-confidence.

MKTG-106 Credits: 3
Retail and Consumer Marketing
Course introduces students to the economic impact of retail and consumer spending, omni-channel retailing, retail formats, merchandise management, technology in retail and the rise of Amazon. Competitive strategies will be discussed. Prerequisite(s): MKTG-102.

MKTG-107 Credits: 3
Customer Experience
Course covers the skills needed to deliver an exceptional customer experience and build customer relationships, the use of technology to improve the customer experience, and service strategies and service recovery with the ultimate goal of customer loyalty.

MKTG-109 Credits: 3
Textiles
This course is an introduction to textiles, with major emphasis on finished fabrics. Studies are made of fibers, yarns, fabric construction, coloration, finishes, care, and legal aspects and terminology as they relate to the buying, selling and promotion of merchandise. Students assemble a swatch kit of sample fabrics, practice dyeing and printing fabrics, do performance tests, and may experiment with stain removal.

MKTG-118 Credits: 3
Social Media Marketing
This course covers marketing strategies on Facebook, Instagram, Twitter, Snapchat, Pinterest, LinkedIn and YouTube. This is an application-based course and will teach students how to utilize each platform for social media marketing.

MKTG-119 Credits: 3
Visual Merchandising
The proper use of equipment, signage and lighting for different display areas is covered. Students construct flying, case, wall and mannequin displays, and study planograms and store planning, floor layout, store fixtures, display locations and merchandise presentation.

MKTG-124 Credits: 3
Fashion Merchandising and Marketing
Merchandising fashion goods – men’s, women’s and children’s apparel and accessories – is studied. Current trends in each classification of goods are discussed. Continuous review of retailers’ trade papers emphasizes the current aspects of fashion merchandising, and local applications are cited. The process of merchandise creation, from designer inception to consumer, is examined.

MKTG-134 Credits: 3
Integrated Marketing Communications
Introduces students to the concepts of integrated marketing communication (IMC). Emphasis is placed on branding, market segmentation, positioning, message strategy, promotion and the execution of marketing communications through appropriate channels.

MKTG-140 Credits: 3
Fashion Analysis
Students learn and apply creative talents in the design environment. Through interpreting the elements and principles of design, color, style, details, silhouette and trend influences, students will be able to interpret and analyze fashion products.

MKTG-144 Credits: 3
Client Services
This course focuses on the importance of developing and facilitating client communications to ensure successful project delivery. Emphasis will be placed on meeting and exceeding client expectations through the construction of documentation and procedures to guide project development and execution, keeping clients educated and informed throughout projects.

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MKTG – MUSIC

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MKTG-145
Special Event Management
Credits: 3
This course focuses on the planning of special events of all types, including meetings, conventions, trade shows, retail events, festivals and nonprofit events. Emphasis is placed on the methodology of event planning, including theme setting, building the target, sponsorships, contracts, negotiations, site selections, planning event specifications and working with budgets.

MKTG-149
Client Services
Credits: 3
Examine the important role account managers play in order to deliver marketing communications solutions to clients. Learn the key skill sets, understand the critical responsibilities and explore the hands-on tools necessary to excel.

MKTG-151
Business Career Management
Credits: 1
This course prepares business workers for managing their career in a positive direction. It stresses the importance of setting progressive career goals, developing personal traits for career and life success, and implementing career-management strategies that guide an individual’s life-career-planning process. The course focuses on understanding one’s interests, values, skills and lifestyle preferences and employing effective job search strategies, including developing effective résumé writing and interviewing skills. Personal skills that contribute to career success are highlighted, including developing a winning attitude and other positive work behaviors, practicing business etiquette and creating a professional image.

MKTG-165
Digital Marketing
Credits: 3
The use of digital marketing channels and online platforms are covered, including search engine optimization, digital marketing analytics, paid search, email marketing and social media campaigns. Course includes a comprehensive simulation.

MKTG-173
Marketing Research/Analytics
Credits: 3
Examine the importance of data-driven decisions to marketing success by exploring topics such as data collection and analysis, tracking critical metrics, and the sharing and reporting of key insights.

MKTG-175
Marketing Internship
Credits: 1
This course is a cooperative training program that allows students to observe and apply, in a practical manner, the principles and techniques of marketing studied in the Marketing Management or Fashion/Retail Marketing programs. Prerequisite(s): MKTG-151 or INTRN-796.

MKTG-198
Visual Media Marketing
Credits: 3
This course covers visual media marketing whose principles integrate graphic design, web design, digital imaging and business marketing strategies. Students will use a variety of industry-standard design tools in this project-based course.

MLABT – Medical Laboratory Technology (Department: 513)

MLABT-161
Computer Applications for the Medical Laboratory
Credits: 1
In this course, students learn basic computer skills used in the clinical laboratory. Students use the internet and database software to become familiar with clinical laboratory computer functions. Prerequisite(s): CLABT-110, CLABT-111, and completion of or currently enrolled in HEALTH-107. Must be admitted to the Phlebotomy (30-513-1) program.

MLABT-166
Phlebotomy Clinical Experiences
Credits: 3
This clinical course provides 120 hours of the practical application of principles and techniques of phlebotomy. Students observe and perform routine phlebotomy and processing tasks in affiliating phlebotomy facilities. Prerequisite(s): Consent is required to enroll in this course.

MTLFAB – Metal Fabrication (Department: 457)

MTLFAB-300
Metal Fabrication 1
Credits: 5
Course covers basics of metal fabrication, safety, production, measuring, hand tools and layout. Includes instruction using power shears, forming brakes, drilling equipment, iron worker and various power saws. Proficiency in fabrication through related projects. Prerequisite(s): Instructor consent required.

MTLFAB-301
Metal Forming and Press Brake
Credits: 3
Focuses on development of layout and fabrication skills through a sequence of exercises and a final project. Students utilize CNC brake presses and CNC cutting table technologies to complete assignments. Prerequisite(s): Instructor consent is required.

MTLFAB-302
Advanced Cutting Techniques and Applications
Credits: 4
Enhancing metal fabrication skills and techniques utilizing CNC equipment. Prerequisite(s): Instructor consent is required.

MTLFAB-303
Metal Fabrication 2
Credits: 5
Apply metal fab design and production skills to complete shop projects. Students will utilize advanced CNC programming skills and setup/layout abilities to produce parts or products. Use of cranes and other lifting systems also will be covered. Prerequisite(s): Instructor consent is required.

MTLGY – Metallurgy (Department: 805)

MUSIC-101
Music Business
Credits: 2
This course is designed to develop insight into portions of the music-business world, including the recording industry, record labels, copyrights, performing, managers, producers, contracts, songwriting, music publishing, print publishing, promotion, business planning, career planning, website construction and much more.

MUSIC-103
Major Instrument 1
Credits: 1
Emphasis is placed on individualized instruction on one’s major instrument with course emphasis to include reading, developing musicality and improvisation. Choice of sections: guitar, bass, reeds, brass or percussion.

MUSIC-104
Major Instrument 2
Credits: 1
Individualized instruction at the intermediate level is given on the major instrument, with emphasis on reading, developing musicality and improvisation. Choice of sections: guitar, bass, reeds, brass or percussion. Prerequisite(s): MUSIC-103.
MUSIC-105  Credits: 1  Major Instrument 3  This is an early advanced-level course designed to develop specific performance skills in all styles of music with emphasis to include reading, musicality and improvisation. Choice of sections: guitar, bass, reeds, brass, percussion or voice. Prerequisite(s): MUSIC-104, MUSIC-178 or MUSIC-193.

MUSIC-106  Credits: 1  Major Instrument 4  This is an advanced-level course designed to develop specific performance skills in all styles of music with emphasis to include reading, musicality and improvisation. Choice of sections: guitar, bass, reeds, brass, percussion or voice. Prerequisite(s): MUSIC-105.

MUSIC-107  Credits: 1  Songwriting 1  This course is offered to songwriters of all levels. The ability to produce written charts or convey a finished song in an audio format is necessary to take this course. The art and craft of songwriting will be explored by examining the compositional tools that strengthen lyrics, melody, harmony and form. Students will learn how to convey their ideas and emotions in a coherent and effective manner using these tools and also gain a perspective on the more abstract concept known as the creative muse. Songs from across the musical spectrum and throughout songwriting history will be used for analysis. All musical styles are welcome, and students will write songs in the genre of their choosing. Prerequisite(s): MUSIC-150.

MUSIC-108  Credits: 1  Film Scoring 1  Film Scoring 1 is a lecture/survey class covering four areas: the history, the production or process of film scoring, creating the score and the business details of film scoring.

MUSIC-109  Credits: 1  Film Scoring 2  Film Scoring 2 is a lecture/lab class exploring the practicalities of composing music for the visual media, including spotting, thematic branding, tempo mapping, developing the grand concept, functional scoring and business opportunities. Prerequisite(s): MUSIC-108.

MUSIC-111  Credits: 2  Music Business 2  This course is a hands-on lab course that will spotlight many aspects of the music business. As a continuation of MUSIC-101 (Music Business), this course will focus on music marketing, musician image development, promoting acts, music retailing, getting your own business set up for sales, negotiation skills, goal setting, leadership skills, setting up a performance rights publisher and writer account, advanced music licensing concepts, intellectual property, music business law, international music business, digital music technologies, the iTunes business model, the impact of technologies on the music business, the future of the music business and much more. Students will assist their peers in the ensemble classes by promoting and producing the MATC Concert Series, giving the learner experience in production and promotion. The course will feature guest speakers from the music industry and a field trip to a music publishing company. Prerequisite(s): MUSIC-101.

MUSIC-118  Credits: 3  Music Analysis  This class will focus on the basic elements of music: melody, harmony, texture, timbre, expression and form. Through analysis of all these elements, students will come to better understand and recognize the distinct features of music from various periods and styles of music of the Western culture, from the 1500s to the present. The class will emphasize the understanding, recognition and appreciation of various musical styles, a better understanding of music of the past so as to better understand the music of the present and future, broadening one’s basis of acceptance as to what constitutes music, maintaining and developing an openness to new and different approaches and styles of music or ideas that are divergent from one’s own, and becoming aware of environmental influences on music such as social, political and cultural forces. The class uses lecture, analysis, guided listening and presentation. Prerequisite(s): MUSIC-150.

MUSIC-120  Credits: 1  Choir 2  Students develop vocal skills, learn basic note reading techniques, and learn how to sing in harmony with others in a choral group that sings a variety of vocal styles such as gospel, jazz, classical and pop. Choir 2 is open to all MATC students and especially to anyone who would enjoy choral singing.

MUSIC-125  Credits: 1  Music Studio Teaching Methods  This class will include the study of various teaching methods and learning styles, and their application to studio one-on-one instruction for various instruments and voice, materials and techniques, performance practices and business aspects of studio management. The class includes lecture, demonstration/presentation and lesson observation. Prerequisite(s): MUSIC-152.

MUSIC-126  Credits: 1  Percussion Ensemble  This course is specifically geared to performing percussion music. It is designed to explore the music and techniques of playing the many styles and instruments of world and classical percussion. Areas of study will include, but not be limited to: Brazilian, African and Afro-Cuban music, as well as classic American compositions. The course will focus on reading, interpretation and improvisation, music theory and technique. Learners will perform on many percussion instruments and become skilled at functioning in an ensemble. The Percussion Ensemble will be prepared to perform at MATC Concert Series alongside music ensembles.

MUSIC-127  Credits: 1  Drum Lab  Drum Lab is a course designed to meet the needs of the beginning percussionist, as well as the student interested in an introduction to stick and hand drumming. Course focus is on music reading, rhythmic development, technique and improvisation. Students will obtain the basic knowledge of the instrument to prepare for Major Instrument Percussion and Percussion Ensemble class.

MUSIC-141  Credits: 1  Music Ensemble 3  Students will perform in a musical group. Participants will continue to advance their musical performance skills. Emphasis is placed on reading music notation, reading chord charts and lead sheets, improvisation and ear training. Prerequisite(s): MUSIC-163.

MUSIC-142  Credits: 2  Introduction to Composition  Students will explore the art of the composer. This course takes the class through an in-depth examination of genres, styles, the composer’s tools, arranging and orchestration considerations, and sources of inspiration.

MUSIC-143  Credits: 1  Music Notation 1  Music Notation 1 introduces the learner to the basics of music manuscript. Students will notate basic rhythm, melody and harmony by hand. The learner also will be introduced to the fundamentals of Finale and Sibelius music notation software, and learn about the techniques used in the industry of engraving notation. Students will study the form and texture of multiple genres of music.

MUSIC-144  Credits: 1  Music Notation 2  Music Notation 2 is an intermediate to advanced-level course in which the learner will explore the music engraving software of Finale and Sibelius in great detail. An emphasis on music theory, form and analysis in many genres of music will accompany an advanced series of instruction and exploration of music manuscript.
Students will orchestrate original works and learn instrumental ranges, transpositions and characteristics for maximum effect. Prerequisite(s): MUSIC-158.

**Orchestration 2**
A continuation of Orchestration 1, students will study and develop intermediate and advanced orchestration concepts through writing for larger ensembles from sextets to full orchestra. Students will apply skills to the orchestration of original works and classic literature, contemporary genres and film scores. Prerequisite(s): MUSIC-158.

**Composition 1**
Students have the opportunity to learn the various styles of music and how to reproduce them. Participation in this class will give the student valuable practical experience in reading music notation, reading chord charts and lead sheets, improvisation, learning music in the confines of a musical ensemble, thus better equipping them to perform professionally.

**Composition 2**
A continuation of Ensemble 1 with continued study and performance of reading music notation, reading chord charts, improvisation and learning music in the confines of a musical ensemble. Performance is on the intermediate to advanced level. Prerequisite(s): MUSIC-162.

**Improvisation 1**
The objective of this course is to begin to develop abilities in jazz improvisation through the study of scale/chord relationships and jazz solo vocabulary. The course involves both the study of theoretical concepts, as well as practice and performance on one’s chosen instrument. Prerequisite(s): MUSIC-151.

**Improvisation 2**
A continuation of MUSIC-167, the intent of this course is to provide students with more advanced training in jazz improvisation through the study of scale/chord relationships and jazz solo vocabulary. The course involves the study of theoretical concepts, as well as practice and performance on one’s chosen instrument. Prerequisite(s): MUSIC-167.

**Ear Training 1**
This class will emphasize the ability to accurately recognize melodic, harmonic and rhythmic musical sounds. This will be done through sight singing, dictation and transcription, and incorporation of theory fundamentals. Prerequisite(s): MUSIC-151.
Library Licensed Music
Library Licensed Music introduces the concepts and techniques of composing, mixing, and editing original pieces of music for the purposes of licensing for the world of radio, television, and advertising. Prerequisite(s): MUSIC-125.

Ear Training 2
This course is a continuation of MUSIC-174 Ear Training 1. This class will emphasize the ability to accurately recognize melodic, harmonic, and rhythmic musical sounds. This will be done through sight singing, dictation and transcription, and incorporation of theory fundamentals. Prerequisite(s): MUSIC-174.

Bass Lab 1
Bass Lab 1 is designed to meet the needs of the beginning bass guitar player. The course will acquaint the student with tuning, parts of the bass guitar and proper playing techniques. Course also will cover the basic skills of reading music in the bass clef. Students will perform simple music examples in class on their instrument.

Guitar Lab 1
Group lesson instruction for beginners or guitarists who want to learn to read standard notation, including basic technique, music reading, chording, fundamentals of music theory, effective practice habits, lead sheets and tablature. Students must provide their own guitar.

Guitar Lab 2
A continuation of MUSIC-187. Group lesson instruction to improve music reading skills, expand chord vocabulary, scales, understanding chord progressions, finger-style guitar basics and bare chords. Students must provide their own guitar. Prerequisite(s): MUSIC-187.

Voice Lab 1
Students learn basic vocal techniques and improve their singing ability through solo singing.

Voice Lab 2
Students continue to develop good vocal techniques through solo singing and develop skills in sight singing. Prerequisite(s): MUSIC-189.

Honor’s Ensemble
An advanced performance group created by audition or faculty appointment. This group serves as the flagship performance group representing the department and school in various venues, and as a recording group producing CDs in collaboration with music business and recording students. With guidance from the instructor, members of the class are responsible for choosing repertoire, arranging materials, rehearsing, memorizing and performing a minimum of three department concerts per semester. Prerequisite(s): MUSIC-192.

Music Appreciation
This course introduces music elements such as rhythm, melody, harmony, texture in vocal and instrumental forms to analyze and appreciate music from the 1400s to present, including historical musical periods as well as contemporary, popular American genres. Composers studied include Pope Gregory, Bach, Mozart, Beethoven, Brahms, Debussy, Copland, Gershwin and Joplin. This course is lecture and guided listening with analysis and discussion. Students will be required to attend concerts, listen to music and write reports.

History of Rock and Pop
This course provides students with a survey of popular American music of the 20th century tracing the development, evolution and maturation of musical styles, techniques and compositions. Development of analytical listening skills is a course focus.
NATSCI-167

Science of Technology

This course looks at the many devices we use in our everyday life and shows how they work. In the process, students learn the basic principles of science behind those devices, as well as how they are applied in other common objects. From levers to lasers, copy machines to computers, sensors to solenoids – virtually nothing is off limits in this class. Participants gain an awareness of the vast network of technology around them by exploring the history of technology, how technology affects society, great inventors and their inventions, as well as what the future can hold. When completed, students discover that devices don’t work by “magic” but are carefully designed to take advantage of the behavior of matter and the laws of science. By exploring the world with this approach, students not only learn the basic principles of physics, but develop an understanding and appreciation of the many ways these principles may be applied.

NATSCI-169

Energy in Nature, Technology and Society

This course provides an introduction to the essential roles of energy in nature and human activity. It is an interdisciplinary general education course intended for all students who desire basic understanding of the forms and applications of energy and their influence on the development of civilization, geopolitics, economics and our environment. In addition to traditional sources of energy, special emphasis is given to renewable energy. Field trips may be arranged.

NATSCI-172

Basic Nutritional Science

This course provides an introduction to the science of nutrition. Basic concepts related to digestion and metabolism are presented. The significance of carbohydrates, lipids, proteins and vitamins to the human organism is discussed. The relationship of proper nutrition to selected pathological conditions throughout the human life cycle is presented. The concept of sustainability and environmentally conscious food production is introduced.

NATSCI-177

General Anatomy and Physiology

This course examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. This course also provides the foundation to and is prerequisite for NATSCI-179. Prerequisite(s): Two semesters of high school chemistry or one semester of college chemistry (minimum grade of C) and one semester of college English (minimum grade of C) or satisfactory MATC placement test score.

NATSCI-179

Advanced Anatomy and Physiology

Advanced Anatomy and Physiology is the second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery within a classroom and laboratory setting. Experimentation within a science lab will include analysis of cellular metabolism, the individual components of body systems such as the nervous, neuro-muscular, cardiovascular and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Integration of genetics to human reproduction and development also are included in this course. Prerequisite(s): NATSCI-177 with a minimum grade of C.

NATSCI-184

Plant Biology

This lecture/laboratory course provides students with an in-depth study of the plant kingdom. The content includes, but is not limited to, plant cell anatomy and physiology, plant genetics, plant classification, plant anatomy and physiology, plant responses, plant life cycles and ecology. A survey of viruses, prokaryotes, protista and fungi as they pertain to plants is presented.

NATSCI-186

Introductory Biochemistry

Provides students with skills and knowledge of organic and biological chemistry necessary for application within nursing and other allied health careers. Emphasis is placed on recognizing the structure, physical properties and chemical reactions of organic molecules, body fluids and acids. Additional emphasis is placed on biological functions and their relationships to enzymes, proteins, lipids, carbohydrates and DNA. Prerequisite(s): Two semesters of high school chemistry (minimum grade of C) or one semester of college chemistry (minimum grade of C) and one semester of college English (minimum grade of C) or satisfactory scores on the MATC placement test.

NATSCI-189

Basic Anatomy

Examines concepts of anatomy and physiology as they relate to health careers. Students correlate anatomical and physiological terminology to all body systems.

NATSCI-197

Microbiology

Examines microbial structure, metabolism, genetics, growth and the relationship between humans and micro-organisms. Addresses disease production, epidemiology, host defense mechanisms and the medical impact of microbes. The course also examines the role of microbes in the environment, industry and biotechnology. Prerequisite(s): NATSCI-177 or NATSCI-201 with a minimum grade of C.

NATSCI-201

Anatomy and Physiology 1

This is a general course presenting unifying concepts critical to a basic understanding of the human body. Lectures and laboratory studies use models and dissection of specimens to present integumentary, skeletal, muscular, nervous and endocrine systems. Prerequisite(s): Biology or chemistry and English. Biology may be satisfied with one year of high school biology or one semester of college biology. Chemistry may be satisfied with one year of high school chemistry or one semester of college chemistry. English may be satisfied with one semester of college English or a satisfactory placement test score. All courses must have a minimum grade of C.

NATSCI-202

Anatomy and Physiology 2

The cardiovascular, respiratory, digestive, urinary and reproductive systems are studied, utilizing lecture and laboratory procedures to complete the study of the anatomy and physiology of the human body. Prerequisite(s): NATSCI-201 with a minimum grade of C.

NATSCI-207

General Chemistry

This course provides a foundation in general inorganic chemistry in preparation for a second semester of organic chemistry and biochemistry. Specific topics include dimensional analysis, atomic structure, periodic table and properties of elements, compounds, solutions, acids/bases, reactions and equilibrium, oxidation/reduction, and introduction to organic chemistry. Prerequisite(s): NATSCI-110 with a minimum grade of C or one year of high school chemistry with a minimum grade of C.

NATSCI-208

Survey of Biochemistry

This course provides a basis in organic chemistry needed for understanding biochemistry. Topics in biochemistry include structure and functions of carbohydrates, lipids, proteins, enzymes and nucleic acids; protein synthesis and epigenetic controls; carbohydrate metabolism and energy production; metabolism of proteins and of lipids; relation of central metabolism to health. Prerequisite(s): NATSCI-207 or NATSCI-211.
NATSCI-209 Credits: 5
Chemistry for the Health Sciences
This chemistry course is primarily designed for first-year students in health science technologies. Emphasis is placed on practical aspects of inorganic, organic and biochemistry as they relate to bodily processes and functions. Laboratory work reinforces lecture material. Prerequisite(s): One year of high school chemistry (minimum grade of C) or one semester of college chemistry (minimum grade of C). Also, MATH-110 (minimum grade of C) or a satisfactory score on the MATC placement test.

NATSCI-211 Credits: 5
Chemistry 1
This course is a study of the basic principles of modern chemistry correlating atomic structure, theories of chemical bonding and reactivity of matter. Laboratory work is included. Prerequisite(s): One year of high school chemistry or one semester of college chemistry (minimum grade of C). Also, MATH-200 (minimum grade of C) or a satisfactory MATC placement test score.

NATSCI-212 Credits: 5
Chemistry 2
This course is a study of kinetics, equilibria, thermodynamic nucleonics, coordination chemistry, electrochemistry, and topics in organic and biochemistry. Qualitative analysis is included in the laboratory course. Prerequisite(s): NATSCI-211 with a minimum grade of C.

NATSCI-215 Credits: 5
Quantitative Chemical Analysis
This course is a study of the general principles of volumetric and gravimetric analysis, evaluation of analytical data, acidimetry and alkalimetry, redox process, solubility equilibria, complexation titration, and optical and electrometric methods. Laboratory work is included. Prerequisite(s): NATSCI-212 with a minimum grade of C.

NATSCI-216 Credits: 5
Instrumental Analysis
Instrumental Analysis examines the design, construction and use of modern chemical analytical instruments. Topics included are absorption and emission spectroscopy, gas and liquid chromatography, and electrochemical methods. Prerequisite(s): NATSCI-212 with a minimum grade of C.

NATSCI-217 Credits: 3
Organic Chemistry 1
Lecture topics include nomenclature, structure, characterization, functional groups, preparations and reactions. A survey is made of stereochemistry, polymers and natural organic products. Practical applications of these topics are included in the laboratory work. Prerequisite(s): NATSCI-212 with a minimum grade of C.

NATSCI-218 Credits: 3
Organic Chemistry 2
A second semester course in Organic Chemistry that builds upon concepts learned in the first semester. Spectroscopy and the chemistry of oxygen containing compounds are emphasized. Prerequisite(s): NATSCI-217 or CHEMT-117 with a minimum grade of C.

NATSCI-219 Credits: 2
Organic Chemistry Laboratory 1
Laboratory work focuses on the synthesis and purification of organic compounds illustrating reaction mechanisms. Prerequisite(s): NATSCI-212 with a minimum grade of C.

NATSCI-220 Credits: 3
Introduction to Nutritional Science
This course is an introductory experience in human nutrition. It is designed to satisfy basic nutritional course requirements for college students entering allied health programs, and provide practical and interesting nutritional information for non-health majors as well. This course provides correct, scientifically based information needed to answer basic questions related to nutrition.

NATSCI-221 Credits: 4
College Physics 1
College Physics 1 is a first-semester physics course to study the principles of mechanics and heat. Calculus is not required. Laboratory work involves the analysis of data using computers. Prerequisite(s): MATH-202 or MATH-230.

NATSCI-222 Credits: 4
College Physics 2
This is a second-semester physics course to study the principles of electricity, magnetism, light, optics and the basics of modern physics. Lab work will include experiments related to the above topics and data analysis via computer. Calculus is not required. Prerequisite(s): NATSCI-221.

NATSCI-225 Credits: 3
Introductory Astronomy
This introductory course covers the principles, theories and understandings related to astronomy. Topics to be covered include the history of astronomy, telescopes, the earth and the solar systems, the sun as a star and other stars, galaxies, and theories of the universe.

NATSCI-226 Credits: 1
Observational Astronomy
This course is designed to provide hands-on experience in the application of the laws of physics to astronomy. Using computers, as well as other technological instruments in the field of astronomy, students observe phenomena and experience astronomical events. This course focuses on identification of the tools of astronomy and their use in solving basic problems in astronomical theory. This laboratory should be taken only in conjunction with, or subsequent to, NATSCI-225.

NATSCI-230 Credits: 1
Introduction to Nutrition Lab
This course is a complementary laboratory course to NATSCI-220, which offers an introductory experience in human nutrition. This course offers a laboratory experience to complement the basics of nutrition. The concepts covered in the lecture course are explored in greater detail during the lab time using a variety of activities, including food experiments, anthropometric measurement and nutrient analysis, and enhanced problem sets.

NATSCI-232 Credits: 3
Earth Science
This course introduces students to the fields of geology, meteorology, astronomy and oceanography. It emphasizes humans’ continually evolving techniques of exploring both the past and the present world and universe.

NATSCI-233 Credits: 3
Environmental Science
This course introduces basic scientific principles necessary to an understanding of the relationships between mankind and the environment, with special focus on the effects of mankind’s activities on the environment.

NATSCI-234 Credits: 1
Earth Sciences Laboratory
This laboratory course introduces students to the earth sciences through first-hand activities and exploration. Subject matter differs in different sections. The course may emphasize identifying minerals, rocks and fossils; interpreting and compiling maps (including GIS); observing and forecasting weather conditions; collecting and analyzing environmental data; and/or other earth science topics. Please consult the instructor or Department of Physical Science instructional chairperson for specific content. This laboratory should only be taken in conjunction with, or subsequent to, NATSCI-232.

NATSCI-236 Credits: 5
Principles of Biology
This course provides an introduction to the organization of living organisms at the molecular, cellular, organism and ecological levels. Biological principles of inheritance, cytology and metabolism of plants, animals and other organisms will be studied. In addition, an overview of the major organ systems of the human body will be included. Prerequisite(s): ENG-151, or ENG-201 (minimum grade of C), or a satisfactory MATC placement test score.

NATSCI-241 Credits: 4
Pathophysiology: Disease Process
Pathophysiology provides students with an understanding of the relationship between the mechanisms of disease and normal physiology. Topics include alterations in
cellular and genetic mechanisms; metabolic abnormalities; fluid and electrolyte imbalance; infection; immunology; and cardiovascular, gastrointestinal, respiratory and neuromuscular dysfunctions. Prerequisite(s): Two semesters of college-level anatomy and physiology with a minimum grade of C.

NATSCI-242
Concepts of Science in Health
The focus of this course is to provide a basic understanding of the most recent, scientifically based, personal health information such as aging, stroke, cancer, chemical dependency, nutrition, environmental pollution and weight control. Participants analyze their own health-related behaviors and attitudes, and are provided with the concepts needed to improve health and well-being.

NATSCI-243
Weather Fundamentals
The course assists students whose work and interests require a general knowledge of atmospheric science. Applications appear in agribusiness, architectural design, insurance underwriting, environmental control, health and safety occupations, water resource industries, fabrication of materials (textiles, paint, plastics), physical geography and oceanography.

NATSCI-244
Weather Fundamentals Laboratory
This laboratory course complements NATSCI-243 (Weather Fundamentals) by providing additional investigations involving real-time data and satellite images, plus a comprehensive range of critical-thinking exercises.

NATSCI-245
General Geology
This introductory geology course emphasizes the earth's dynamic processes, as well as its composition, structure and surface features. The laboratory introduces the identification of rocks and minerals, and teaches mapping skills. Field trips are included.

NATSCI-246
Climate Change Fundamentals
This course examines critically our understanding of climate and its causes, the evidence of past and present climate change and models of future climate change, as well as the probable impacts of climate change on society, and implications for future energy resources and the economy.

NATSCI-257
Biology I
This course is the first of a two-course series. This course covers chemistry as it pertains to biology, biochemical principles, cell biology, metabolism, cellular energy, genetics, molecular biology, evolution and ecology. Three hours lecture, three hours lab. Prerequisite(s): NATSCI-207 or NATSCI-211.

NATSCI-258
Biology II
This course is the second of a two-course series. This course covers a survey of organisms, including viruses, bacteria, protista, fungi, plants and animals. It also will cover organ systems biology in animals and specifically in humans. Three hours lecture, two hours lab. Prerequisite(s): NATSCI-257 with a minimum grade of C.

NATSCI-259
Genetics and Genomics
Genetics and genomics are issues that affect individuals throughout their lifespan. These topics will gain even more importance as we learn more about the genetic basis of medical conditions. Therefore, anyone involved in healthcare will need an understanding about the social, ethical and legal issues of genetics and genomics, as well as their underlying scientific principles. This course is an adjunct to NATSCI-259 (a two-credit lecture course that provides an overview of genetics and genomics while exploring the implications of these topics on the healthcare setting). This lab course would provide the students with the laboratory component of the technologies discussed in NATSCI-259. Taken together, the two courses would be the equivalent of a three-credit science class with a lab.

NATSCI-260
Plagues, People and Power
This course covers the history of infectious diseases and their impact on human society, as well as how human activities have contributed to infectious disease outbreaks. It also examines the potential future impact of infectious diseases. Topics to be covered include historical diseases, emerging and re-emerging infectious diseases, and biological weapons. Prerequisite(s): ENG-151, or ENG-201 (minimum grade of C) or a satisfactory MATC placement test score.

NATSCI-261
Introduction to Pharmacology
Basic principles of drug action are presented in relation to body physiology. Emphasis is placed on drugs affecting the central nervous system. Laboratory exercises are included to support principles of biology, chemistry, anatomy and human physiology.

NATSCI-262
Energy in Nature, Technology and Society
This course provides an introduction to the essential roles of energy in nature and human activity. It is an interdisciplinary general course intended for all students who desire basic understanding of the forms and applications of energy and their influences on the development of civilization, geopolitics, economics and our environment. In addition to traditional sources of energy, special emphasis is given to renewable energy. Field trips may be arranged.

NATSCI-269
Genetics and Genomics Lab
Genetics and genomics are issues that affect individuals throughout their lifespan. These topics will gain even more importance as we learn more about the genetic basis of medical conditions. Therefore, anyone involved in healthcare will need an understanding about the social, ethical and legal issues of genetics and genomics, as well as their underlying scientific principles. This course is an adjunct to NATSCI-259 (a two-credit lecture course that provides an overview of genetics and genomics while exploring the implications of these topics on the healthcare setting). This lab course would provide the students with the laboratory component of the technologies discussed in NATSCI-259. Taken together, the two courses would be the equivalent of a three-credit science class with a lab.

NATSCI-274
Calculus-Based Physics 1
This is the first part of a two-part sequence of calculus-based physics for prospective engineering students. Topics covered include theoretical and experimental treatment of motion, material properties, fluids and heat. Prerequisite(s): MATH-232 with a minimum grade of C.

NATSCI-275
Calculus-Based Physics 2
This is the second part of a two-part sequence of calculus-based physics. Topics include electricity, magnetism, optics and some modern physics. Prerequisite(s): NATSCI-274 with a minimum grade of C.

NATSCI-280
Applied Nutrition
Applied Nutrition is a three-credit nutrition class for future health professionals, or students who would like to get more education in nutrition and how it affects our health. Topics discussed will include diet and nutrition and how diet affects the physiology of the body, metabolism, weight management, and food choices and the development of chronic diseases (diabetes, cancer, autoimmune diseases, etc.). Prerequisite(s): NATSCI-201 or NATSCI-207.
NATSCI – NRSAD DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

NATSCI-292 Credits: 1
Lab Techniques in Bio-Chem Research
This two-week workshop is designed to familiarize high school students with the minimum of a science degree at Milwaukee Area Technical College. This course will introduce students to educational and career opportunities in the biomedical sciences. It also includes hands-on experimentation, data collection and analysis in the areas of biotechnology, chemical technology and water technology. Math skills applicable to the fields of biotechnology and chemical technology also will be introduced. Prerequisite(s): Biology or chemistry and algebra. Biology may be satisfied with one year of high school biology or one semester of college biology. Chemistry may be satisfied with one year of high school chemistry or one semester of college chemistry. Algebra may be satisfied with one semester of college math or a satisfactory placement test score.

NATSCI-295 Credits: 3
Nutrition for Exercise and Wellness
Nutrition for Exercise and Wellness is a three-credit class that will cover the nutritional needs for an athlete. Different types of sports will be addressed. The material will include energy and nutrient needs, exercise physiology and meal planning. Special topics such as ergogenic aids also will be discussed. Prerequisite(s): NATSCI-220 or NATSCI-280.

NRSAD – Associate Degree
Nursing (Department: 543)

NRSAD-101 Credits: 2
Nursing Fundamentals
This course focuses on basic nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-102 Credits: 3
Nursing Skills
This course focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-103 Credits: 2
Nursing Pharmacology
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-104 Credits: 2
Nursing: Introduction to Nursing Practice
This introductory course focuses on the introduction to the roles and responsibilities of the registered nurse. The course includes techniques for organizing the care of patients. Prerequisite(s): Biology or chemistry and algebra. Biology may be satisfied with one year of high school biology or one semester of college biology. Chemistry may be satisfied with one year of high school chemistry or one semester of college chemistry. Algebra may be satisfied with one semester of college math or a satisfactory placement test score.

NRSAD-105 Credits: 3
Nursing: Health Alterations
This course focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-106 Credits: 3
Nursing: Health Promotion
This course focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-107 Credits: 2
Nursing: Clinical Care Across the Lifespan
This course focuses on development of evidence-based clinical skills and therapeutic interventions to patients across the lifespan. It also provides an introduction to teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-105 and NRSAD-106.

NRSAD-108 Credits: 2
Nursing: Introduction to Clinical Management
This course focuses on development of evidence-based clinical skills and therapeutic interventions to groups of patients across the lifespan. It also provides an introduction to leadership, management and team building. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-105 and NRSAD-106.

NRSAD-109 Credits: 3
Nursing: Complex Health Alterations 1
This course focuses on development of evidence-based clinical skills and therapeutic interventions to patients across the lifespan. It also provides an introduction to teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-105 and NRSAD-106.

NRSAD-110 Credits: 2
Nursing: Mental Health Community Concepts
This course focuses on development of evidence-based clinical skills and therapeutic interventions to patients across the lifespan. It also provides an introduction to teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-105 and NRSAD-106.

NRSAD-111 Credits: 3
Nursing: Intermediate Clinical Practice
This course focuses on development of evidence-based clinical skills and therapeutic interventions to patients across the lifespan. It also provides an introduction to teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-105 and NRSAD-106.
students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-109, NRSAD-110 and NRSAD-112.

NRSAD-112 Credits: 1
Nursing: Advanced Skills
This course focuses on the development of advanced clinical skills across the lifespan. Content includes advanced intravenous skills, blood product administration, chest tube systems, basic electrocardiogram interpretation, and nasogastric/feeding tube insertion. Prerequisite(s): NRSAD-105, NRSAD-106, NRSAD-107, NRSAD-108, and must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-113 Credits: 3
Nursing: Complex Health Alterations 2
Complex Health Alterations 2 prepares the learner to provide and evaluate care for patients across the lifespan with alterations in the immune, neurosensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary, reproductive systems, and shock, burns and trauma. The learner also will focus on management of care for patients with high-risk perinatal conditions and high-risk newborns. Prerequisite(s): NRSAD-109, NRSAD-110, NRSAD-111, NRSAD-112, and must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program.

NRSAD-114 Credits: 2
Nursing: Management Concepts
This course covers nursing management and professional issues related to the role of the registered nurse. Emphasis is placed on preparing for practice as a registered nurse. Prerequisite(s): NRSAD-109, NRSAD-110, NRSAD-111, NRSAD-112, and must be admitted to Registered Nursing (10-543-1) or LPN-RN Progression (10-543-10) program.

NRSAD-115 Credits: 3
Nursing: Advanced Clinical Practice
This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program, and completion of or currently enrolled in NRSAD-113 and NRSAD-114.

NRSAD-116 Credits: 2
Nursing: Clinical Transition
This clinical experience integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation, and working collaboratively with others to achieve client and organizational outcomes. Continued professional development is fostered. Prerequisite(s): Must be admitted to the Registered Nursing (10-543-1) or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-113, NRSAD-114 and NRSAD-115.

NRSAD-168 Credits: 4
Nursing: Community Health and Mental Health Concepts
Nursing care of population and communities to facilitate optimal health outcomes. Specific health needs of individuals, families, groups and communities will be addressed. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on promotion, prevention and management of behaviors and specific mental health disorders across the lifespan. Community resources will be examined in relation to specific types of support offered to social, racial, ethnic and economically diverse individuals and communities. Prerequisite(s): NRSAD-105, NRSAD-106, NRSAD-107, NRSAD-108.

NRSAD-182 Credits: 1
Graduate Seminar: NCLEX Review
This course assists graduate nurses to prepare for the NCLEX-RN licensing exam. A comprehensive review of information from all content areas tested on the exam assists students to effectively use critical thinking skills and gain confidence for the exam.

NRSAD-191 Credits: 2
Nursing: Clinical Skill Development
The course focuses on development or enhancement of clinical skills and physical assessment across the lifespan. The course includes review of mathematic calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Practical Nursing (31-543-1) program.

NRSAD-300 Credits: 3
Nursing Assistant
This course prepares the student for employment as an entry-level caregiver in healthcare facilities such as hospitals, clinics, nursing homes and home health service. Graduates of the course are eligible to take the National Nurse Aide Assessment Program Examination and gain entry into the Wisconsin Nurse Aide Registry. This program meets all state and federal training requirements and is approved by the Wisconsin State Department of Health and Family Services. Prerequisite(s): Admission to the Nursing Assistant (30-543-1) program.

NRSAP – Practical Nursing (Department: 543)

NRSAP-301 Credits: 2
Nursing Fundamentals
This course focuses on basic nursing concepts to provide evidence-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients.

NRSAP-302 Credits: 3
Nursing Skills
This course focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Practical Nursing (31-543-1) program.

NRSAP-303 Credits: 2
Nursing Pharmacology
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

NRSAP-304 Credits: 2
Nursing: Introduction to Clinical Practice
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration. Prerequisite(s): Must be admitted to the Practical Nursing (31-543-1) program. Completion of or currently enrolled in NRSAP-301, NRSAP-302 and NRSAP-303.
This clinical experience applies nursing concepts and therapeutic interventions to patients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): NRSPN-301, NRSPN-302, NRSPN-303, NRSPN-304, and must be admitted to the Practical Nursing (31-543-I) program.

NRSPN-306 Credits: 3
Nursing: Health Promotion
This course focuses on topics related to health promotion for individuals and families throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn and the child. Recognizing the spectrum of healthy families, we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. Prerequisite(s): NRSPN-301, NRSPN-302, NRSPN-303, NRSPN-304, and must be admitted to the Practical Nursing (31-543-I) program.

NRSPN-307 Credits: 2
Nursing: Clinical Care Across the Lifespan
This clinical experience applies nursing concepts and therapeutic interventions to patients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Practical Nursing (31-543-I) program, and completion of or currently enrolled in NRSPN-305 and NRSPN-306.

NRSPN-308 Credits: 2
Nursing: Introduction to Clinical Management
This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of patients across the lifespan. It also provides an introduction to leadership, management and team building. Prerequisite(s): Must be admitted to the Practical Nursing (31-543-I) program, and completion of or currently enrolled in NRSPN-305, NRSPN-306 and NRSPN-307.

NURSAD – Associate Degree
Nursing (Department: 510)

NURSAD-161 Credits: 1
Fundamentals of Medication Calculation
This one-credit course introduces the learner to basic math strategies for calculating medication dosages. In a low anxiety setting, the learner will review basic operations with decimals and fractions. Other topics include measurement systems and conversions, and using ratio, proportion and formula methods for dosage calculations.

OFTECH – Office Technology
(Department: 106)

OFTECH-101 Credits: 3
Windows and MS Word Keyboard Shortcuts
The students enrolled in this course, using a hands-on approach, will be instructed to manage files using Microsoft Windows Operating System, and they also will learn to use the Microsoft Word keyboard shortcuts to improve their techniques using the keyboard.

OFTECH-102 Credits: 3
Office Technologies
This course offers skill-development in the office environment using Windows, Microsoft Office, internet/email, computer concepts and webpage development. The office environment includes applications using Word, Excel, Access and PowerPoint. The office environment will utilize several mini simulations to acclimate the student to working in an office. Business etiquette will be discussed and practiced. Prerequisite(s): OFTECH-101.

OFTECH-103 Credits: 1
Keyboard and Keypad
Using a computer and web-based software, students learn keyboarding using the touch method. Emphasis is placed on correct fingering skills, accuracy and speed. Passing a Challenge Exam (35 words per minute with no more than three errors on a two-minute timing) may be completed in lieu of taking this course. Contact MATC’s School of Business for exam information.

OFTECH-119 Credits: 3
Information Management
Students learn the basic principles and procedures of creation, storage, retrieval, retention and disposal of records. The management of electronic and image records is included. Rules for alphabetic, numeric, geographic and subject filing are applied.

OFTECH-122 Credits: 3
Business English Essentials
This course is designed to improve oral and written communication skills. Study of English fundamentals, including parts of speech, agreement, sentence types, and plurals and possessives, as well as rules for punctuation, capitalization, number usage, and spelling and vocabulary, are emphasized.

OFTECH-123 Credits: 3
Machine Transcription/Proofreading and Editing Administrative
This course is designed to help the student improve upon proofreading and editing skills using hard copy and computerized materials. The course also will introduce the student to basic transcription skills where the student will be required to apply proper proofreading and editing techniques. Prerequisite(s): OFTECH-122 with a minimum grade of C and OFTECH-133.

OFTECH-124 Credits: 1
MS Word – Part 1
Using MS Word software, students format, type and print documents; edit a document using simple editing features; manipulate multiple-page documents; and create and edit simple tables.

OFTECH-125 Credits: 1
MS Word – Part 2
Students will create Word templates; merge documents; create reports with table of contents, bibliographies, bookmarks and styles; and develop attractive newsletters and on-screen forms. Prerequisite(s): OFTECH-124.

OFTECH-133 Credits: 3
Business Document Production 1
This course is designed to enhance keyboarding skills and to develop basic document formatting techniques while applying decision-making skills. Students will demonstrate specific document formatting and keying speed competencies. Students will also be introduced to business vocabulary and correspondence as used in the various legal specialties. Legal vocabulary also is emphasized. Prerequisite(s): OFTECH-103, and completion of or currently enrolled in OFTECH-136.

OFTECH-134 Credits: 3
Legal Document Production
Utilizing a microcomputer and software, this course is designed to give students experience in preparing legal documents and correspondence as used in the various legal specialties. Legal vocabulary also is emphasized. Prerequisite(s): OFTECH-133, RBUS-141.

OFTECH-136 Credits: 1
Keyboarding Skill Development 1
Using a computer and web-based software, this course is designed to improve keying speed and accuracy. Passing a Challenge Exam (50+ words per minute with no more than five errors on a five-minute timing) may be completed in lieu of taking this course. Contact MATC’s School of Business for exam information. Prerequisite(s): OFTECH-103.
OFTECH-137 Credits: 3
Business Document Production 2
Students acquire proficiency in producing documents, editing and composing more complicated business documents, making decisions, following directions, and performing realistic office tasks through simulation. Prerequisite(s): OFTECH-133.

OFTECH-146 Credits: 1
Keyboarding Skill Development 2
Using a computer and web-based software, this course is designed to improve keying speed and accuracy. Passing a Challenge Exam (60 words per minute with no more than five errors on a five-minute timing) may be completed in lieu of taking this course. Contact MATC's School of Business for exam information. Prerequisite(s): OFTECH-136.

OFTECH-147 Credits: 3
Machine Transcription/Proofreading and Editing
Legal
Students transcribe legal correspondence, client documents and court documents from machine dictation. Emphasis is on production of mailable documents, utilizing correct terminology and grammar skills. Prerequisite(s): OFTECH-122, OFTECH-133, RBUS-141.

OFTECH-164 Credits: 3
Legal Office Procedures
This course is designed to equip students with the decision-making abilities necessary to apply their knowledge and skills to handling situations encountered in a law office. This is accomplished through an integrated application of skills using simulation techniques. Prerequisite(s): OFTECH-124, OFTECH-147.

OFTECH-165 Credits: 3
Administrative Office Procedures 1
This course is designed to develop administrative professional skills and attitudes needed in today's global business environment. Topics include communicating in a business environment, making ethical decisions, working independently and as a team member, and managing time. Learners are introduced to meeting, travel and event planning; mail processing; telecommunications; and ergonomics. Prerequisite(s): OFTECH-122, OFTECH-133.

OFTECH-183 Credits: 3
Bilingual Customer Service Skills
Overview of the behavior exhibited by successful customer service professionals featuring simulated business settings. Includes conventional behaviors of the workplace, professional communication in the customer service setting, grooming and clothing for a business setting, telephone and email etiquette basics, effective answers to sales questions, punctuality and the work ethic, professionalism in the workplace, basic qualitative activities, behavior with co-workers, customer service challenges, exceptional customer service, and career advancement strategies in customer service. In addition, learners will study and train in organizational communication within a multicultural global environment and interpersonal communication skills in a culturally diverse workforce.

OFTECH-184 Credits: 3
MS Office: Word, Excel, Access and PowerPoint
This course offers skill development in PowerPoint items such as multiple-page documents with attributes, spreadsheet formulas and functions, database with tables, queries, forms/reports, presentations, internet and email. Prerequisite(s): OFTECH-102, OFTECH-133.

OFTECH-185 Credits: 3
MS Office – Intermediate
This course offers skill-development in intermediate and integrated applications in Word, Excel, Access, PowerPoint, internet/email, wireless technologies/PDAs, CD-burner, scanner, webpages and other technologies. Prerequisite(s): OFTECH-184.

OFTECH-190 Credits: 1
Bilingual Office Assistant Internship
This course will be a cooperative training program that allows bilingual students to utilize skills and knowledge in an approved business office, under the supervision and guidance of a teacher and a cooperating employer that serves Spanish speakers. Prerequisite(s): OFTECH-183 and INTRN-796.

OFTECH-192 Credits: 1
Legal Administrative Professional Internship
This is a cooperative training program enabling students to observe and apply theory, skills and techniques studied in the Legal Administrative Professional program. Students work in an approved legal office under the supervision/guidance of a teacher and an employer. Prerequisite(s): OFTECH-134, OFTECH-147.

OFTECH-196 Credits: 1
Administrative Professional Internship
This course is a cooperative training program that allows students to utilize skills and knowledge in an approved business office, under the supervision and guidance of a teacher-coordinator and a cooperating employer. Prerequisite(s): RBUS-180 or INTRN-796.

OFTECH-199 Credits: 1
Legal Administrative Professional Internship
This course will be a cooperative training program enabling students to utilize skills and knowledge in an approved business office, under the supervision and guidance of a teacher and an employer. Prerequisite(s): OFTECH-134, OFTECH-147.

OFTECH-201 Credits: 2
Medical and Psychosocial Conditions
This course introduces medical and psychosocial conditions as they relate to occupational therapy practice. Topics include etiology, symptomology, treatment and contraindications. Prerequisite(s): Admission to the Occupational Therapy Assistant (10-514-1) program, and completion of or concurrent enrollment in OTASST-171 and OTASST-173.

OFTECH-203 Credits: 2
Activity Analysis and Application
Provides instruction in activity analysis with hands-on experience in activities across the lifespan. Students apply the teaching/learning process and adhere to safety regulations. Prerequisite(s): Admission to the Occupational Therapy Assistant (10-514-1) program.

OFTECH-204 Credits: 4
OT Performance Skills
The emphasis of this course is on the development of skills related to assessment and intervention in the areas of sensory, motor, cognition and communication. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173.

OFTECH-205 Credits: 3
Psychosocial Practice
Examines the role of the OTA (occupational therapy assistant) in the service delivery to individuals affected by mental health conditions. Provides an opportunity for development of skills related to psychosocial assessment and interventions. Prerequisite(s): OTASST-174, OTASST-176, OTASST-177, OTASST-178.

OFTECH-206 Credits: 3
OT Theory and Practice
Examines the theoretical foundations that guide OT practice. Apply group dynamics and demonstrate leadership skills. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173.

OFTECH-207 Credits: 2
Assistive Technology and Adaptations
This course explores technologies that support delivery of OT services, with an emphasis on competency related to computer skills, ergonomics, adaptive devices and environments. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173.
OTASST – PHARMT

OTASST – PHARMT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

OTASST-178 Credits: 3
Geriatric Practice
This course provides opportunities for the learner to examine the role of the OT in the service delivery to elders in a variety of settings. The course includes analysis of the impact of age-related changes and disease processes on the function of the elderly. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173.

OTASST-179 Credits: 2
Community Practice
Explores practice options and interventions for occupation-based community practice. Students articulate the unique role of occupational therapy within the community. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173, OTASST-176, OTASST-178.

OTASST-182 Credits: 3
Physical Rehabilitation Practice
Explores interventions relative to major physical disability diagnoses seen in OT practice. Evaluation, treatment interventions and documentation are emphasized relative to the biomechanical, neurodevelopmental and rehabilitative approaches to practice. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173, OTASST-176, OTASST-178.

OTASST-183 Credits: 3
Pediatric Practice
Explores interventions relative to major pediatric diagnoses seen in OT practices. Evaluation, treatment interventions and documentation are emphasized within the context of the child’s occupations. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173, OTASST-176, OTASST-177, OTASST-178.

OTASST-184 Credits: 2
OTA Fieldwork 1
Integrate classroom theory and practice into a field work Level 1 experience. Provides experiences to assist in the development of communication, professional and observational skills. Prerequisite(s): Completion of or concurrent enrollment in OTASST-182 and OTASST-183.

OTASST-185 Credits: 2
OT Practice and Management
Provides opportunities to practice clinical management skills, continuous quality improvement measurement, and administrative concepts and procedures. Students create a professional development plan. Prerequisite(s): OTASST-175, OTASST-179, OTASST-182, OTASST-183, OTASST-184.

OTASST-186 Credits: 5
OTA Fieldwork 2A
Develop skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork 2B. Prerequisite(s): OTASST-175, OTASST-179, OTASST-182, OTASST-183, OTASST-184.

OTASST-187 Credits: 5
OTA Fieldwork 2B
Develop skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork 2A. Prerequisite(s): Completion of or concurrent enrollment in OTASST-185 and OTASST-186.

PAINT – Painting and Decorating (Department: 424)

PAINT-353 Credits: 1
Wood Finishing
The characteristics of supplies used in wood finishing are studied thoroughly. Topics such as the manufacture of stains, shellac, varnishes, wax, lacquers and enamels are covered. Health, safety and general trade practices also are studied.

PHARM – Pharmacy Technician

PHARM-300 Credits: 1
Orientation to Pharmacy Operations
Technical aspects of pharmacy are introduced with special emphasis on community pharmacy practices. Topics include drug distribution systems, routes of administration, dosage forms, drug standards, label format, prescription processing, prescription insurance inventory, and nonsterile compounding. Prerequisite(s): Must be admitted to the Pharmacy Technician (31-536-1) program.

PHARM-302 Credits: 2
Pharmaceutical Calculations
Basic math computations are reviewed, including addition, subtraction, multiplication and division of whole numbers, fractions and decimals. The course covers specific areas of the avoirdupois, apothecary and metric systems of measurement used in dosage calculations. Formulas and methods used in the preparation of pharmaceutical products are presented. Prerequisite(s): Must be admitted to the Pharmacy Technician (31-536-1) program.

PHARM-303 Credits: 2
Introduction to Drug Classification
This course introduces the principles of pharmacology, including therapeutic classification of medications, their actions and adverse reactions. Prerequisite(s): Must be admitted to the Pharmacy Technician (31-536-1) program.

PHARM-306 Credits: 2
Pharmacy Clinical Experience 1
This course provides practical application of knowledge and technical skills covered in didactic and laboratory portions of the program. Students observe, assist and perform assigned duties in a community pharmacy setting. Prerequisite(s): PHARM-300, PHARM-302, PHARM-303, PHARM-307, PHARM-395, HEALTH-107, and completion of or currently enrolled in HEALTH-104.

PHARM-307 Credits: 1
Community Pharmacy Lab
This laboratory course applies theory through performance of technical pharmacy tasks in a community pharmacy setting. Emphasis is on outpatient prescription processing. Prerequisite(s): Must be admitted to the Pharmacy Technician (31-536-1) program.

PHARM-310 Credits: 1
Institutional Pharmacy Practice
Topics specific to institutional pharmacy practice are presented; in addition, the course assists students to prepare for employment as a pharmacy technician. Prerequisite(s): PHARM-300, PHARM-302, PHARM-303, PHARM-307, PHARM-395.

PHARM-311 Credits: 2
Orientation to Sterile Solutions
This course focuses on introductory material related to techniques for safe preparation of sterile solutions. Application of basic principles of microbiology, aseptic technique, and the operation of both the vertical and horizontal laminar flow hoods to acceptable pharmacy practice standards are presented. Prerequisite(s): PHARM-300, PHARM-302, PHARM-303, PHARM-307, PHARM-395.

PHARM-312 Credits: 3
Pharmacy Operations Laboratory
This laboratory course applies theory through performance of technical pharmacy tasks in an institutional pharmacy setting. Prerequisite(s): PHARM-300, PHARM-302, PHARM-303, PHARM-307, PHARM-395.

PHARM-314 Credits: 2
Pharmacy Clinical Experience 2
This course provides the practical application of knowledge and technical skills covered in didactic and laboratory portions of the program. Students observe, assist and perform assigned duties in an institutional pharmacy setting. Prerequisite(s): PHARM-300, PHARM-302, PHARM-303, PHARM-307, PHARM-395, HEALTH-107, and completion of or currently enrolled in PHARM-306, PHARM-310, PHARM-311 and PHARM-312.

PHARM-395 Credits: 1
Federal Laws, Ethics and Customer Service
This course introduces the student to the practice of pharmacy, including the history of the profession and a description of the roles of the pharmacist and the pharmacy technician in various practice settings. Federal laws, ethics, professional standards and customer service are addressed. Prerequisite(s): Must be admitted to the Pharmacy Technician (31-536-1) program.
PHOTO – Photography (Department: 203)

PHOTO-101 Credits: 3
Digital Fundamental Photography
Students will use their digital SLR camera to develop their creative thought while learning the technical and mechanical aspects of photography. Students are required to own a Canon or Nikon DSLR with manual exposure controls, adjustable apertures and shutter speeds, and interchangeable lens capabilities.

PHOTO-103 Credits: 3
Digital Photography
The theory and application of professional, digital original photography will be studied. Students will use assorted high-end professional digital camera systems and output images via professional calibrator, continuous-tone digital printing systems. Prerequisite(s): PHOTO-108, PHOTO-130, PHOTO-139, PHOTO-141.

PHOTO-106 Credits: 3
View Camera Techniques
Students learn how to use a view camera to control the perspective, form and rendition of photographic subjects. Also emphasized are elements of composition and visual organization of the photographic image. Additionally, students learn black-and-white film processing, printing and finishing techniques. Prerequisite(s): PHOTO-108, PHOTO-139.

PHOTO-107 Credits: 1
Photographic Trends
Photography has been used to create portrait and pictorial photographs, record history-making events and influence social change. To understand how the medium has evolved, students learn about important photographs and the photographers who created them.

PHOTO-108 Credits: 3
Photographic Lighting
Many light sources are used in professional photography, including natural, incandescent and electronic flash. Students learn the theory of these and other light sources and become competent in their use through practical application. Prerequisite(s): PHOTO-101.

PHOTO-114 Credits: 3
Photographic Portfolio
This course is designed as the keystone to the completion of the Photography program. The thrust is the development of a working portfolio in preparation for employment. The résumé, interviewing and job search techniques, as well as business basics, are stressed. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124, PHOTO-142.

PHOTO-121 Credits: 3
Commercial Photography
Effective photography for advertising requires special considerations, including psychological motivation and appeals used in selling. In addition, students learn to control subject form and tonality, and the function of the photographer as director. Both film and digital processes will be incorporated. Prerequisite(s): PHOTO-108, PHOTO-130, PHOTO-139.

PHOTO-124 Credits: 3
Portraiture
Students work with a variety of subjects, in both studio and location settings, to produce pleasing likenesses and character studies. Dealing with people as subjects in a relaxed fashion and photographer/subject interaction are stressed. The presentation of the final product also is covered. Prerequisite(s): PHOTO-108, PHOTO-130, PHOTO-139, PHOTO-141.

PHOTO-130 Credits: 3
Photographic Composition
This course is designed as a critical study of traditional/contemporary composition considerations and of the importance of the photographic critique. Students will be dealing with a photographic dialogue that will emphasize the visual elements and effects of color, line, value, texture, volume, time and form. Prerequisite(s): PHOTO-101.

PHOTO-139 Credits: 3
Measurement Techniques
Students learn to control photographic technique by utilizing the digital zone system. This controlled system will enable students to accurately pre-visualize the finished photograph before capture. Emphasis is on the testing of light meters, camera sensors, lenses, and setting up of a calibrated workflow with their own DSLR camera. Once a calibrated system is in place, proper workflows will allow accuracy, from capture to final output. Prerequisite(s): PHOTO-101.

PHOTO-141 Credits: 3
Photojournalism
Photography for Photographers 1
Photography for Photographers 1 is a fundamental Photoshop course. Emphasis is placed on Photoshop tools and techniques, color theory and understanding preference settings. Students will use a digital camera to develop their awareness of color and enhance their technical skills. Photoshop and other digital-imaging editing software and film scanning are introduced using professional equipment.

PHOTO-142 Credits: 3
Photojournalism
Photography for Photographers 2
Photography for Photographers 2 is an advanced Photoshop course. Students continue to develop skills utilizing Photoshop tools and apply color management, compositing and planning into multilayered projects. Students use digital cameras to develop awareness of color control and to enhance technical skills. Emphasis is placed on complex Photoshop composites and advanced selection methods. Prerequisite(s): PHOTO-141.

PHOTO-166 Credits: 1
Photographic Management
This course is designed to provide students with the basic understanding of the activities and principles for managing photography-related enterprises, including the challenges and responsibilities of operating a business. The emphasis is on communication skills, estimating, management, marketing, finance and negotiation. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124, PHOTO-142.

PHOTO-173 Credits: 3
Photo Journalism
This course is designed to develop the necessary skills to make concise photos that convey a message, either news or documentary, with emphasis placed on the deadline nature of photo journalism. Topics include ethical and legal considerations, and the electronic darkroom. Prerequisite(s): PHOTO-108, PHOTO-139.

PHOTO-180 Credits: 3
DSLR Video
Lectures outline the work performed by in-house industrial or corporate photographers. Studio and location assignments enforce the skills required to function in today’s commercial climate. Students incorporate color and black-and-white film media, as well as digital capture methods, to complete assignment work. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124, PHOTO-142.

PHOTO-190 Credits: 1
Photography Internship
This course is designed to offer the advanced photography student an opportunity to experience “real life” work situations in the photographic community. Students will share their on-the-job experiences with the class. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124, PHOTO-142, and INTRN-796 with minimum grade of C or P.

PHOTOM - PHYED Degree/Diploma/Certificate Course Descriptions

PHYED – Physical Education (Department: 807)

PHYED-145 Credits: 1
CPR and First Aid
This course offers preparation to certify individuals in the techniques of rescue breathing, choking, CPR and other related emergencies. The course includes training for resuscitation of the adult, child and infant, along with proper techniques in two-person CPR, and use of masks for rescue breathing. Successful course completion will give individuals official CPR certification.
This involves strategies for maintaining body awareness, improving flexibility, and toning. This involves a full range of muscular activities with emphasis on body mechanics, flexibility, core strengthening and balance. Prerequisite(s): PHYED-233.

Cardiopulmonary Resuscitation (CPR) and First Aid
This course develops skills needed to certify individuals in the techniques for rescue breathing, choking emergencies and other related breathing emergencies. The skills also will include training for resuscitation of the adult, child and infant, along with proper techniques in two-person CPR, use of masks for rescue breathing, and the proper instruction of an automated external defibrillator (AED). Successful course completion will give the individual office certification in CPR/AED for the Professional Rescuer and certification in First Aid Basics.

Weight Training and Aerobic Fitness 1
This course provides an individualized approach to various types of weight resistance training and aerobic conditioning. Specific training using machines, free weights and floor exercises is included. A diverse variety of cardiovascular exercise methods also will be covered.

Weight Training and Aerobic Fitness 2
This course provides students with advanced strategies to improve their overall fitness. Included are demonstrations and activities involving warm-up procedures, stretching, resistance training, aerobic training and recovery.

Body Toning and Resistance Training 1
Specific techniques of body toning, along with progressive resistance exercises, are the focus of this course. A series of rhythmic exercises are taught to enhance muscular specificity for developing body shaping and muscular endurance, and improve physical appearance.

Body Toning and Resistance Training 2
This course is designed to teach advanced strategies of body toning and progressive resistance training. Select exercises are presented to enhance muscular specificity for developing body shaping and muscular endurance to improve physical appearance, as well as prepare for the physical demands of everyday living.

Dance for Aerobic Fitness 1
This course is a series of choreographed exercises to music with vigorous, continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, endurance and weight control.

This Hatha yoga class focuses on a path toward wellness. It includes postures and meditation techniques that are designed to develop symmetry and balance for the body, mind and spirit. Its exercise disciplines create challenges for self-improvement and control of stress.

An Active Approach to Wellness and Fitness
This lecture and lab course provides students with a contemporary approach to the total wellness concept, which includes physical fitness, exercise, nutrition and stress management. The relationship of physical fitness and activity to healthy lifestyles and wellness is examined. Students also learn CPR, make realistic appraisals of their health, and identify and use physical techniques and wellness concepts to develop personal plans for lifetime wellness.

Basketball 1
Basic basketball skills – shooting, offense, team play and conditioning – are taught and demonstrated in game situations. Interclass tournaments are conducted for the students.

Basketball 2
Advanced individual basketball skills are demonstrated and practiced. The course includes offense and defense strategies, along with special situations and coaching techniques.

Coed Volleyball 1
This course is designed to introduce students to the basic game of volleyball and to develop volleyball skills, no matter what level of skill the individual student has, from beginner to experienced.

Coed Volleyball 2
A course designed to teach some of the advanced skills of volleyball. Included is an examination of specialty sets, passes and serves. Also, different offenses will be taught, including the 4-2, 6-2 and 5-1.

Stretch and Stability Techniques
Instruction is given in basic fundamentals and techniques of stretch exercises set to music. This involves a full range of muscle activity, with emphasis on body mechanics, flexibility and body toning.

Stretch and Stability Techniques 2
This advanced course includes increasing body awareness, improving flexibility, posture, muscular strength and mobility. This involves strategies for maintaining

An Active Approach to Wellness and Fitness
This course is a series of choreographed exercises to music with vigorous, continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, endurance and weight control.

Cardiopulmonary Resuscitation (CPR) and First Aid
This course develops skills needed to certify individuals in the techniques for rescue breathing, choking emergencies and other related breathing emergencies. The skills also will include training for resuscitation of the adult, child and infant, along with proper techniques in two-person CPR, use of masks for rescue breathing, and the proper instruction of an automated external defibrillator (AED). Successful course completion will give the individual office certification in CPR/AED for the Professional Rescuer and certification in First Aid Basics.

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This course provides an individualized approach to various types of weight resistance training and aerobic conditioning. Specific training using machines, free weights and floor exercises is included. A diverse variety of cardiovascular exercise methods also will be covered.

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This course provides students with advanced strategies to improve their overall fitness. Included are demonstrations and activities involving warm-up procedures, stretching, resistance training, aerobic training and recovery.

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Specific techniques of body toning, along with progressive resistance exercises, are the focus of this course. A series of rhythmic exercises are taught to enhance muscular specificity for developing body shaping and muscular endurance, and improve physical appearance.

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This course is designed to teach advanced strategies of body toning and progressive resistance training. Select exercises are presented to enhance muscular specificity for developing body shaping and muscular endurance to improve physical appearance, as well as prepare for the physical demands of everyday living.

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This course is a series of choreographed exercises to music with vigorous, continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, endurance and weight control.

This Hatha yoga class focuses on a path toward wellness. It includes postures and meditation techniques that are designed to develop symmetry and balance for the body, mind and spirit. Its exercise disciplines create challenges for self-improvement and control of stress.

An Active Approach to Wellness and Fitness
This course is a series of choreographed exercises to music with vigorous, continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, endurance and weight control.
PLEGAL – PLUMB DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

**PLEGAL-103 Credits: 3**
Legal Research
This course provides an understanding of the law library through projects that develop research skills by using digests, legal encyclopedias, reporter systems, treatises and practice manuals. Students also become familiar with computerized legal research. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-105 Credits: 3**
Civil Procedure
This course covers the fundamental principles used in civil litigation. Students apply the procedural concepts discussed by reviewing forms, and drafting pleadings and other documents used in civil litigation. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-107 Credits: 3**
Legal Writing
This course involves the use of principles that apply to effective legal writing. Students draft memoranda, briefs, letters and other forms of correspondence to gain skills in communicating legal concepts in various areas of the law. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-111 Credits: 3**
Litigation Practice Systems
This course is a study of the procedures involved and the documents that may be used in a civil lawsuit prior to filing, during the resolution of the matter and after the judgment. Included in the study is the paralegal’s role in interviewing, and investigative techniques, settlement procedures and trial preparation. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-114 Credits: 3**
Trusts and Estates – Probate Systems
Students learn the fundamental principles of estate planning, wills and trusts, as well as the essential processes of formal and informal probate, using Wisconsin law as a perspective. Estate and gift taxation also are explored by the student. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-116 Credits: 3**
Real Estate Law and Practice
This course examines the law of real property, real estate interests, transactions and processes. Forms used in Wisconsin real estate transactions will be used. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-118 Credits: 3**
Criminal Practice
The course concentrates on the sources and purposes of criminal law, the meaning of criminal responsibility, elements of crimes, defenses and criminal procedures. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-121 Credits: 3**
Domestic Relations and Divorce Practice Systems
This course is a study of actions that affect the family such as divorce, legal separation, annulment, paternity and adoption. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-123 Credits: 3**
Corporate Practice Systems
Students are introduced to the various types of business organizations with special emphasis on the limited liability company and the corporation. Topics include formation of business entity, required recordkeeping, securities regulations and organizational maintenance. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-127 Credits: 3**
Debtor-Creditor Law
This course examines the law relating to creation of debt; collection of debt and bankruptcy. Forms used in Wisconsin collection practice and U.S. Bankruptcy Court will be used. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

**PLEGAL-140 Credits: 3**
Legal Interviewing/Investigation
This course instructs students how to access public records, interview witnesses, locate missing persons and use the internet as an investigative tool. Prerequisite(s): PLEGAL-101 and admitted to the Paralegal (10-110-1) or the Paralegal Studies (30-110-2) program.

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**PLUMB – Plumbing (Department: 427)**

**PLUMB-300 Credits: 3**
Plumbing Theory 1
This fundamental course presents the theory of basic methods of plumbing and piping installation practices. It is intended to complement the course PLUMB-302 Plumbing and Piping Shop 1.

**PLUMB-301 Credits: 2**
Applied Drawing for Plumbers 1
This course covers basic principles that are essential for visualization and training in the interpretation of blueprints and freehand sketches of simpler plumbing and piping jobs. This includes drawing scales, piping symbols and architectural symbols.

**PLUMB-302 Credits: 3**
Plumbing and Piping Shop 1
Students will be able to apply the knowledge they have gained and the skills they have learned to practical design and construction of complete plumbing installations. They also will be able to develop systemized methods of plumbing installation practices, as well as learn the use and care of plumbing fixtures, appliance equipment and power tools.

**PLUMB-304 Credits: 3**
Plumbing Theory 2
This course is designed to present the general rules, definitions and principles of the Uniform Wisconsin State Plumbing Code. Students will learn about the code and its regulations. Additionally, students learn the design and installation of various plumbing systems. Prerequisite(s): PLUMB-300.

**PLUMB-305 Credits: 2**
Plumbing and Pipe Joining Process 2
This course is designed to provide students with advanced pipe joining processes associated with the plumbing field. Specifically, students learn fundamentals of arc welding, gas welding and wire welding. The course also includes plastic pipe-joining methods for potable water, waste and vent systems. Prerequisite(s): PLUMB-308.

**PLUMB-306 Credits: 3**
Plumbing and Piping Shop 2
This course is designed to provide students with an opportunity to apply plumbing practices in a shop or actual work setting. The course requires students to combine theory and drawing skills to demonstrate their installation ability. Prerequisite(s): PLUMB-302.

**PLUMB-308 Credits: 2**
Plumbing and Pipe Joining Process 1
This course is designed to provide students with basic pipe joining processes associated with the plumbing field. Specifically, students will learn fundamentals of cutting, reaming, threading, soldering and brazing. The course also includes oxygen/acylene cutting methods.

**PLUMB-309 Credits: 2**
Applied Drawing for Plumbers 2
This course is designed to provide students with experience in drawing. This includes design and layout work, which then leads students to plan view elevations and isometric drawings. Prerequisite(s): PLUMB-301.
PLUMB – POLICE

PLUMB – POLICE DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

**PLUMB-310 First Aid/Safety in Plumbing**
Credits: 1
This course is designed to provide students with first aid/CPR according to the American Red Cross. Additionally, students will cover U.S. Occupational, Safety and Health Administration (OSHA) guidelines.

**PLUMB-312 Computer Applications/Plumbing**
Credits: 1
This course is designed to provide students with word processing, PowerPoint, spreadsheet and internet skills. Students will have an opportunity to apply computer skills in various learning activities.

**POLICE – Police Science (Department: 504)**

**POLICE-115 Criminal Evidence**
Credits: 3
This course describes the constitutional principles, and the federal and state laws governing the admissibility of evidence into the judicial system. It also describes the procedures used in the collection, preservation, examination and presentation of evidence in a trial. Prerequisite(s): POLICE-901.

**POLICE-144 Law Enforcement Internship 1**
Credits: 3
This course provides students with the opportunity to observe, identify and possibly assist in law enforcement theory, skills and techniques covering the broad spectrum of law enforcement issues, including problem-solving tools, legal procedures and avenues within the law enforcement community. All students must submit to a criminal background check, driver’s license check and provide medical documentation of fitness signed by a physician prior to participation in this course. Prerequisite(s): POLICE-900 or POLICE-108, POLICE-901 or POLICE-117, and POLICE-902 or POLICE-113 (minimum grade of C is required).

**POLICE-145 Law Enforcement Internship 2**
Credits: 3
This course provides students with the opportunity to continue to observe, identify and possibly assist in law enforcement theory, skills and techniques covering the broad spectrum of law enforcement issues, including problem-solving tools, legal procedures and avenues within the law enforcement community. Required: 15 credits with a GPA of 3.0 or better earned within the MATC Criminal Justice – Law Enforcement program core classes and with consent of Associate Dean of Protective Services. All students must submit to a criminal background check, driver’s license check and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): 15 credits of POLICE coursework (with a minimum grade of C).

**POLICE-146 Contemporary Legal Issues**
Credits: 3
Student will learn about past and present domestic and foreign terrorist organizations, and the structure of organizations in America that must deal with the actions of these groups. Student will identify constitutional, judicial and statutory concepts relevant to investigating and prosecuting criminal actions of these groups. This includes investigative techniques currently in place.

**POLICE-161 Ethics in Law Enforcement**
Credits: 3
Course provides a basic understanding of the theoretical foundations of ethical thoughts. Diverse ethical perspectives will be used to analyze and compare relevant issues in law enforcement. Student will critically evaluate individual, social and/or professional standards of behavior within society/law enforcement and also apply a systematic decision-making process to these situations.

**POLICE-162 Sensitive Crimes**
Credits: 3
Student will identify what a sensitive crime is and responsibilities of law enforcement in dealing with victims of these crimes. Student will learn of resources and remedies available to these vulnerable victims. Student also will learn about crimes related to violence against women and exploitation of children from a local and global perspective. Prerequisite(s): POLICE-902, POLICE-906.

**POLICE-163 Interview and Interrogation**
Credits: 3
Student will learn the legal issues that define the interviewing of subjects, in public or in custody, and various techniques to enhance information obtained, including analysis of verbal and nonverbal actions and how they relate to truth or deception by persons during the interview process. Prerequisite(s): POLICE-900, POLICE-902, POLICE-905.

**POLICE-164 Law Enforcement Employability**
Credits: 3
Course will prepare students to engage in the law enforcement application process, including various exams and interviews. Course also addresses mental and physical fitness related to careers in law enforcement.

**POLICE-165 Introduction to Corrections**
Credits: 3
Course addresses the historical and present practice of correctional systems. Topics including offender profiles, inmate and site security, and basic legal corrections issues will be discussed.

**POLICE-380 Overview of Investigations**
Credits: 2
Through classroom lecture, on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement and First Aid/CPR/AED. This course also will include the Wisconsin DOJ 720 Academy Integration Exercises.

**POLICE-381 Principles of Tactics**
Credits: 3
Through classroom lecture and on-campus lab, students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks: DAAT and Firearms II. The Phase II Written Examination will be administered during this course.

**POLICE-382 Application of Investigations**
Credits: 2
Through classroom lecture and on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Phase II topics of the Department of Justice 720 Academy curriculum framework: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Testifying in Court and Crimes III.

**POLICE-383 Principles of Investigation**
Credits: 2
Through classroom lecture, on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Phase II topics of the Wisconsin Department of Justice 720 Academy curriculum framework: Constitutional Law II, Crimes II, Domestics and Report Writing.

**POLICE-384 Overview of Tactics**
Credits: 1
Through classroom lecture, on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Fundamentals of Firearms, Vehicle Contacts I, Officer Wellness and DAAT. The DOJ Phase I Written Examination will be administered in this course.

**POLICE-385 Overview of Patrol Response**
Credits: 2
Through classroom lecture, on-campus lab and Wisconsin Department of Justice integration exercises, students will learn and apply skills addressed in the following Wisconsin Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement and First Aid/CPR/AED. This course also will include the Wisconsin DOJ 720 Academy Integration Exercises.
POLICE – POWENG DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

POLICE-386 Credits: 2
Application of Traffic Response
Through classroom lecture and on-campus lab, students will learn and apply skills addressed in the following Phase III topics from the Wisconsin Department of Justice 720 Academy curriculum framework: Traffic Law Enforcement – Core and Radar, Traffic Crash Investigations and Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST) and Report Writing. A Phase II Written Examination also will be administered in this course.

POLICE-387 Credits: 1
Health and Fitness
Through classroom lecture and on-campus lab, students will apply Phases I–III Health Fitness Wisconsin Department of Justice 720 Academy curriculum framework program requirements.

POLICE-388 Credits: 2
Principles of Patrol Response
Through classroom lecture, on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Wisconsin Department of Justice 720 Academy curriculum framework Phase II topics: Professional Communication Skills II, Incident Command Systems and NIMS, Hazardous Materials and WMD, Tactical Response, Crisis Management and Tactical Emergency Casualty Care.

POLICE-389 Credits: 2
Principles of Emergency Vehicle Response
Through classroom lecture, on-campus lab and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase II topics: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II.

POLICE-390 Credits: 1
Overview of Criminal Justice
Through classroom lecture and Wisconsin Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Wisconsin Department of Justice 720 Academy Phase I curriculum framework topics: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy and Professional Communication.

POLICE-900 Credits: 3
Introduction to Criminal Justice
Course is an examination of the American criminal justice system, including the historical and modern role/functions of federal, state, local law enforcement, courts and corrections. Introduction to critical thinking and problem-solving in the context of law enforcement.

POLICE-901 Credits: 3
Constitutional Law
Course studies the theory of laws and the practices of arrests, searches and seizures as individual concepts, and their interrelationships within the criminal justice system. Course also studies constitutional and statutory limitations on the proper authority of law enforcement to perform these tasks. Will contain discussions on contemporary issues of use of force and the exclusionary rules.

POLICE-902 Credits: 3
Criminal Law
This course defines and describes theories concerning the nature of crime, and the purpose and source of criminal law in American society. Identifies principles of constitutional, federal, state and local laws that are applicable to criminal law with emphasis on the Wisconsin Criminal Code. Prerequisite(s): POLICE-901.

POLICE-903 Credits: 3
Professional Communications
Students will develop and apply specific communication skills and strategies in a variety of simulated situations that are commonly used in law enforcement. Interview and interrogation skills also are addressed in this context. Prerequisite(s): POLICE-900, POLICE-901, POLICE-902, POLICE-904, POLICE-906, POLICE-907, POLICE-908; can take POLICE-905 concurrently.

POLICE-904 Credits: 3
Juvenile Law
Student will learn the components of the juvenile justice system, including identifying children in need of protection or services, and adjudication of delinquency. Student will identify legal issues and laws relevant to juveniles, and the roles of law enforcement in investigational techniques employed in child-maltreatment cases, as well as issues involving missing children. Prerequisite(s): POLICE-900.

POLICE-905 Credits: 3
Report Writing
Student will learn to produce reports necessary for operations in law enforcement and the judicial system. Students also will learn the art of creating reports from various sources and the significance of these reports in legal proceedings. Prerequisite(s): POLICE-900, POLICE-901, POLICE-902.

POLICE-906 Credits: 3
Criminal Investigation Theory
Student will learn the role of evidence in criminal investigation and prosecution, and the proper methods of identifying, documenting and recovering evidence. Student will learn methods and strategies related to interviews of witnesses, and specific serious criminal offenses. Prerequisite(s): POLICE-901.

POLICE-907 Credits: 3
Community Policing Strategies
Student will be introduced to strategies employed to implement the community policing model of law enforcement in use today. Student will learn how law enforcement can work with the community as partners to the benefit of each entity through proactive approaches that lead to reduction of criminal activities.

POLICE-908 Credits: 3
Traffic Theory
Student will learn Wisconsin traffic laws, and will investigate and document traffic crashes using current citations and forms. Student also will learn to recognize and interpret indicators of impaired driving and what actions are to be taken.

POWENG – Power Engineering (Department: 428)

POWENG-330 Credits: 1
Low Pressure Boilers
This course covers the basic operation of low pressure boilers and prepares the student for a Facilities Operating License 3rd Class (low pressure boiler license up to 15 psi). Curriculum includes boiler systems – fuel, draft, steam and feedwater. Absorption chillers, hot water boiler systems and operating procedures are covered. Licensing agency is the American Society of Power Engineers.

POWENG-331 Credits: 2
High Pressure Boilers
This class will prepare students to write the American Society of Power Engineers Facility Operating 2nd Class Licensing exam. The High Pressure Boilers class also will prepare students to recognize boiler terminology, comprehend feedwater, steam, fuel and draft systems. Students will learn heat transfer principles using air heaters, shell and tube heat exchangers, steam and radiant heat. Also covers basic electricity, boiler operation, water treatment programs, cooling towers, traps, strainers and burner management systems.

POWENG-332 Credits: 1
Boiler Operation
This class introduces the student to climate change and the different types of renewable energy in practice today. Emphasis will be on photovoltaic energy. Measurements and comparisons between conventional power generation and alternatives will be studied.
Abnormal Psychology
The course surveys the essential features, possible causes, assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored, as well as current topics and issues within abnormal psychology.

Developmental Psychology
Concepts of normal growth and development are presented. A survey is made of the changing physical, physiological and psychological characteristics of individuals as they progress through the lifespan, from the neonatal period through adolescence, adulthood and old age. The common life crises during the lifespan are identified.

Psychology of Human Relations
Explores the relationships between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deeper sense of awareness of themselves and others. This understanding enables students to improve their relationships with others at work, in the family and in society.

Cross-Cultural Psychology
This course is designed to provide a survey of psychological issues across a variety of cultures. Students will analyze how different aspects of culture affect human behavior, emotion and cognition, and consider a variety of issues that are relevant to understanding and relating to people who are culturally different from one another. 

Introductory Psychology
This introductory psychology course presents a contemporary survey of the multiple aspects of human behavior. It includes various theoretical foundations of human functioning in areas such as methodology, physiological factors, memory, human development, motivation, stress management, personality and pathology.

Abnormal Psychology
This course surveys systematically the essential features, possible causes, assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Prerequisite(s): PSYCH-199 or PSYCH-231.

Social Psychology
This course deals with perception, attitudes, values, communication and roles within the community. Various contemporary social problems are examined, including racism. Emphasis is given to the sociology and psychology concerned with groups. Prerequisite(s): PSYCH-199 or PSYCH-231.
PTASST – QETECH

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PTASST – QETECH

QETECH – Quality Engineering Technology (Department: 623)

QETECH-118

Lean Principles


QETECH-132

Six Sigma Green Belt 1

Provides the student with the skills and abilities to apply the Six Sigma methodology (Define/Measure/Analyze/Improve/Control). Six Sigma is a strategic approach to implementing quality, process and business efficiency improvement through the use of statistical and other analytic tools. Topic areas include further statistical analysis and hypothesis testing, correlation and regression, statistical process control, methods to implement solutions, solutions validation and control plans. Prerequisite(s): QETECH-132.

QETECH-134

Six Sigma Green Belt 2

Provides the student with the skills and abilities to apply the Six Sigma methodology (Define/Measure/Analyze/Improve/Control). Six Sigma is a strategic approach to implementing quality, process and business efficiency improvement through the use of statistical and other analytic tools. Topic areas include further statistical analysis and hypothesis testing, correlation and regression, statistical process control, methods to implement solutions, solutions validation and control plans. Prerequisite(s): QETECH-132.

QETECH-138

Introduction to Quality Engineering

Studies principles and techniques of quality engineering in management, production and assurance of quality. Emphasizes fundamentals of total quality assurance for products, service and process control, including fundamentals of statistics, sampling, control charts, quality reporting, process capability analysis, tool and gage control, document control, standards and continuous improvement methods. Prerequisite(s): MATH-260 or BADM-104.

QETECH-142

Six Sigma Green Belt Project

Data collection and methods capstone project. Student will apply the Six Sigma problem-solving methodology to a real problem in their place of employment or through service learning. An emphasis will be placed on team skills; project deliverables; project, time and constraint management; and selection of appropriate tools and statistical techniques. Students will select one or more of four concentrations in healthcare, manufacturing, business operations, or environmental and social responsibility. Prerequisite(s): QETECH-132, QETECH-134.

QETECH-144

Supplier Quality Assurance

This course provides students with the knowledge to determine acceptance criteria, evaluate and select new suppliers, assist in supplier development, monitor supplier performance and risk management (price variances, quality variability, or delivery slippages). Includes the process to develop, implement and maintain an effective supplier nonconformance program in the organization. Prerequisite(s): MATH-260 or BADM-104.
QETECH – RADT

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

QETECH-152
Six Sigma Black Belt Tools and Concepts
Credits: 3
This course provides the student with the knowledge to achieve the level of Six Sigma – Black Belt. Students are expected to possess additional proficiency in identifying project deliverables, selecting appropriate tools to determine customer requirements, benchmarking, change management, reliability, hypothesis testing, nonparametric data, design of experiments and statistical process control through the DMAIC process. The concepts of Design for Six Sigma (DFSS) to “build quality in” at the design stage also will be introduced. Prerequisite(s): QETECH-132, QETECH-134.

QETECH-192
Lean Principles 1
Credits: 1

QETECH-193
Lean Principles 2
Credits: 1

QETECH-194
Lean Principles 3
Credits: 1

QLTYIN-104
MSSC Quality
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Quality Online assessment. The class will concentrate on the specific content covered in the MSSC Quality module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Technician Quality credential.

QLTYIN-105
MSSC Process
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Processes Online assessment. The class will concentrate on the specific content covered in the MSSC Processes module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Processes credential.

QLTYIN-106
MSSC Maintenance
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Maintenance Online assessment. The class will concentrate on the specific content covered in the MSSC Maintenance module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Maintenance credential.

QLTYIN-103
MSSC Safety
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Safety Online assessment. The class will concentrate on the specific content covered in the MSSC Safety module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Technician Safety credentials.

QLTYIN-104
MSSC Quality
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Quality Online assessment. The class will concentrate on the specific content covered in the MSSC Quality module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Technician Quality credential.

QLTYIN-105
MSSC Process
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Processes Online assessment. The class will concentrate on the specific content covered in the MSSC Processes module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Processes credential.

QLTYIN-106
MSSC Maintenance
Credits: 1
This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Maintenance Online assessment. The class will concentrate on the specific content covered in the MSSC Maintenance module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Maintenance credential.

RADT-149
Radiographic Procedures 1
Credits: 5
This course prepares radiography students to perform routine radiographic procedures on various parts of the body, including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired results. Prerequisite(s): Must be admitted to the Radiography (10-526-1) program.

RADT-159
Radiographic Imaging 1
Credits: 3
This course introduces radiography students to the process of creating radiographic images. Students determine the factors that affect image quality, including contrast, density and distortion. Students apply OSHA standards for health and safety in the darkroom. Prerequisite(s): Must be admitted to the Radiography (10-526-1) program.

RADT-168
Radiography Clinical 1
Credits: 2
This beginner-level clinical course prepares radiography students to perform radiologic procedures on patients, with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): Must be admitted to the Radiography (10-526-1) program.

ARRT Certification Seminar
Credits: 2
This course provides preparation for the national certification examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized. Prerequisite(s): Must be admitted to the Radiography (10-526-1) program.

RADT-189
Radiographic Pathology
Credits: 1
Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications and prognosis, and locate the radiographic appearance of pathologies. Prerequisite(s): RADT-191.

RADT-190
Radiography Clinical 5
Credits: 2
This clinical course prepares radiography students to perform radiologic procedures on patients, with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.
RADT – RDIAT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

RADT-191 Credits: 5
Radiographic Procedures 2
This course prepares radiography students to perform routine procedures on various parts of the body, including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired results. Prerequisite(s): RADT-149, RADT-158, RADT-159, RADT-168.

RADT-192 Credits: 3
Radiography Clinical 2
This second-level clinical course prepares radiography students to perform radiologic procedures on patients, with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): RADT-170, RADT-191, RADT-193.

RADT-193 Credits: 3
Radiography Clinical 3
This third-level clinical course prepares radiography students to perform radiologic procedures on patients, with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): RADT-170, RADT-191, RADT-192.

RADT-194 Credits: 3
Imaging Equipment Operation
This course introduces radiography students to the principles and application of X-ray technology. Students analyze how X-rays are produced and determine the corrective actions necessary for common equipment malfunctions.

RADT-195 Credits: 2
Radiographic Quality Analysis
Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems, including equipment malfunctions and procedural errors.

RADT-196 Credits: 3
Modalities
Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy. Prerequisite(s): RADT-170, RADT-191, RADT-193.

RADT-197 Credits: 3
Radiation Protection and Biology
This course prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure. Prerequisite(s): RADT-194, RADT-196, RADT-199.

RADT-198 Credits: 2
Radiography Clinical 6
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high-quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RADT-199 Credits: 3
Radiography Clinical 4
This fourth-level clinical course prepares radiography students to perform radiologic procedures on patients, with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. Prerequisite(s): RADT-193.

RBUS – Related Business (Department: 105)

RBUS-102 Credits: 3
Mathematics of Business
Students develop techniques to efficiently and accurately calculate business applications of checking accounts, bank reconciliation, percentage formula, rate and amount of increase and decrease, payroll, invoices, trade discounts, cash discounts, markup, markdown, interest, credit and loans.

RBUS-111 Credits: 3
Business Communications
Students analyze communication situations to plan, draft and complete effective messages for both print and electronic delivery (including IM, voice messaging and blogging). Emphasis is on the application of strategies to prepare ethical, receiver-oriented messages for diverse audiences. Students may participate in team activities to develop skills critical for today’s business environment. Prerequisite(s): ENG-152 or any 200-level ENG or SPEECH course.

RBUS-141 Credits: 3
Legal Terminology and Court Structure
This course stresses the development and usage of a basic legal vocabulary, explains the structure of federal and state court systems, and explains proper preparation of court papers and legal instruments.

RBUS-180 Credits: 1
Business Career Planning
This course focuses on personal and professional preparation for one’s career. It covers self-esteem/value clarification (understanding your behavior), human relations (creative problem-solving and decision-making), communication skills (oral and written), time management (setting priorities and organizational techniques) and career preparation (gaining confidence, the power of positive thinking and the job search). Through lecture, films, handouts, guest speakers and field trips, overall guidelines are provided for total professional development.

RDIAT – Renal Dialysis (Department: 517)

RDIAT-302 Credits: 3
Renal Failure and Support Therapies
After a review of normal renal anatomy and physiology, the student is introduced to pathological changes and/or conditions of the renal system and the effects of these changes on patients with ESRD. Treatment modalities also are discussed. Prerequisite(s): RDIAT-321, HEALTH-101.

RDIAT-304 Credits: 1
Hemodialysis Laboratory Procedures
This laboratory course provides the student with hands-on experiences in learning the technical skills required to function as a renal dialysis technician. Prerequisite(s): RDIAT-321, HEALTH-101, and completion of or concurrent registration in RDIAT-302.

RDIAT-320 Credits: 3
Introduction to Renal Dialysis
This lecture/laboratory course introduces students to healthcare concepts, basic patient care skills, infection control procedures, dialysis-related math applications, chronic illness and the grieving process. It also covers the renal dialysis technician’s role within the healthcare system as it relates to personal/vocational perspectives. Prerequisite(s): Admission to the Renal Dialysis Technician (31-517-1) program.

RDIAT-321 Credits: 4
Principles of Renal Dialysis 1
This lecture/laboratory/clinical course is designed to introduce students to normal and abnormal renal anatomy and physiology, renal failure, dialysis, vascular access and basic concepts of laboratory testing as related to hemodialysis and end stage renal disease (ESRD). During this course, students are given the opportunity to observe, assist and perform skills in an assigned clinical facility. Prerequisite(s): RDIAT-320.
RDIAT-322 Credits: 3
Principles of Renal Dialysis 2
This lecture course provides students with the in-depth principles and procedures of hemodialysis. Patient observations, patient care skills, safety, infection control, quality management, complications of dialysis, reprocessing and peritoneal dialysis are discussed. Career opportunities and interviewing skills also are discussed. Prerequisite(s): RDIAT-321, HEALTH-101, and completion of or concurrently registered in RDIAT-304.

RDIAT-323 Credits: 2
Clinical Practicum 1
This course provides students with the opportunity to apply the principles and procedures of the hemodialysis delivery system with ESRD patients. Students observe, assist and/or perform skills in affiliating dialysis units. Prerequisite(s): RDIAT-321, HEALTH-101, and completion of or concurrently registered in RDIAT-302, RDIAT-304 and RDIAT-322.

RDIAT-324 Credits: 3
Clinical Practicum 2
This course provides students with an opportunity to continue to observe, assist and/or perform and perfect dialysis system procedures in affiliating dialysis units. Prerequisite(s): RDIAT-304, RDIAT-323.

RESPC – Respiratory Therapist
(Department: 515)

RESPC-111 Credits: 3
Respiratory Survey
Examines the role of the respiratory therapist within the healthcare community. Reviews the ethical, legal and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): Admission to Respiratory Therapist (10-515-1) program.

RESPC-112 Credits: 2
Respiratory Airway Management
Provides a comprehensive exploration of airway management concepts and skills. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): Completion of or currently enrolled in RESPC-174.

RESPC-113 Credits: 3
Respiratory Life Support
Focuses on management of adult ventilatory support. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): RESPC-172, RESPC-175, and completion of or currently enrolled in RESPC-112.

RESPC-145 Credits: 3
Respiratory Care Registry Review
This course provides respiratory care practitioners with a review of essential knowledge and techniques required for the advanced practitioner written registry and clinical simulation examinations. Prerequisite(s): RESPC-113.

RESPC-171 Credits: 3
Respiratory Therapeutics 1
Introduces the topics of medical gas administration, and humidity and aerosol therapy. The learner will apply physics, math and patient assessment concepts to oxygen, aerosol and humidity therapy. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): Admission to Respiratory Therapist (10-515-1) program, and completion of or currently enrolled in RESPC-111 and NATSCI-177 or NATSCI-202.

RESPC-172 Credits: 3
Respiratory Therapeutics 2
Introduces therapeutic procedures, including arterial puncture, bronchial hygiene, lung expansion therapy and pulmonary rehabilitation. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): Admission to Respiratory Therapist (10-515-1) program, and completion of or currently enrolled in RESPC-171.

RESPC-173 Credits: 3
Respiratory Pharmacology
Examines basic pharmacology principles, drug dosage and calculations, and medications for inhalation, including mucolytics, bronchodilators and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers and antimicrobials. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): NATSCI-177 or NATSCI-202, and completion of or currently enrolled in RESPC-111.

RESPC-174 Credits: 3
Respiratory/Cardiac Physiology
Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent respiratory therapist. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): NATSCI-177 or NATSCI-202, and admitted to the Respiratory Therapist (10-515-1) program.

RESPC-175 Credits: 2
Respiratory Clinical 1
Introduces respiratory therapy practice in the hospital setting. Includes the development of skills such as basic therapeutic, patient assessment, medical record review, safety practices, patient interaction and communication. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of five (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): RESPC-111 and completion of or currently enrolled in HEALTH-101, RESPC-171 and RESPC-172.

RESPC-176 Credits: 3
Respiratory Disease
Exploration of signs, symptoms, causes, progression and treatment of diseases or disorders of the body that affect the respiratory cardiopulmonary system. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. Prerequisite(s): RESPC-111 and completion of or currently enrolled in RESPC-174.

RESPC-177 Credits: 3
Respiratory Clinical 2
Continued development of respiratory therapy clinical skills, including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 12 (required and/or simulated) competencies (cumulative through all clinical courses). The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required; competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): RESPC-175.

RESPC-178 Credits: 3
Respiratory Clinical 3
Continued development of respiratory therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make
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appropriate modifications in patient care. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 19 (required and/or simulated) competencies (cumulative through all clinical courses). The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required; competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): Admission to the Respiratory Therapist (10-515-1) program, RESPC-179, and completion of or currently enrolled in RESPC-113.

RESPC-183
Respiratory Clinical 5
Focuses on the completion of respiratory therapy competencies and transition to employment. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in all of the required and required/simulated competencies. The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required; competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): Admission to Respiratory Therapist (10-515-1) program, and RESPC-182.

RLEST — Real Estate
(Department: 194)

RESPE-175
Technical Writing for Home Inspectors
Students engage in hands-on technical writing tasks in order to be able to plan, design and execute well-developed documents for real estate-related transactions using construction terms. These include various forms, business letters and marketing materials to be used in the home inspection business.

RESPE-180
Principles of Real Estate
This course, in addition to Real Estate Law (RLEST-182), satisfies the educational licensing requirement that must be met prior to taking the State of Wisconsin Real Estate Salesperson Exam. The content of the course will address agency/brokerage, title and deeds, finance appraisal, homeownership, economics of real estate, government limitation, forms and contracts.

RESPE-181
Principles of Commercial Real Estate
Course covers the broad area of commercial property, which includes retail facilities, office buildings, mini-storage, warehouses, as well as apartment complexes. Areas to be addressed include: listing, leasing, financing, marketing, buying, selling, valuation and the advantages of specialization. The difference between commercial and residential buildings, as a real estate professional and as an investor, will be emphasized.

RESPE-182
Real Estate Law
This course, in addition to Principles of Real Estate (RLEST-180), will satisfy the educational requirements for the State of Wisconsin Real Estate Salesperson Exam. The course will cover the duties and responsibilities of a real estate professional. Disclosure requirements, all forms, contracts, addenda, amendments, deed options and land contracts will be covered thoroughly. Closing a transaction, discrimination, landlord/tenant law, and environmental issues also will be covered.

RLEST-183
Real Estate Broker Preparation
The course satisfies the educational requirement for the State of Wisconsin Real Estate Brokers Exam. It will focus on closing a transaction; the responsibilities of a broker, including employer and human resources, supervision and leadership; managing liability and risk; and disclosure duties. A real estate business, as a business, includes: trust accounts, special issues from Starker Exchanges, auctions, foreclosures and short sales. Instruction also includes familiarity with all of the forms and contract options.

RLEST-184
Real Estate Mortgage Processing
Fundamentals of mortgage lending and lending terminology are covered, along with the sources of mortgage money from conventional to governmental financing. Mortgage lending math, loan documents, government agencies and the secondary mortgage market also are examined. Government controls from the HUD-1 to the RESPA rules are covered. This is an ever-changing industry with many opportunities and complications.

RLEST-185
Real Estate Investment Principles
Real estate investment fundamentals are explained. Types of investment real estate, investment objectives and the investment process are discussed. Investment techniques are analyzed from the gross rent multiplier to the internal rate of return and cap rates. You will be able to compare properties, investment opportunities, or limitations.

RLEST-187
Broker Management
This course plus Real Estate Broker Preparation (RLEST-183) will meet the requirements for the State of Wisconsin licensing as a Real Estate Broker. The course will cover in depth all the State of Wisconsin real estate forms, contracts and documents. A heavy focus will be on the management of a real estate brokerage business. This would include business management, financial management, office management, and employee or agent management. Other important areas that will be covered in depth are duties of a broker and ethics. We will look at these components considering industry standards and regulatory requirements.
RLEST – SOCSCI

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RLEST-188 Credits: 3
Listing, Selling and Sales Tools
Broker/salesperson relationships and office/listing procedures are studied. Client responsibility and property information disclosure are examined. Listing contract, offer to purchase, advertising sales plans/presentation also are reviewed. Current sales and marketing of real estate are reviewed.

RLEST-189 Credits: 3
Introduction to Home Inspection
This course is designed to meet the need for inspection knowledge for the real estate market, including inspectors, realtor buyers and sellers. The course covers the physical components of a home, including soils, foundations, structure, plumbing, electrical, heating, venting and air conditioning. Public policy, procedures and report writing also are addressed in this class.

RLEST-190 Credits: 3
Introduction to Property Management
Property management is discussed in regard to leases, rent scheduling, selling space and renting techniques. Tenant selection, supervision and relations with owners are covered, along with purchasing, budgets, reports, and legal and professional relationships. Also addressed is the industry of providing property management services to both residential and commercial clients.

RLEST-191 Credits: 3
Residential Plumbing for Inspectors
This course focuses on passing the State of Wisconsin Uniform Dwelling Code Plumbing Inspector Exam. All plumbing code material on the exam will be covered in class, including pipe sizing, water distribution, and waste systems and cross connection.

RLEST-192 Credits: 3
Uniform Dwelling Code Construction for Inspectors
This course focuses on the Uniform Dwelling Code of the State of Wisconsin Department of Commerce and prepares students for the Department of Commerce Uniform Dwelling Code – Construction Inspector Certification Exam.

RLEST-193 Credits: 3
Residential Electrical for Inspectors
This course follows the requirements of the National Electrical Code. It provides students with the required knowledge to take the State of Wisconsin Uniform Dwelling Code Electrical Inspector Exam. The material covered will include service sizing, electrical boxes and distribution systems, as well as shock resistance.

RLEST-194 Credits: 3
UDC Heating, Ventilating and Air Conditioning for Inspectors
This course focuses on the Uniform Dwelling Code of the State of Wisconsin Department of Commerce and prepares students for the Department of Commerce Uniform Dwelling Code – Heating, Ventilating and Air Conditioning Inspector Certification Exam.

RLEST-197 Credits: 3
Commercial Building Code for Inspectors
This course focuses on the Wisconsin Commercial Building Code of the State of Wisconsin Department of Commerce and prepares students for the Department of Commerce Commercial Building Inspector Certification Exam.

SOCSCI – Social Science

SOCSCI-149 Credits: 3
Ethics for the Professions
This course surveys the range of ethical theories relevant in ethics today. Critical discussions cover a range of approaches to the ethical dilemmas of various professions, such as health, human services, and business and industry. Students will select an ethical theory to support the Code of Ethics for their profession.

SOCSCI-172 Credits: 3
Introduction to Diversity Studies
Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored.

SOCSCI-197 Credits: 3
Contemporary American Society
This course examines the network of interdependent social systems that affect students as employees, family members and citizens. The study of institutions and exploration of contemporary issues and trends expand students’ use of thinking skills, enabling them to advocate positions and participate fully in a democracy.

SOCSCI-200 Credits: 3
Introduction to Ethical Issues
Introduction to Ethical Issues is a course that surveys the range of theories and principles that are relevant in ethical discussion and debate today. Thoughtful exploration and examination will address the range of moral views and approaches that are pertinent to ethical dilemmas, in both personal and public life, and from community or local interest to the larger world-view.

SOCSCI-203 Credits: 3
Introduction to Sociology
This is the study of social relationships with emphasis on groups and the structure of society. The course details the various social processes and concepts that shape behavior, analyzing such phenomena as culture, roles, groups, stratification, deviance, race, population and social change.

SOCSCI-204 Credits: 3
Marriage and the Family
This course is designed to make students aware of relationships and marriage in contemporary society. The basic functions of the family are studied, and sociological and psychological principles are applied to family living.

SOCSCI-206 Credits: 3
Introduction to Cultural Anthropology
Students survey the broad field of anthropology with a strong emphasis on culture and its expressions in human societies. Cross-cultural comparison and descriptions based on fieldwork are utilized in order to understand human behavior realistically and without bias.

SOCSCI-207 Credits: 3
Introduction to Criminology
An analysis is made of criminal behavior. Theories of crime causation are examined, as well as crime typologies and crime statistics. The course provides an overview of criminal justice agencies.

SOCSCI-208 Credits: 3
Global Cultures and Politics
The goal of the course is to introduce students to a wide range of issues and concepts related to globalization from a cultural perspective. Students will be exposed to some of the pressing problems related to globalization that face humanity. Through course readings and class discussions, students will explore how they can find solutions to these problems. Major theories and cross-cultural demonstrations of globalization will be examined. Central to the course is how social actors and their communities respond to globalization processes, and how globalization has affected cultural values, politics and human behaviors.

SOCSCI-209 Credits: 3
Sociology of Religion
This is an introductory course in the study of religions from the viewpoint of the social sciences. Religion is presented as a universal function of human societies and as an aspect of group behavior.

SOCSCI-210 Credits: 3
Death and Dying
This course will concentrate upon the historical and sociological background of the customs and practices related to death and dying in the United States and other countries, the emotional reactions and adjustments to death and dying, and identification of services and resources.
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SOCSCI-211 Credits: 3
Introduction to Women's Studies
This course is an introduction to understanding the world through diverse experiences of women. Together we will examine gender experience in both the public and private realms of society, in popular culture and in institutions such as the workplace, the family and the state. The course focuses on the social construction of gender, race, class and sexual identity, and the interlocking nature of these forms of oppression. Students will become familiar with women's and gender studies scholarship and attain tools to connect what one learns to one's life and to further academic study. We will pay special attention to how gender and sexuality vary across ethnic, racial and class lines. Reading assignments cover a wide range of perspectives and attempt to represent both classic writings in women's studies, recent women's studies scholarship, and women's own accounts of their life experiences. Writing assignments will emphasize learning by doing. Students will come away with tools for both critical analysis of gender in society and for creating positive social change.

SOCSCI-214 Credits: 3
Gender and Society
Exploration of the social roles that are ascribed to females and males within society, and the social behavior expected within the constraints of femininity and masculinity. Exploration of the social processes of creating, maintaining and changing sex/gender roles through the analysis of social institutions and social structures, using both theoretical and experiential perspectives. Students will become familiar with the social forces that help construct personal identity and consciousness, and shape our belief systems as gendered beings. Gender will be explored on the personal level, the societal level and the global level, with cross-cultural perspectives, as well as the historical roots of gender, being presented. Sociological theories will be considered as explanatory tools for understanding the impact of gender and its resulting imperative responsibilities and problems.

SOCSCI-217 Credits: 3
Valuing Diversity
Emphasis is placed on common elements among individuals and groups of people. Programs provide sociological lessons dealing with race, social class, age, gender, sexual orientation, and the sociology of minorities.

SOCSCI-221 Credits: 3
American National Government and Politics Today
This introductory course in political science is concerned with the American political process and its institutions: the Constitution, civil rights and freedoms, Congress, the presidency, federal powers and policy-making, the federal judiciary, and the election process in American political cultures.

SOCSCI-222 Credits: 3
American State and Local Government
This is a comprehensive course that deals with the organization and functions of state and local governments: state executive, legislative and judicial branches; state constitutions; contemporary intergovernmental relations; differences in regional, rural and urban governments; and the political process at the grassroots level.

SOCSCI-224 Credits: 3
Peoples and Cultures of the World
The course will introduce students to different cultures across the world. It will specifically examine human behaviors and the larger society cross-culturally. The course will be organized thematically, wherein students will explore various cross-cultural applications of social life in one semester. Possible themes of social life include AIDS and society, culture and international development, globalization and society, technology and culture, religion and society, kinship, marriage, art and culture, nationalism, children and society.

SOCSCI-236 Credits: 3
Juvenile Delinquency
The history, philosophy and theoretical framework of juvenile delinquency and the justice system for juveniles is surveyed. Psychological, sociological, biological and environmental factors influencing juvenile delinquency are studied. Significant statutes and Supreme Court decisions are analyzed, along with significant research in ethnicity and gender.

SOCSCI-242 Credits: 3
African-American Social Thought and Culture
This is an introduction to the diversity of African-American social thought and culture. The course includes exploration into the ideologies of prominent African-American social thinkers and sociologists, and the underlying structure and patterns of African-American culture.

SOCSCI-246 Credits: 3
Human Sexuality
This course focuses on the biological, psychological and social perspectives of human sexuality. It is a practical course designed to be applied to the everyday business of living, at home, in school and in the workplace.

SOCSCI-250 Credits: 3
Introduction to Philosophy
This course surveys the major figures and doctrines of Western philosophy from classical antiquity to present times. The course also involves discussions of fundamental philosophical questions, especially questions having practical socio-ethical implications.

SURGT – Surgical Technology
(Department: 512)

SURGT-125 Credits: 4
Introduction to Surgical Technology
This course provides the foundational knowledge of the occupational environment. Principles of sterilization and disinfection are learned. Surgical instruments are introduced. Preoperative patient care concepts are simulated. Lab practice is included. Prerequisite(s): NATSCI-197 (with a minimum grade of C+) and completion of or currently enrolled in HEALTH-101, and must be admitted to the Surgical Technology (10-512-1) program.

SURGT-126 Credits: 4
Surgical Tech Fundamentals 1
This course focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as student moves into the scrub role. Lab practice is included. Prerequisite(s): Must be admitted to the Surgical Technology (10-512-1) program, SURGT-125, and completion of or currently enrolled in SURGT-127.

SPEECH – Speech/Communication
(Department: 810)

SPEECH-201 Credits: 3
Elements of Speech 1
The purpose of this course is the development of speaking skills. Stress is placed upon speech content, organization and delivery. Growth in poise and confidence is a major goal of this course.

SPEECH-203 Credits: 3
Interpersonal Communication
This course applies the theory and principles of one-to-one communication to personal and professional relationships. Topics include gender, self-awareness, verbal and nonverbal communication, conflict management, assertiveness and perception.

SPEECH-206 Credits: 3
Intercultural Communication
The course offers an opportunity to learn how to identify and appreciate cultural differences in terms of communication styles. Students will improve their ability to communicate, both personally and professionally, with others of different cultures.

SPEECH-212 Credits: 3
Introduction to Theater
This course examines the history and development of theater in its various forms. Primarily the course examines the technical and artistic elements of theater to provide students with a general understanding and appreciation of this art form. Students attend and critique several theater productions.
### SURGT – TDMKG

#### DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURGT-127</td>
<td>Exploring Surgical Issues</td>
<td>2</td>
<td>This course explores a variety of issues related to surgical technology. Emphasis is placed on becoming a professional member of the surgical team. Prerequisite(s): Must be admitted to the Surgical Technology (10-512-1) program, and completion of or currently enrolled in SURGT-125.</td>
</tr>
<tr>
<td>SURGT-128</td>
<td>Surgical Tech Fundamentals 2</td>
<td>4</td>
<td>This course focuses on enhancing surgical technology skills while functioning as a sterile team member. Lab and/or clinical practice is included. Prerequisite(s): HEALTH-101 (with a minimum grade of C), SURGT-126, SURGT-127, and completion of or currently enrolled in SURGT-129.</td>
</tr>
<tr>
<td>SURGT-129</td>
<td>Surgical Pharmacology</td>
<td>2</td>
<td>This course is a basic study of drug classifications, care and handling of drugs and solutions, application of mathematical principles in dosage calculations, terminology related to pharmacology, anesthesia and drugs used in surgery. Prerequisite(s): Must be admitted to the Surgical Technology (10-512-1) program, NATSCI-197 (with a minimum grade of C+), either NATSCI-179 or NATSCI-202 (with a minimum grade of C+) and completion of or currently enrolled in SURGT-125.</td>
</tr>
<tr>
<td>SURGT-130</td>
<td>Surgical Skills Application</td>
<td>2</td>
<td>This course provides a transition from the academic to the clinical setting. Learners integrate the surgical technologist skills as they apply to various surgical procedures. Prerequisite(s): Must be admitted to the Surgical Technology (10-512-1) program, and completion of or currently enrolled in SURGT-128.</td>
</tr>
<tr>
<td>SURGT-137</td>
<td>Surgical Tech Clinical Practice 1</td>
<td>4</td>
<td>Apply basic surgical theories, principles and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Prerequisite(s): SURGT-128, SURGT-130, and completion of or currently enrolled in SURGT-140.</td>
</tr>
<tr>
<td>SURGT-138</td>
<td>Surgical Tech Clinical Practice 2</td>
<td>4</td>
<td>Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Prerequisite(s): SURGT-137, SURGT-140, and completion of or currently enrolled in SURGT-141.</td>
</tr>
<tr>
<td>SURGT-139</td>
<td>Surgical Tech Clinical Practice 3</td>
<td>4</td>
<td>During this course, the student functions relatively independently. While transitioning from student to prospective employee, skills performed are commensurate with those of an entry-level surgical technologist. Prerequisite(s): SURGT-138, SURGT-141, and completion of or currently enrolled in SURGT-142.</td>
</tr>
<tr>
<td>SURGT-140</td>
<td>Surgical Interventions 1A</td>
<td>2</td>
<td>This course is the first of two courses that provide the foundational knowledge of surgical core and specialty procedures. It examines the pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. Prerequisite(s): SURGT-128, SURGT-130.</td>
</tr>
<tr>
<td>SURGT-141</td>
<td>Surgical Interventions 1B</td>
<td>2</td>
<td>This course is the second of two courses that provide the foundational knowledge of surgical core and specialty procedures. It examines the pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. Prerequisite(s): SURGT-140.</td>
</tr>
<tr>
<td>SURGT-142</td>
<td>Surgical Interventions II</td>
<td>4</td>
<td>Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. Prerequisite(s): SURGT-137, SURGT-141.</td>
</tr>
<tr>
<td>SUSTN-105</td>
<td>The LEED Rating System</td>
<td>3</td>
<td>This is an eight-week accelerated course that explores the LEED rating system, how it is being used to drive sustainable buildings and prepares students for taking the LEED Accredited Professional exam.</td>
</tr>
<tr>
<td>SUSTN-154</td>
<td>Internship in Automated Building Systems</td>
<td>1</td>
<td>ABS program students have the option of doing an industry-based internship with area employers in lieu of the capstone project. Contact the department for details. The number of credits and hours may be increased if necessary to accommodate individual projects. Prerequisite(s): Instructor consent is required.</td>
</tr>
<tr>
<td>TDMKG-360</td>
<td>Basic Die Making Technology</td>
<td>1</td>
<td>This course introduces students to the theories necessary to properly construct basic stamping and forming dies. Part terminology and function are integrated into the format via lecture and discussion.</td>
</tr>
<tr>
<td>TDMKG-361</td>
<td>Advanced Die Making Technology</td>
<td>1</td>
<td>This course introduces students to the theories necessary to properly construct basic stamping and forming dies. Part terminology and function are integrated into the format via lecture and discussion.</td>
</tr>
<tr>
<td>TDMKG-365</td>
<td>Cavity Die Technology</td>
<td>1</td>
<td>This course introduces the student to the theories involved in proper mold construction in the three major areas of mold building: plastics (thermoset and thermoplastic), diecasting and rubber molds.</td>
</tr>
<tr>
<td>TDMKG-366</td>
<td>CNC Programming 2</td>
<td>1</td>
<td>This course explores the theories necessary for proper die construction of more advanced progressive, inverted and compound dies. Prerequisite(s): TDMKG-360.</td>
</tr>
</tbody>
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**SUSTN – Sustainability**

(Department: 481)

**SUSTN-105**

The LEED Rating System
This is an eight-week accelerated course that explores the LEED rating system, how it is being used to drive sustainable buildings and prepares students for taking the LEED Accredited Professional exam.

**SUSTN-154**

Internship in Automated Building Systems
ABS program students have the option of doing an industry-based internship with area employers in lieu of the capstone project. Contact the department for details. The number of credits and hours may be increased if necessary to accommodate individual projects. Prerequisite(s): Instructor consent is required.

**TDMKG – Tool and Die Making**

(Department: 439)

**TDMKG-360**

Basic Die Making Technology
This course introduces students to the theories necessary to properly construct basic stamping and forming dies. Part terminology and function are integrated into the format via lecture and discussion.
Moldmaking 1
Skills and knowledge are enhanced through the machining of various mold components. A variety of conventional and CNC machine tools are utilized with instruction that focuses on tolerance, fitting and final assembly. Setup and operation of the RAM EDM will be introduced. Prerequisite(s): TDMKG-373.

Moldmaking 2
This course is a continuation of Moldmaking 1 with a focus on CNC VMC programming, setup and operation, as well as mold polishing. Mold components will be produced utilizing conventional CNC mills and surfacing grinding. Mold component relationship and function are stressed. As with other moldmaking courses, the student must trial run the completed mold. Prerequisite(s): TDMKG-381.

Moldmaking 3
Students will expand upon the moldmaking knowledge developed in the first two courses as they develop CNC programs and construct a mold that will run in a master unit die. Essential moldmaking practices are further developed as students produce all of the mold components required for their capstone project. Prerequisite(s): TDMKG-383.

TRCKDR – Truck Driving
(Department: 458)

Truck Driving 1
Covers the laws pertaining to the CDL and operation of a commercial motor vehicle (CMV). Vehicle systems are explained. In this course, the student also learns how to properly inspect a CMV and how to operate one safely. Basic operations, specific to tractor semi-trailer, will be discussed and performed. During this course, students are required to obtain commercial driver’s license instructional permit. Prerequisite(s): Must be admitted to the Truck Driving (30-458-1) program. Instructor consent is required to verify the student has obtained a commercial driver’s learner permit (CLP). Student also must be enrolled in TRCKDR-342 and TRCKDR-343.

Truck Driving 2
Further prepares students to obtain a commercial driver’s license. This course focuses on improving driving skills in various situations and different environments. Vehicle maintenance and servicing issues also are explained. Additionally in this course, students will learn about all cargo-related topics. Prerequisite(s): Must be admitted to the Truck Driving (30-458-1) program. Student also must be enrolled in TRCKDR-341 and TRCKDR-343.

Truck Driving 3
Focuses on continuous improvement of operating skills and knowledge of a commercial motor vehicle. The roles of a professional truck driver are stressed. Rules and regulations of transportation, safety, special rigs and hazardous materials are studied and applied. During this course, students must successfully obtain a commercial driver’s license to complete this course. Prerequisite(s): TRCKDR-342 and student must be admitted to the Truck Driving (30-458-1) program.

TV – Telecasting
(Department: 701)

TV-101
TV/Video Studio Production Techniques
This course is a survey of the principles of studio and field television operations, including camera techniques, lighting, sound, control rooms, settings, scenery, properties, floor directing and scripting as applied to operations within the television industry.

TV-105
TV/Video Field Production Techniques
Basic processes of broadcasting – advertising, ratings, the FCC, history, cable and networks – are examined and provide the student with a working knowledge of the various separate aspects that make up the television industry. Prerequisite(s): TV-101.

TV-107
Script Writing for Visual Media
Basic concepts of script writing for television, radio and film are presented. Students are encouraged to think in visual terms and to utilize the unique properties of the medium to communicate these visual impressions. Prerequisite(s): Completion of or concurrent registration in TV-105.

TV-110
Advanced Production Techniques
Training is provided in the responsibilities of the television producer/director in planning and producing television shows. These relate to program formats, advanced production techniques, costs, technical facilities, crew management and talent selection. Prerequisite(s): TV-105.

TV-113
Television Lighting and Set Construction
Students learn television lighting techniques for both in-studio and on-location production situations. Attention is given to television production enhancement through lighting, the use of settings and their design. Practice also is given in shop methods and in set construction. Prerequisite(s): Completion of or currently enrolled in TV-101.

TV-115
Advanced Broadcast Program Production
All elements of television production are combined to enable students to utilize a wide range of broadcast equipment in the production of both open and closed circuit television materials. Emphasis also is placed on applied media aesthetics. Prerequisite(s): TV-110.

TV-119
Operational Broadcast Engineering
This course is a study of basic television systems and equipment embracing the techniques of camera video operations (registration, color balancing, maintenance, video level control), audio and videotape systems, switchers, audio consoles, microphones, character generators and time-code editors. Prerequisite(s): TV-122.

TV-121
TV and Video Production Workshop 1
Students are assigned to floor crew positions on WMVS/WMVT programs so that they may obtain “on-the-air” experience in areas where limited TV experience is required. Prerequisite(s): TV-101.

TV-122
TV and Video Production Workshop 2
Students are assigned to responsible crew positions such as floor director, property supervisor, teleprompter operator, microphone boom operator and camera operator on WMVS/WMVT productions. Each student has the opportunity for “on-the-air” experience. Prerequisite(s): TV-121.

TV-123
TV and Video Production Co-Op 1
Advanced practical video experience may be obtained through positions directly related to the student’s career goals. Students may enhance their educational skills through supervised work experience in conjunction with the local broadcast, cable and/or corporate video community. Prerequisite(s): TV-124.

TV-124
TV and Video Production Co-Op 2
Additional video work experience may be obtained through entry-level positions that lead to advancement and provide experiences in relevant work situations. Prerequisite(s): Completion of or currently enrolled in TV-123.
TV – WEBDEV

TV-130  Credits: 3
Introduction to Computer Editing
This course is designed to provide students with the skills necessary to upgrade their videotape editing techniques through the use of time-code and computer-based edit control. Techniques and practice include split editing, list management and manipulation of general purpose interfaces for external machine control. Prerequisite(s): TV-112.

TV-142  Credits: 3
Non-Linear Video Editing and Authoring
This course will focus on editing video footage in a non-linear world and adapting that output for multiversioned purposes: from tape to DVD to web. Integration of station facilities, using AVID DVExpress Pro, Apple Final Cut Pro and AVID Adrenaline, plus outputting via DVD software, will be emphasized. Prerequisite(s): TV-112, and completion of or currently enrolled in TV-105.

TV-143  Credits: 3
Interactive Content
This course will follow TV-142 and focus on advanced digital broadcast formats, their acquisition and preparation for editing. Goals will be plan, light, shoot and gather field audio in the various high-definition formats, then prepare that material for editing. Lessons will focus on technical differences in ATV versus NTSC. Prerequisite(s): TV-110, TV-142, and completion of or currently enrolled in TV-115.

TV-144  Credits: 3
Graphic Design for Video Integration
This course will focus on creating graphics for use in broadcast, as well as other video applications: from tape to DVD to web. Integration of station facilities, using FX/DEKO platform for TV graphics techniques, plus understanding how to use popular software such as Photoshop in creating video graphics. Prerequisite(s): VICOM-150.

TV-149  Credits: 3
MCA Co-Op 1
Advanced practical media experience may be obtained through positions directly related to student career goals. Students may enhance their educational skills through projects and assignments in collaboration with MATC’s Television and Video Production students. MCA Co-Op 1 focuses on integration of students in visual and audio related degree programs into comparable professional departments and projects. Prerequisite(s): Instructor consent is required.

TV-181  Credits: 1
Video in Society
This orientation course is designed to familiarize the entering students with some of the employment and career opportunities and skills that they would acquire through the Television and Video Production program. Prerequisite(s): Completion of or concurrently enrolled in TV-101.

VICOM – Visual Communications

VICOM-108  Credits: 3
Web Scripting Basics
This course introduces students to basic principles used in common web scripting languages. JavaScript is used to cover topics including variables, conditional statements, loops, functions and calculations. This class provides a foundation for more advanced classes.

VICOM-140  Credits: 1
Internship
This course prepares students to work in their field of study by giving them practical real-job experiences. The fundamentals of résumé writing, interviewing, networking and job search techniques are discussed. Students are expected to search, interview and obtain an internship during this time. Prerequisite(s): VICOM-126 and INTRN-796 with a minimum grade of C.

VICOM-163  Credits: 3
iOS (iPhone/iPad) App Development
Students will learn the basics of Apple’s Xcode iOS Software Development Kit (SDK). Students will design several basic iPhone/iPad applications that provide the foundation for designing more advanced applications. Designing an application for Apple’s mobile devices is the goal of this class. Prerequisite(s): VICOM-128, VICOM-150, and VICOM-108 or ITDEV-117.

VICOM-164  Credits: 3
Android Application Development
Students will learn the basics of Android application design using both visual application creation tools and Android Studio. Students will design several basic Android applications that provide the foundation for designing more advanced applications. Prerequisite(s): VICOM-128, VICOM-150, and VICOM-108 or ITDEV-117.

VICOM-165  Credits: 3
Advanced Mobile Development
Students will explore advanced mobile design techniques, building upon skills obtained through the prerequisite coursework. Topics will change to stay current with technology advances and industry trends. Some independent research is expected during this process. Prerequisite(s): VICOM-163, VICOM-164.

WEBDEV – Web Development/Commercial Art

WEBDEV-102  Credits: 3
Introduction to Digital Media
An introductory course; students work with software used in the development of media projects. An overview of graphics software such as Photoshop and Illustrator are presented. Project-based assignments provide a basic understanding of the interactive media production process.

WEBDEV-114  Credits: 3
Web Development With HTML/CSS
Students develop HTML5 and CSS3 skills needed for the development of functional websites. Emphasis is placed on writing code, designing with Cascading Style Sheets, file management, debugging and publishing of websites. The final project is a complete website that students will develop by writing the necessary HTML and CSS code.

WEBDEV-119  Credits: 3
Web Design Overview
This course focuses on web design trends and best practices. Students are introduced to the fundamental concepts, as well as the technical, creative and aesthetic aspects of web design and development. Some of these concepts include: project research, information architecture, web analytics, responsive web design, web typography, graphic file formats, frameworks and content management systems. Students are encouraged to collect and utilize online resources that parallel industry standards.

WEBDEV-120  Credits: 3
Audio and Video Production for the Web
This course provides an overview of audio and video production techniques for developing media for the web. Deployment for YouTube, as well as HTML5 audio and video controls, will be covered.

WEBDEV-123  Credits: 3
Interactive Design
This course will explore the core design components that make up the majority of interactive visual media. Focus will be placed on the process of user-centered design, the issues of usability and the methods for evaluating various interactive interfaces. Students will be expected to participate in critiques. Prerequisite(s): VICOM-150.

WEBDEV-124  Credits: 3
Database Web Design With PHP and MySQL
Students will learn the development techniques of creating a database-driven website. Concepts will be taught in PHP and MySQL to communicate with the database and display dynamic information. Publishing a website with database
WEBDEV – WELD

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

capabilities is the goal of this course. Prerequisite(s): VICOM-128 or WEBDEV-114 and VICOM-108 or ITDEV-117.

WEBDEV-122
Rich Media for the Web
This course provides students the knowledge and hands-on practice needed to integrate rich media solutions into websites. This course focuses on web marketing principles and effective integration of animation, sound and video to implement advertising solutions. The course utilizes WYSIWYG software, as well as introduces development concepts to create animation and interactivity for the web. Prerequisite(s): VICOM-123 or WEBDEV-119, and VICOM-128 or WEBDEV-114, and VICOM-152 or WEBDEV-123.

WEBDEV-133
Credits: 3
Content Management Systems
Students learn web development concepts as they apply to content management systems (CMS). Students will develop websites using a variety of open-source CMS tools such as WordPress and Joomla. The final project is a website that students will develop using an open-source CMS tool. Prerequisite(s): VICOM-162 or WEBDEV-124.

WEBDEV-134
Credits: 3
Responsive Web Design
Students learn responsive web design concepts for adaptive display on mobile devices, such as smartphones and tablets, as well as traditional monitors with various screen resolutions. Students learn about HTML5 and CSS3 media queries. Some topics include popular responsive frameworks such as Bootstrap and Foundation. The final project is the development of a complete responsive website. Prerequisite(s): WEBDEV-114, VICOM-128 or ITDEV-160.

WEBDEV-135
Credits: 3
User Experience for the Web
In this course, students explore some of the more sophisticated tools and techniques of Photoshop used to correct and modify photographic images. Attention to detail is emphasized in hands-on projects ranging from simple color corrections to complex compositions. Prerequisite(s): CAS-143.

WEBDEV-140
Credits: 3
Web Development With JavaScript/jQuery
Students learn JavaScript and how to connect to the jQuery library to develop more interactive websites. Students will learn about functions, event handlers, decision statements and other advanced coding techniques. Some topics include: image carousels, lightboxes and other dynamic features. The final project is a website that students will develop incorporating JavaScript and jQuery. Prerequisite(s): VICOM-128 or WEBDEV-114, and VICOM-108 or ITDEV-117.

WEBDEV-198
Internship
This course prepares students to work in their field of study by giving them practical real-job experiences. The fundamentals of résumé writing, interviewing, networking and job search techniques are discussed. Students are expected to search, interview and obtain an internship during this time. Prerequisite(s): WEBDEV-134, VICOM-126 or INTRN-796.

WEBDEV-199
Portfolio
Students prepare to market themselves in the workplace by creating a professional web-based portfolio. Students are expected to research and implement online self-promotional best practices. Ideally this class is taken during the student’s final semester. Participation in an annual portfolio exhibit is required. Some independent research is expected during this process. Prerequisite(s): VICOM-124 or WEBDEV-133, and VICOM-126 or WEBDEV-134.

WELD – Welding

WELD-300
Fundamentals of Arc Welding
The student develops fundamental knowledge and skill in the safe use of shielded metal arc welding equipment. Emphasis is on consistent bead development in the flat position with several different types of commonly used electrodes.

WELD-301
General Arc Welding
This course involves welding in multiple positions on carbon steel using E6013, E6010 and E7018 electrodes. Emphasis is on following written directions for exercises and learning to visually assess your performance to AWS standards. Prerequisite(s): WELD-300.

WELD-302
Specialized Arc Welding
Emphasis is placed on joint preparation and welding procedures. Proper techniques of using shielded metal arc alloyed electrodes are presented. In addition, preparation, treating and evaluation of coupons that pertain to structural codas are covered. Prerequisite(s): WELD-301.

WELD-303
Fundamentals of Oxy-Fuel Welding
Students develop a fundamental understanding and skill in the use of oxyacetylene welding equipment with an emphasis on safety. Basic joint configurations in the flat and horizontal position, and oxy-fuel torch cutting will be used.

WELD-304
Stainless Steel Arc Welding
The purpose of this course is to give students an introduction to the use of stainless steel arc welding equipment. The basic principles of equipment setup and operation are taught. Instruction is provided on the proper techniques of welding mild steel sheet metal in and out of position.

WELD-305
Advanced Gas Tungsten Arc Welding (TIG)
This course is designed to give students instruction in the art of TIG welding plate and pipe. Proper equipment operation and setup for nonferrous alloys such as aluminum also are taught. Students also weld stainless steel sheet metal in and out of position. Prerequisite(s): WELD-306.

WELD-306
Credits: 2
Fundamentals of Gas Tungsten Arc Welding (TIG)
The purpose of this course is to give students a fundamental knowledge of the gas tungsten arc welding process. The basic principles of equipment setup and operation are taught. Instruction is provided on the proper techniques of welding mild steel sheet metal in and out of position.

WELD-307
Advanced Gas Tungsten Arc Welding (TIG)
This course is designed to give students instruction in the art of TIG welding plate and pipe. Proper equipment operation and setup for nonferrous alloys such as aluminum also are taught. Students also weld stainless steel sheet metal in and out of position. Prerequisite(s): WELD-306.

WELD-313
Credits: 5
Shielded Metal Arc Welding
Provides industrial application of shielded metal arc welding in all positions on carbon steel. Provides industrial application of thermal cutting on carbon steel. Students apply safety according to industry standards and ANSI A49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard: AWS/ANSI QC-10: 2004 Specification for Qualification and Registration of Level 1 – Entry-Level Welders. SMAW is one of the four areas of welding concentration in the one-year technical diploma program.

WELD-314
Credits: 5
Gas Tungsten Arc Welding
Provides basic skills in oxy-fuel welding, brazing and cutting on carbon steel. Provides industrial application of gas tungsten arc welding in all positions on carbon steel, stainless steel and aluminum in a lab setting. Students apply safety according to industry and ANSI Z49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard: AWS/ANSI QC-10: 2004 Specification for Qualification and Registration of Level 1 – Entry-Level Welders. GTAW and oxygen-fuel welding are one of four areas of welding concentration in the one-year technical diploma program.

WELD-315
Credits: 5
Gas Metal Arc Welding Practices
Provides industrial application of gas metal arc welding in all positions on carbon steel. Provides industrial application of flux cored arc welding in all positions on carbon steel. Students apply safety according to industry standards and ANSI A49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard: AWS/ANSI QC-10:2004 Specification for Qualification and Registration of Level 1 – Entry-Level Welders. GMAW and FCAW are two of the four areas of welding concentration in the one-year technical diploma program.
GTAW and oxy-fuel processes are discussed. The storage of compressed gases that are used in various joint configurations are stressed. Different types and sizes of materials in different testing methods for assurance of weld quality are given.

WELDTC – Welding Technology

WELDTC-101

Welding Theory 1

This course covers the theory and application of the gas tungsten arc welding and oxy-fuel welding and cutting processes. The major safety standard, ANSI Z49.1 Safety Welding and Cutting, is studied in detail.

WELDTC-102

Welding Theory 2

This course covers theory and process control of the major consumable arc welding processes: SMAW, GMAW, FCAW and SAW. Computer-based information systems are used to identify, research and write four technical papers in the lab portion of the course.

WELDTC-105

Weldability of Materials

This course examines the characteristics of weldable materials and their properties that affect weldability: "the capacity of a material to be welded under the imposed fabrication conditions into a specific, suitably designed and manufactured structure and to perform satisfactorily under the intended service" (AWS A3.0). Students gain the theoretical and technical knowledge needed to research and develop preliminary welding procedures for joining the major weldable materials. Prerequisite(s): Completion of or concurrent enrollment in WELDTC-102.

WELDTC-107

Fabrication Graphics

The skills needed to interpret and apply the information conveyed by conventional and computer-generated fabrication blueprints are developed. Student receives hands-on experience in operating a CAD system to generate and manipulate fabrication databases.

WELDTC-111

Welding Practice 1

The purpose of this course is to give students hands-on experience in the setup and operation of the oxy-fuel, gas tungsten arc and shielded metal arc processes to weld the basic joints in all positions. Prerequisite(s): Completion of or concurrently enrolled in WELDTC-101.

WELDTC-112

Welding Practice 2

The purpose of this course is to give students hands-on experience in the setup and operation of shielded metal arc, gas metal arc and flux-cored arc processes to weld the basic joints in all positions to commercial and code quality standards. Prerequisite(s): Completion of or concurrent enrollment in WELDTC-112.
WELDTC

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WELDTC-113 Credits: 3
Welding Techniques 1
The purpose of this course is to give the theoretical and technical knowledge needed to develop, write and qualify welding procedures and welders to written specifications and codes, and to pass the National Certified Welding Inspector’s Exam. Prerequisite(s): WELDTC-102.

WELDTC-114 Credits: 3
Welding Techniques 2
This course gives students hands-on experience in developing, writing and testing welding procedures to the major welding codes. Students also test and qualify welders to the major codes. Prerequisite(s): WELDTC-102.

WELDTC-135 Credits: 4
Automated Welding Processes
Students gain hands-on experience in fixturing, setting up, troubleshooting, programming and operating automated welding equipment, including robots and computer-controlled plasma-cutting systems. Prerequisite(s): WELDTC-112, and completion of or concurrently enrolled in WELDTC-140.

WELDTC-140 Credits: 4
Manufacturing Applications for Robots
Robots used in manufacturing are studied. Students receive hands-on experience in programming a tool-manipulating robot. Basic mechanisms, hydraulics and pneumatics are covered.

WELDTC-181 Credits: 1
Welding Technology Orientation
This course is designed to assist the students in becoming acquainted with the educational and vocational opportunities at MATC, and to help them make satisfactory adjustments to their school environment. It also gives them an overview of technical careers in the welding field.
Adult High School

The MATC Adult High School (AHS) offers a number of opportunities for individuals to resume or continue educational programs. Individuals 18 years and older can resume their secondary education studies and earn a high school diploma or high school equivalency diploma through the MATC Adult High School. Others may enroll in the Adult High School’s math or science courses concurrent with their college courses to meet program prerequisites. High school students can take AHS classes for credit recovery outside of their regular school time. Offering a variety of academic and vocational/technical classes, the Adult High School provides students with the foundation for entry-level job skills and postsecondary preparation.

Classes run during the day, evenings and online in the regular academic year, and day and online courses are offered during the summer. Day and some evening technical classes are scheduled in eight-week quarters; evening academic and online classes run in semesters that are 15 to 16 weeks long. Each credit is equal to one-half of a Carnegie unit, or approximately 4,500 minutes of instruction.

The Adult High School is accredited by AdvancED. The school accepts transferred credits from any nationally accredited high school.

Of the 46 MATC credits needed for graduation, 34 are required and 12 are electives. The diploma granted by the Adult High School is accepted by all colleges and universities throughout Wisconsin and the United States. For more information, call 414-297-7471.

Counseling and Advising for Adult High School Students

The MATC Counseling and Advising Center is located in Room S203 of the Student Center (S Building) at the Downtown Milwaukee Campus. For information, call 414-297-6267.

The 46 credits needed for graduation from MATC’s Adult High School include:

<table>
<thead>
<tr>
<th>Communications</th>
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<tbody>
<tr>
<td>Social Studies</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
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<tr>
<td>Computers</td>
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</tbody>
</table>

**Communications**

Select eight credits from 700-series courses in Communications (COMMHS). One course must be a writing course.

**EXAMPLES:**

- COMMHS-700 Write to Work
- COMMHS-725 Composition
- COMMHS-711 Multicultural Literature 1

**Mathematics**

Select six credits from 700-series courses in Mathematics (MATHHS). Two credits of Algebra are required.

**EXAMPLES:**

- MATHHS-705 Survey of Math Concepts
- MATHHS-716 Algebra 1A
- MATHHS-721 Geometry 1

**Computers**

Select one credit from 700-series courses in computer literacy.

**EXAMPLE:**

- OFTECH-735 Keyboard, Keypad and Windows

**Social Studies**

Select six credits from 700-series courses in History (HISTHS) or Social Science (SOCHS). Two credits must be earned in American History or Government.

**EXAMPLES:**

- HISTHS-705 American History 1
- SOCHS-761 Sociology

**Science**

Select six credits from 700-series courses in Science (SCIHS).

**EXAMPLES:**

- SCIHS-703 Biology 1
- SCIHS-705 Chemistry 1
- SCIHS-750 Physical Science 1

**Career Education**

Select one credit from 700-series courses in careers (CAREER).

**EXAMPLE:**

- CAREER-741 Career Preparation and Exploration

**Occupation Course**

Select three credits from 700-series courses in Health Education (HLTHHS).

**EXAMPLE:**

- HLTHHS-700 Wellness and Fitness Education

**Success Strategies Course**

**Financial Literacy Course**

**Physical Education/Health**

Select three credits from 700-series courses in Health Education (HLTHHS).

**EXAMPLE:**

- HLTHHS-700 Wellness and Fitness Education

**Electives**

Select 12 credits in 700-series courses from these subjects: Communications (COMMHS), Health Education (HLTHHS), History (HISTHS), Mathematics (MATHHS), Science (SCIHS) and Social Science (SOCHS). You also may choose elective credits from the 700-series courses in selected occupational subjects, such as: Auto Maintenance Technician (AUTO1), Culinary Arts (CULART), and Small Engine and Chassis Mechanic (SMENG).

**TOTAL CREDITS** 46

For a full list of course choices, see the Course Descriptions at the end of this section.
Adult High School Vocational/Technical Programs

The Adult High School provides opportunities for individuals to develop skills and explore career areas through its vocational/technical programs. These include automotive, business, computer-aided drafting, culinary arts, motorcycle repair, small engines and pre-engineering courses. The classes are open to any adults; AHS, GED and HSED students; and local high school students through the High School Contract program. Students may take these courses concurrent with their secondary classes. High school students can make arrangements through their counselor at their school. If you are interested in the Adult High School vocational/technical programs, call 414-297-7471.

The following lists examples of vocational/technical courses and career exploration courses that may be offered in the Adult High School. Call 414-297-7471 for information.

Adult High School Vocational/Technical Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>AUTO1-745</td>
<td>Automobile Electrical Systems</td>
</tr>
<tr>
<td>AUTO1-746</td>
<td>Auto Minor Service (Chassis)</td>
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<tr>
<td>AUTO1-748</td>
<td>Auto Engine Servicing</td>
</tr>
<tr>
<td>AUTO1-765</td>
<td>Auto Electrical Systems (Advanced)</td>
</tr>
<tr>
<td>AUTO1-766</td>
<td>Auto Minor Service – Chassis (Advanced)</td>
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<tr>
<td>AUTO1-768</td>
<td>Auto Engine Servicing (Advanced)</td>
</tr>
<tr>
<td>CULART-742</td>
<td>Culinary Arts Exploration/Co-Op 2</td>
</tr>
<tr>
<td>CULART-764</td>
<td>Food Service/Culinary Fundamentals 2</td>
</tr>
<tr>
<td>MDRAFT-741</td>
<td>Computer-Aided Drafting – CAD 1</td>
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<tr>
<td>MDRAFT-742</td>
<td>Computer-Aided Drafting – CAD 2</td>
</tr>
<tr>
<td>MDRAFT-743</td>
<td>Architecture Build/Modeling I &amp; II</td>
</tr>
<tr>
<td>MDRAFT-746</td>
<td>3D Modeling and Design 1</td>
</tr>
<tr>
<td>MDRAFT-747</td>
<td>3D Modeling and Design 2</td>
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<tr>
<td>OFTECH-735</td>
<td>Keyboard, Keypad and Windows</td>
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<tr>
<td>OFTECH-739</td>
<td>Business Operations Co-Op 1</td>
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<tr>
<td>OFTECH-740</td>
<td>Business Operations Co-Op 2</td>
</tr>
<tr>
<td>SMENG-761</td>
<td>Motorcycles/Outdoor Power Equipment 1</td>
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<td>SMENG-762</td>
<td>Motorcycles/Outdoor Power Equipment 2</td>
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<td>Motorcycles/Outdoor Power Equipment 4</td>
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Adult High School Career Exploration Courses

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<tr>
<td>CAREER-710</td>
<td>Exploring Technical Careers</td>
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<tr>
<td>CAREER-719</td>
<td>Healthcare Concepts and Careers</td>
</tr>
<tr>
<td>CAREER-740</td>
<td>Success Strategies for School</td>
</tr>
<tr>
<td>CAREER-741</td>
<td>Career Preparation and Exploration</td>
</tr>
</tbody>
</table>

General Educational Development (GED) Certificate & High School Equivalency Diploma (HSED)

Preparation classes and services for the GED test are offered days and evenings at all four MATC campuses, and at MATC School of Pre-College Education partner community-based organizations (CBOs). Online classes also are available.

The GED test, revised in 2014, consists of four parts: Reasoning through Language Arts (RLA), Mathematical Reasoning, Science and Social Studies, plus a Civics Test. GED testing centers are located at the Downtown Milwaukee, Mequon, Oak Creek and West Allis campuses. At the Downtown Milwaukee Campus, GED testing is conducted in Room S215 in the Student Center.

If you plan to take the GED test, you must attend an orientation session and academic screening session. Call 414-297-7471.

For additional information about the GED call: Downtown Milwaukee Campus, 414-297-6233; Mequon Campus, 262-238-2300; Oak Creek Campus, 414-571-4711; West Allis Campus, 414-456-5492.

Students can earn a HSED by completing the steps for a GED and also satisfying a health course requirement and completing the Employability Skills course. There also are other methods for earning an HSED. For more information, call 414-297-7471.

Program for Emerging Scholars

Wisconsin Statute s.118.15 provides that a student who is 16 years of age or older and meets the statutory definition of being a child-at-risk may take classes leading to a high school diploma at a technical college. For information about this program, call 414-297-7447.

Bilingual Programs and Services

The Office of Bilingual Education serves students whose primary language is not English, or English Language Learners (ELL) and Limited English Proficiency (LEP) students who need guidance in completing their postsecondary education. Bilingual staff in Hmong and Spanish work closely with ELL students to facilitate students’ navigation in completing their postsecondary education. Services include:

- Admission screening
- Career exploration
- Case management
- Counseling referrals
- Financial aid information/advising and referral
- Program information
- Registration assistance
- Student advocacy
- Test proctoring
- Tutorial support

The Office of Bilingual Education is located at the Downtown Milwaukee Campus, Main Building, Room M224. For more information, call 414-297-8882.
Adult Basic Skills

The School of Pre-College Education Adult Basic Skills program is designed for participants who have not earned the equivalency of a high school diploma; it also is designed for adults who have been out of school and need to increase their reading, writing or math skills. Adult Basic Skills courses provide classroom or lab setting instruction that assist students to improve their reading, writing and math skills to advance in the workforce, transition into workforce training programs or pursue postsecondary education. Adult Basic Skills courses are offered at the four MATC campus locations (Downtown Milwaukee, Mequon, Oak Creek, West Allis) and the MATC Education Center at Walker’s Square. Courses are offered days and evenings. For more information about the Adult Basic Skills program, call 414-297-7923 or visit the Welcome Center at any MATC campus.

The bilingual program, described below in Spanish and Hmong, includes support services that help you acquire basic skills in your native language while you are gaining proficiency in English.

Basic Skills Information for Spanish Speakers (Programa Bilingüe de Destrezas Básicas)

El objetivo principal del programa bilingüe de destrezas básicas es mejorar la destrezas de lectura, escritura, aritmética, así como la preparación del estudiante para tomar el examen de equivalencia de escuela superior o secundaria (GED).

Los cursos de este programa son enseñados en el idioma nativo del estudiante facilitando así la transición hacia el inglés.

Una vez registrado en el programa, el estudiante recibirá servicios de tutorial, consejería y, más aún, recibirá el apoyo y atención necesarios para lograr las metas académicas deseadas.

Estos cursos son ofrecidos al público por un costo mínimo y con registración abierta durante todo el año. Para más información comuníquese al teléfono 414-297-7801.

Basic Skills Information for Hmong Speakers (MATC Cov Kev Pab)

Yog koj tseem tsis tau tau koj daim High School Diploma los yog daim GED, Basic Skills yog ib program uas yuav pab kom koj xeem dhau mus kawm txoj hauj lwm koj nyiam, kom koj xeem dhau GED, thiab kom koj mus kawm tau rau hauv Adult High School program. Cov kev qhia ntawv hauv Basic skills no tsim los qhia kom koj txawj nyeej ntawv, txawj sau ntawv thib thiab txawj siv tshuab ntaus ntawv “computer” los mus rau kev xaiv hauj lwm tib si. Cov hoob no yog qhia dawb rau koj xwb. Tseem muaaj qee hoob cia koj sau npe kawm thiab hauv npe tawv tham tawv los tau. Hos muaaj qee hoob qhia raws semester.

Tsis tag li ntwav, MATC kuj muaaj neeg pab koj tham koj tseem kawm ntawv. Lawy yuav pab qhia koj tej qho koj tseis taub zoo, txhais lus rau koj thiab daws koj tej teeb meem.

Yog koj xav paub ntxiv no, hu tus xov tooj 414-297-8882.
Adult Basic Skills – Career Pathway Programs

The School of Pre-College Education Career Pathway programs enable learners to advance in postsecondary education and training to secure multiple, stacked credentials. Career Pathway programs provide Adult Basic Skills students with an opportunity to earn a college-level certificate credential while concurrently completing their GED course requirements.

In these Career Pathway programs, students can earn college-level credits that provide participants with the credentials needed to enter employment, and provide credits that are transferable into a technical diploma or associate degree in the career field.

Participants who enroll in a School of Pre-College Education Career Pathway program are required to be concurrently enrolled in a GED program, and are required to take English or math support courses that are contextualized with the college-level courses. GED students enrolled in these Career Pathway programs may be eligible to receive financial aid to support the tuition cost for the Career Pathway credential certificate.

Career Pathway programs currently offered are:
- Administrative Professional Career Pathway – 7 Credits
- Finance Services Training – 16 Credits
- Health Career Pathway – 7 Credits
- IT Service Center Technician – 12 Credits
- Pre-Construction Certificate – 7 Credits
- Welding Fundamentals – 17 Credits

Career Pathway programs are currently offered at the Downtown Milwaukee Campus and the MATC Education Center at Walker’s Square.

For more information about the School of Pre-College Education Career Pathway programs call: Downtown Milwaukee Campus, 414-297-8527; MATC Education Center at Walker’s Square, 414-297-7923.

Community-Based and Faith-Based Organizations

In addition to campus-based classes, a network of more than 35 community-based programs throughout the Milwaukee area provides onsite basic skills instruction from the 0-12 grade level.

At these outreach classrooms, MATC faculty members provide English language instruction, native language literacy for Hmong/Lao and Spanish speakers, bilingual content instruction and family literacy. The locations are equipped with computers to supplement instruction in reading, writing, math and GED. All students have access to MATC counselors, facilities and resources.

Students attend these classes in order to learn new skills or strengthen their skills. Students also may study for their GED or HSED at these locations. For more information, call 414-297-6961.

English as a Second Language (ESL)/English Language Learners (ELL)

The English as a Second Language/English Language Learners program can help individuals whose native language is not English. The program has two goals: to prepare students for postsecondary courses and programs; and to help students function more effectively in the community. They can learn in a variety of ways that include: group, individualized, computer-assisted language learning and online. Depending on their needs, students can choose courses in oral language development, vocabulary improvement, reading and writing skills, pre-employment English and computer skills. They also can get help in preparing for citizenship. Outreach programs for business and industry are available as well.

ESL Courses Include:
- ESL-711 Beginning ESL Literacy
- ESL-721 Low Beginning ESL
- ESL-731 High Beginning ESL
- ESL-751 Low Intermediate ESL
- ESL-771 High Intermediate ESL
- ESL-791 Advanced ESL
- ESL-792 Citizenship Preparation

For enrollment information call: Downtown Milwaukee Campus, 414-297-6583; Mequon Campus, 262-238-2364; Oak Creek Campus, 414-571-4663; West Allis Campus, 414-456-5409.
### 700-Series Course Descriptions

Each MATC course is identified by a grouping of two to six letters or letters and a numeral, and a set of three numbers.

For example, in the course number **OFTECH-735**, the letters OFTECH form the alphabetic code that identifies the subject in which the course is taught. In this example, the subject is Office Technology. The set of three numbers, 735, identifies the type of program in which the course is found.

MATC courses numbered in the 700-799 range are Adult High School, Basic Skills and ESL courses.

**High School Credit:** 4,500 minutes of instruction (75 hours).

**Noncredit/Developmental (Basic Skills and ESL):** up to 36 55-minute periods of instruction.

### 700-Series Courses: Alphabetical List of Subjects With Department Numbers (Department numbers are in parentheses)

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Description</th>
<th>Department Number</th>
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<td>AUTO1</td>
<td>Auto Maintenance Technician</td>
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<tr>
<td>CAREER</td>
<td>Career Education</td>
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<tr>
<td>COMMB1</td>
<td>Communications/Basic Skills Level 1</td>
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<td>COMMB2</td>
<td>Communications/Basic Skills Level 2</td>
<td>(851)</td>
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<td>Communications/Basic Skills Level 3</td>
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<td>Communications/Basic Skills Level 4</td>
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<td>COMMB6</td>
<td>Communications/Basic Skills Level 6</td>
<td>(851)</td>
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<td>COMMH5</td>
<td>Communications – Adult High School</td>
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<tr>
<td>COMMPUB</td>
<td>Computer Basics – Adult Basic</td>
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<td>CULART</td>
<td>Culinary Arts</td>
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<td>ENGPHT</td>
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<td>HISTHS</td>
<td>History – Adult High School</td>
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<td>HLTHS</td>
<td>Health – Adult High School</td>
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<td>INDSGN</td>
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<td>MAGED</td>
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<td>MATHS</td>
<td>Math – Adult High School</td>
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<td>MDRAFT</td>
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<td>Office Technology</td>
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<td>READB1</td>
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<td>READB2</td>
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<td>Science – Adult High School</td>
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<td>SCIPH</td>
<td>Science – Post High School</td>
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<td>Small Engine and Chassis Mechanic</td>
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<td>SOCGED</td>
<td>Social Studies for GED</td>
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<tr>
<td>SOCHS</td>
<td>Social Science – Adult High School</td>
<td>(859)</td>
</tr>
</tbody>
</table>
700-SERIES COURSE DESCRIPTIONS

AUTO MAINTENANCE TECHNICIAN  
(DEPARTMENT: 404)

AUTO1-745  
Automotive Electrical Systems  
Credits: 1  
This course includes basic automotive electrical and fuel systems operations, diagnosis and repair techniques. Hands-on lab work is stressed, utilizing automotive components, mockups and simulators. Classroom instruction is used to reinforce the lab work.

AUTO1-746  
Automobile Minor Service (Chassis)  
Credits: 1  
This course provides training in the areas of brake servicing, front-end repair and alignment, lube service, tire and wheel balancing service, and exhaust and cooling system service. The shop is well equipped with state-of-the-art equipment.

AUTO1-748  
Automobile Engine Servicing  
Credits: 1  
This course enables students to describe and identify internal and external parts of an auto engine; describe and identify proper uses of tools used in servicing automobile engines; practice automotive machine shop skills using high-tech boring and properly fitting all engine parts; and completely assemble an engine on stand and test run it for final engine performance.

AUTO1-765  
Automotive Electrical Systems (Advanced)  
Credits: 1  
This course provides students the opportunity to enhance the skills learned in Auto Electrical Systems through repetition and further independent study. Prerequisite(s): AUTO1-745.

AUTO1-766  
Automobile Minor Service – Chassis (Advanced)  
Credits: 1  
This course provides a student the opportunity to enhance skills learned in Auto Minor Service through repetition and more detailed work with alignments. Prerequisite(s): AUTO1-746.

AUTO1-768  
Automobile Engines (Advanced)  
Credits: 1  
This course provides students the opportunity to enhance skills learned in Automotive Engine Servicing through repetition and more hands-on experience. Prerequisite(s): AUTO1-748.

CAREER EDUCATION  
(DEPARTMENT: 862)

CAREER-710  
Exploring Technical Careers  
Credits: 1  
Through presentations in training labs, hands-on shop assignments, and on-site employer visits, students acquire familiarity with skills, job opportunities and salary expectations in the electricity/electronics industry. Emphasis is placed on technical careers in the above areas.

CAREER-719  
Healthcare Concepts and Careers  
Credits: 1  
This course examines the healthcare industry and explores various health careers. Concepts related to the various health careers, such as medical terminology, anatomy and physiology also are included.

CAREER-725  
Career Exploration Seminar  
Credits: 1  
Students engage in self-assessment activities that match their strengths and needs to career choices. Using web-based information, students research and compare careers with special attention to educational preparation needed for success. Students will tour MATC, interview counselors, staff and/or faculty as they prepare a Career Portfolio. Nontraditional employment receives special attention.

CAREER-740  
Success Strategies for School  
Credits: 1  
Students identify the characteristics of a successful student, identify which characteristics they lack, and work to develop those traits. Students identify their learning styles and how they can use their styles to aid themselves in learning.

CAREER-741  
Career Preparation and Exploration  
Credits: 1  
Analysis of strengths, weaknesses, personalities, aptitudes, attitudes, etc., is covered. Students match their strengths and needs to job opportunities, and assess job availability. Up-to-date job openings are examined, and students research two careers.

CAREER-742  
Career Preparation and Exploration 2  
Credits: 0.5  
This course explains the steps of applying for and acquiring a job, and acquiring success in the workplace. Students learn how to fill out applications, write résumés and cover letters, and prepare for interviews. Authority and responsibility are discussed.

CAREER-743  
Career Preparation and Exploration 3  
Credits: 0.5  
This course stresses the idea that success in the world of work depends on one's ability to perform the requirements of the position and to get along with others. It helps the students recognize the role that personality plays in the work environment.

CAREER-744  
Career Preparation and Exploration 4  
Credits: 0.5  
This course deals with conflict, stress and discrimination. It is devoted to improvement of employer-employee communications. This module prepares the students for career development and will help them move up the career ladder.

CAREER-750  
GED Orientation Career Planning  
Credits: 0.1  
In this class, participants are provided with an overview of the various options available to those persons seeking high school equivalency diplomas. This class, which must precede the taking of the GED/ISEED tests, also includes interest inventory and career decision-making activities that help participants develop a better focus on career options based on backgrounds, skills and job trends.

CAREER-757  
GED 2 Employability Skills  
Credits: 0.1  
This course is designed to acquaint high school equivalency diploma students with major employment trends in the 21st century. In conjunction with the review and completion of sample applications, students are introduced to varied types of résumé and cover letter formats. Opportunities to explore the interview process also are provided, coupled with information on available resources pertaining to the development of academic and personal management, and teamwork skills.

CAREER-797  
The Promise of Community  
Credits: 1  
This course prepares students to be self-directed and successful in their pursuit and documentation of community engaged learning experiences at Milwaukee Area Technical College. Students will begin to develop a portfolio to demonstrate career-related learning objectives met through their community engaged learning experiences.

CAREER-798  
Internship Preparation and Exploration Workshop  
Credits: 1  
This course is an internship preparatory workshop for students who are required to obtain an internship as part of their course or program. Students will view a series of modules that will provide information on how to obtain an internship, importance of a résumé/cover letter and social media, interviewing tips, professional conduct in the work environment, etc. This class also includes the completion and submission of the Internship Learning Agreement.

CAREER-799  
The Path to College Success  
Credits: 1  
The path workshop is a psychosocial workshop created by the MATC counselors to provide an intervention for students who are suspended from college. It helps students identify their goals and passions; identify the barriers to reaching these goals; identify resources and action that will address their barriers. Student fills out a contract for success and this is included in the student's academic appeal.
700-SERIES COURSE DESCRIPTIONS

COMMUNICATIONS
(DEPARTMENT: 851)

COMMUNICATIONS – BASIC SKILLS LEVEL 1

COMMB1-711 Credits: 4
Basic Communications 1
Level 1 Communications emphasizes writing simple notes and messages on familiar situations. Learners who successfully complete Level 1 Communications achieve beginning basic education benchmarks according to NRS guidelines.

COMMUNICATIONS – BASIC SKILLS LEVEL 2

COMMB2-721 Credits: 4
Basic Communications 2
Level 2 Communications emphasizes basic writing tasks related to life roles, such as completing medical forms, order forms and job applications. Learners write short reports and messages to fellow workers. Learners self-edit and peer-edit for spelling and punctuation. Learners who successfully complete Level 2 Communications achieve low intermediate education benchmarks according to NRS guidelines.

COMMB2-755 Credits: 3
Basic Communications for Workplace Learning
This course is open-entry, open-exit, individualized, computer- and video-aided instruction in the areas of reading, critical thinking, writing, listening, speaking, interpersonal-intrapersonal, small-group interaction and team development, with emphasis on needs of the workplace.

COMMUNICATIONS – BASIC SKILLS LEVEL 3

COMMB3-731 Credits: 4
Basic Communications 3
Level 3 Communications emphasizes writing simple narrative descriptions and short essays on familiar topics. Learners complete forms, such as job applications, and strive for consistent use of basic grammar and punctuation. Learners who successfully complete Level 3 Communications achieve high intermediate education benchmarks according to NRS guidelines.

COMMUNICATIONS – BASIC SKILLS LEVEL 4

COMMB4-741 Credits: 4
Basic Communications 4
Level 4 Communications emphasizes writing complete compound and complex sentences, personal notes, and letters that accurately reflect thoughts. Learners strive for writing that is organized and cohesive with few mechanical errors. Learners who successfully complete Level 4 Communications achieve low adult secondary education benchmarks according to NRS guidelines.

COMMUNICATIONS – BASIC SKILLS LEVEL 5

COMMB5-751 Credits: 4
Basic Communications 5
Level 5 Communications emphasizes using varied and complex sentence structure with few mechanical errors. Learners' writing is cohesive with clearly expressed ideas supported by relevant detail. Learners who successfully complete Level 5 Communications achieve high adult secondary education benchmarks according to NRS guidelines.

COMMUNICATIONS – BASIC SKILLS LEVEL 6

COMMB6-761 Credits: 4
Basic Communications 6
Level 6 Communications emphasizes creating written documents, including a research paper. Learners express both written and spoken ideas in a clear, concise manner in a variety of settings. Learners who successfully complete Level 6 Communications are prepared to enter postsecondary education and/or obtain and maintain employment.

COMMUNICATIONS – ADULT HIGH SCHOOL

COMMHS-700 Credits: 1
Write to Work
The student will learn the components of marketing oneself for employment and master workplace writing once employment is gained. Students will gather, analyze, organize information and generate a variety of written assignments. Students will explore the importance of specific writing skills in their chosen occupation.

COMMHS-703 Credits: 1
World Literature 1
The major focus is short fiction, poetry and drama. Students will learn literary terms and story elements. Students will develop an understanding of the characteristics of various literary genres. Students will explore the works of culturally diverse authors, playwrights and poets.

COMMHS-704 Credits: 1
World Literature 2
This course is a continuation of World Literature 1. Skills are built that go beyond World Literature 1 by delving deeper into other selections from authors representing a global view in literature. Writing is done using a word processor and reviewing selection for mechanics of good writing.

COMMHS-705 Credits: 1
American Literature 1
During this junior-level English course, American literature from the American Colonial Period to post-Civil War days is studied. A sampling of authors studied will include Nathaniel Hawthorne, Henry Wadsworth Longfellow, Louisa May Alcott and Chief Joseph. The mechanics of writing are reviewed as applied to story responses through word-processed compositions.

COMMHS-706 Credits: 1
American Literature 2
During this junior-level English course, the study of American literature is continued, covering the mid-1800s to modern times. Authors studied include Langston Hughes, Robert Frost, Walt Whitman and Richard Wright. A review of writing complete and effective sentences is done in order to enhance word-processed composition.

COMMHS-711 Credits: 1
Multicultural Literature 1
This course will study the rich literary genres of a variety of cultures such as African-American, Chinese, Indian, Japanese, Jewish, Korean, Latino/Hispanic and Native American. Biographies, essays, poetry and short fiction readings may be supplemented by films to provide a broader appreciation of the literary contributions made by a variety of noted world authors.

COMMHS-712 Credits: 1
Multicultural Literature 2
Students read and discuss authors of a variety of cultural backgrounds, such as Amy Tan, Richard Wright and Zora Neale Hurston. Students review the mechanics of good writing, including capitalization, punctuation and quotation marks, in order to enhance their weekly word-processed compositions.

COMMHS-713 Credits: 1
Science Fiction Literature
This English class reads, discusses and analyzes science fiction short stories, novels and films. This course is designed to help students think about the impact of rapid changes in medicine, technology and science will have on their future. Great science fiction classics by Isaac Asimov, Ray Bradbury, H.G. Wells, George Orwell, Arthur Clarke and other noted science fiction writers are introduced to students. Based on their readings, students will complete three written reports.
COMMHS-725 
Composition 
Credits: 1 
Prepares students to compose materials for
common purposes and audiences. It provides
instruction in the process of writing, and
the practice of the specific skills needed
to communicate effectively for writing in
academic and occupational settings. The
student will review basic grammar, sentence
structure, and paragraph development to
serve as a stepping stone for perfecting
writing skills. Students further develop essay
writing skills.

COMMHS-727 
Writing With a Word Processor 
Credits: 1 
This course teaches students to use a word
processor to assist them in prewriting,
composing, revising and editing
their compositions.

COMMHS-730 
Language Arts Communication 1 
Credits: 1 
This English class is a combination of
literature, grammar and writing. Short
stories, poems and plays will be read and
discussed. Grammar lessons of sentence
structure, parts of speech, punctuation and
spelling will be taught and incorporated
into writing activities. Students learn to
understand and appreciate literature, and
to develop their writing skills.

COMMHS-731 
Language Arts Communication 2 
Credits: 1 
This English class is a combination of
literature, grammar and writing. Short
stories, poems and plays will be read and
discussed. Grammar lessons of the parts
of speech, phrases, clauses, sentences
and punctuation will be reviewed and
incorporated into writing activities. Students
learn to understand and appreciate literature,
and to develop their writing skills.

COMMHS-732 
English Review and Mastery 
Credits: 1 
This English class is an intense review
of grammar, punctuation, capitalization,
phrases, clauses, sentence structure, spelling
and vocabulary with a writing component.
Writing assignments will include writing
paragraphs, business letters, a résumé,
reports and a research paper.

COMMHS-735 
Communications Via the Media 
Credits: 1 
Students work to develop an understanding
of the nature, techniques and impact of
the mass media, as well as to develop an
understanding of the nature and importance
of media literacy in today’s society. Emphasis
is placed on news providers, particularly
newspapers. Students practice written
communication skills by writing a variety of
features common in the newspaper.

COMMHS-750 
Speak for Yourself 
Credits: 1 
This is a speech class designed to emphasize
the importance of speaking well to facilitate
effective communication. It will give
students an opportunity to prepare and
deliver speeches. The speeches will focus on
everyday situations that one might encounter
in family living, at school, at church, at work,
in the community and in the world. It will
stress that effective communication skills
are relevant and very pertinent to being
successful.

COMMHS-755 
The Internet and Communication 
Credits: 1 
Learn what you need to know to use the
internet effectively at home, school and
work. Learn etiquette for writing email,
as well as how to use common features
of email programs, including organizing
mail, sending attachments and using an
address book. Don’t just surf the web; learn
how to conduct effective searches, evaluate
the information you find and protect your
privacy. Compose and publish your own
webpages. Increase the effectiveness of
your website by including pictures and
video, using cameras, scanners and graphics
programs.

COMPUTER BASICS - ABE 
(DEPARTMENT: 860)

COMPUB-701 
Computer Basics – Adult Basic Education 
Credits: 1 
This introductory course to computers
requires no prior experience. Students learn
basic functions, terminology, applications,
and use of the keyboard and mouse. Topics
covered are the history of the computer,
computer terminology, operating system,
hardware components, software packages,
and mouse dexterity. Students create simple
documents in Microsoft Word. Prerequisite(s):
Must be enrolled in a basic skills course.

COMPUB-768 
Digital Literacy for GED 
Credits: 3 
This course introduces and develops
targeted digital literacy skills needed for
GED coursework and GED testing, and is
enhanced with academic computer and
technology essentials. Focus is on computer
and technology topics and skill sets for
GED success that include access, familiarity,
and ease of use of GED software and tools,
GED computer-based testing fundamentals,
Google Drive and Blackboard, and computer
basics (e.g., navigation, word processing and
file management).

COMPUB-798 
Online Student Readiness 
Credits: 1 
Course introduces skills and methods
regarding technology literacy and self-
management for first-time online college
students. Course learning outcomes
focus on skills development for distance
learning student success at Milwaukee
Area Technical College by exploring the
following tools: Blackboard, INFOnline,
myMATC and Gmail. Prepares students to be
engaged and self-directed in asynchronous
learning environments by addressing time
management and best practices for online
student success.

CULINARY ARTS 
(DEPARTMENT: 316)

CULART-711 
Culinary Fundamentals/Mise-en-Place 
Credits: 1 
Professional standards and practices in
the prevention of foodborne illness are
presented. Students prepare for the National
Restaurant Association’s Certification exam, ServSafe Certification.
Students also learn basic kitchen principles of
food safety, kitchen organization, knife skills,
egg cookery, recipe proficiency, equipment/
smallwares identification and usage within a
commercial kitchen.

CULART-719 
Culinary Science 
Credits: 1 
This introductory course details the
worldwide and domestic history of culinary
arts and the food service industry, including
various types of food service operations,
organizational systems, career opportunities,
and the future of the food service industry.
This course includes a study of the food
service industry’s environmental impact
on natural resources, and issues related
to sustainable practices such as renewable
energy, waste reduction, local food sourcing
and food production methods, leading into
the details of basic food science principles
as related to cookery, are the focus of study
in this course. Cooking methods, as well as
the function and chemistry of proteins, fats,
carbohydrates, flavors and seasonings, are
explored as part of the coursework.

CULART-723 
Vegetables, Starches and Grains 
Credits: 1 
Basic principles of vegetables, starches and
grains preparation and presentation are
taught. Practice is made of various cooking
methods, styles, techniques and procedures
applied to these categories. Students also
will discuss and prepare consomme, cream,
clear, puree and bisque soups. Students will
prepare a variety of stocks, including white,
vegetable, beef, brown and chicken. Students
will make a variety of sauces, including the
mother sauces and several small sauces.
CULART-726
Seafood/Shellfish Cookery
This course is designed to focus on various types of cooking methods of fish and seafood found in the restaurant industry. Students learn about the history of commercial fishing in the U.S. and other regions of the world. The emphasis of study will include aqua culture, sustainability in the seafood industry, and applying various cooking techniques for all major seafoods to be practiced. This course also introduces the student to the subject of meats and their application in food service operations, building a strong foundation that supports the principles to be learned in the cooking processes to include hands-on activities with the food products of beef, veal, pork, lamb and poultry, including proper tying and trussing methods.

CULART-743
Credits: 1
Culinary Arts Exploration/Co-Operative 3
Purchasing and inventory control procedures in food service operations are studied. Fish and seafood cookery, garde manger work with fruits and vegetables, and more advanced baking are the focus.

ENGLISH AS A SECOND LANGUAGE (DEPARTMENT: 861)

ENGLISH – POST HIGH SCHOOL

ENGPH-711
Beginning ESL Literacy
This course is designed for those students who have minimal reading and writing skills in their native language and have no proficiency in oral or written English.

ENGPH-712
Low Beginning ESL
This course is designed for those students who have minimal proficiency in oral or written English.

ENGPH-731
High Beginning ESL
This course is designed for students who have some ability to function in a limited capacity in oral or written English, but still need assistance.

ENGLISH (DEPARTMENT: 851)

ENGLISH – POST HIGH SCHOOL

ENGPH-711
Credits: 5
ENGLISH Usage and Writing
English Post High School 1 is designed for students who have graduated from high school or have earned a GED or HSED. Learners create written documents, including essays and a research paper. This course emphasizes using varied and complex sentence structure with few mechanical errors. Learners’ writing is cohesive with clearly expressed ideas supported by relevant detail. Learners who successfully complete English Post High School 1 are prepared to enter English Post High School 2.

ENGPH-772
Credits: 5
ENGLISH Review and Advanced Writing
The English Post High School 2 course is designed for students who have graduated from high school or have earned a GED or HSED. This course emphasizes creating written documents, including a research paper. Learners express both written and spoken ideas in a clear, concise manner in a variety of settings. Learners who successfully complete the course are prepared to enter postsecondary English and/or obtain and maintain employment. The class assumes competence in basic sentence and paragraph structure.

HISTORY – ADULT HIGH SCHOOL (DEPARTMENT: 853)

HISTHS-706
American History 2
Credits: 1
American History 2
In covering major developments in United States history from the 1870s to today, the following topics are surveyed: Industrialization, the Progressive Era, Imperialism, World War I, the 1920s, the Depression and World War II.

HISTHS-707
World History
Credits: 1
World History
The world history course will introduce students to a global view of human development from prehistoric times to 1900. Selected ancient civilizations include Mesopotamia/Iraq, Macedonia, Egypt, Africa, Greece, Rome, India, China, Japan and Oceania.

HEALTH – ADULT HIGH SCHOOL (DEPARTMENT: 857)

HLTHHS-700
Wellness and Fitness Education
Credits: 1
Wellness and Fitness Education
This lecture and lab course provides students with a contemporary approach to the total wellness concept, which includes physical, emotional, occupational, spiritual and environmental components. Students develop personal plans for lifetime wellness.

HLTHHS-711
Adult Recreation 1
Credits: 0.6
Adult Recreation 1
This adult recreation class is designed to introduce students to the benefits of participation in fitness and sports activities. The course will expose students to a broad array of recreational opportunities, emphasize instruction and participation rather than competition, and introduce concepts that have potential for lifetime use.

HLTHHS-712
Adult Recreation 2
Credits: 0.6
Adult Recreation 2
This course is designed to further develop recreational skills and individual fitness techniques. Prerequisite(s): HLTHHS-711.

HLTHHS-730
Health for Adults
Credits: 0.5
Health for Adults
This lecture course helps students make a realistic appraisal of their health, and supplies them with strategies to improve nutritional awareness, stress management and physical fitness.

HLTHHS-744
CPR and First Aid
Credits: 2
CPR and First Aid
This course develops lifesaving skills needed to become certified in American Heart Association Heartsaver and First Aid. Skills include techniques for adult, child and infant victims. Successful course completion will result in a two-year certification.
Body Conditioning 1
This activity class provides students with specific training techniques that are used to develop and enhance muscular strength and endurance. The focus is on improving fitness, as well as preparing for the physical demands of daily living.

Body Conditioning 2
This course is designed to teach advanced strategies of body toning and progressive resistance training. Prerequisite(s): HLTHHS-751.

Dance/Aerobic Fitness 1
This course is a series of choreographed exercises to music with vigorous continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, and enhance weight control.

Dance/Aerobic Fitness 2
This course is a series of choreographed exercises to music with continuous rhythmic aerobic movements, with advanced variations and styles to enhance cardiovascular endurance, flexibility, muscle conditioning and weight control.

INTERIOR DESIGN
(DEPARTMENT: 304)

Introduction to Interior Design
The principles of interior design are studied and applied to interior environments. Major emphasis is on solving interior problems utilizing the fundamentals of design. Topics include furniture history, spatial planning, blueprint reading, and color board presentations.

INTERNSHIP
(DEPARTMENT: 862)

Employment Success
With an emphasis on polishing your job search and career management skills, this workshop presents practical strategies that prepare students to complete their required internship and to lay the foundation for successful career development. Assignments include researching prospective employers, preparing résumés and cover letters, networking, and doing a practice interview.

MATHEMATICS
(DEPARTMENT: 854)

MATHEMATICAL REASONING FOR GED

MAGED-765
Math for GED Quantitative Skill
This course examines topically organized and competency-based concepts crucial to success on the GED Mathematical Reasoning test. The content in quantitative skills will be the context for the development of the needed fluency, conceptual understanding and procedural skills utilized in realistic situations.

MAGED-766
Math for GED Algebra Skills
This course examines topically organized and competency-based concepts crucial to success on the GED Mathematical Reasoning test. The content in algebra skills will be the context for the development of the needed fluency, conceptual understanding and procedural skills utilized in realistic situations.

MAGED-768
Math for GED
This course examines topically organized and competency-based concepts crucial to success on the GED Mathematical Reasoning test. The content in quantitative and algebraic problem-solving will be the context for the development of the needed fluency, conceptual understanding and procedural skills utilized in realistic situations.

MATHEMATICS – BASIC SKILLS
LEVEL 3

MATHB3-734
Basic Arithmetic 3
Level 3 Mathematics emphasizes the four basic math operations, using whole numbers and fractions. Learners can determine the correct operation for solving narrative math problems and can convert fractions to decimals and decimals to fractions. Learners achieve high intermediate basic education benchmarks according to NRS guidelines.

MATHEMATICS – BASIC SKILLS
LEVEL 4

MATHB4-744
Basic Arithmetic 4
Level 4 Mathematics emphasizes all basic math functions with whole numbers, decimals and fractions. Learners can interpret and solve simple algebraic equations, tables and graphs, and can develop their own tables and graphs. Learners can use math in business transactions. Learners achieve low adult secondary education benchmarks according to NRS guidelines.

MATHEMATICS – BASIC SKILLS
LEVEL 5

MATHB5-754
Basic Arithmetic 5
Level 5 Mathematics emphasizes applying mathematical concepts, including algebra, geometry, trigonometry and probability. Learners make mathematical estimates of time and space, and apply the principles of geometry to measure angles, lines and surfaces. Learners achieve high adult secondary education benchmarks according to NRS guidelines.
MATHHS-721
Geometry 1

MATHHS-722
Geometry 2
Geometric concepts covered include: Volume and Surface Area of 3-Dimensional Shapes; Circles, Chords, Arcs and Tangents; and Right Triangle Trigonometry. Tools, techniques and procedures covered include: Algebraic Properties, Deductive Reasoning, Inductive Reasoning, Definitions, Theorems and Postulates.

MATHHS-745
Advanced Algebra 1A
This course is equivalent to the first semester of second-year algebra. The course begins with the graphing of lines. Topics include graphing of linear inequalities in two variables; solving linear systems (two lines) using the graphic, elimination and substitution methods; exploring other methods of solving equations; and the study of roots and radicals.

MATHHS-755
Advanced Algebra 1B
This course is equivalent to the second semester of second-year algebra. Topics include counting techniques and probability, a study of quadratics (the parabola, circle, ellipse and hyperbola), the solution of three equation systems of lines and of non-linear systems, and the study of matrices, determinants, and exponential and logarithmic functions.

MATHPH-707
Financial Literacy
This course is designed to help you with everyday consumer math skills, math you should and do use all the time. You will learn a wide variety of personal and business math skills.

MATHPH-716
Algebra 1A
This course has a brief review of fractions and decimals. The main course consists of the basic operations with real numbers, evaluating algebraic expressions, solving equations and inequalities with one variable, and operations with algebraic expressions.

MATHPH-717
Algebra 1B
This course begins with factoring and the solution of quadratic equations by factoring. It also includes rational expressions, and ratio and proportion, and concludes with operations with algebraic expressions involving fractions. Prerequisite(s): MATHHS-716 or MATHPH-716.

MATHPH-721
Geometry 1
A Euclidean geometry course with topics on angle relationships, perpendicular and parallel lines, and polygons. The deduction system is used to establish theorem statements, using direct and indirect proof. Prerequisite(s): MATHHS-717.

MATHPH-722
Geometry 2
Geometry 1 is extended to include similar polygons, right triangles, circles, construction and logic. Sets that describe areas and volumes, as well as the formulas for such sets, are presented.

MATHPH-745
Advanced Algebra 1A
This course is equivalent to the first semester of second-year algebra. The course begins with the graphing of lines. Topics include graphing of linear inequalities in two variables; solving linear systems (two lines) using the graphic, elimination and substitution methods; exploring other methods of solving equations; and the study of roots and radicals.

MATHPH-755
Advanced Algebra 1B
This course offers a sampling of matrix algebra, trigonometry, conic section, probability, statistics, progression and series. It is designed to whet the appetite for future mathematical studies.
School of Pre-College Education

700-SERIES COURSE DESCRIPTIONS

MATHPH-771 Credits: 5
MATHPH1: Basic Mathematics
This course is designed for students who have graduated from high school or earned a GED or HSED who did not earn the necessary math placement score to enter their desired college program. This course covers basic arithmetic skills, numerical calculations, and competencies fundamental to mathematics.

MATHPH-772 Credits: 5
MATHPH2: Basic Pre-Algebra
This course is designed for students who have graduated from high school or earned a GED or HSED who did not earn the necessary math placement score to enter their desired college program. This course covers applications of arithmetic processes and introduces basic mathematical concepts in pre-algebra and geometry. This transition course prepares students to succeed in their next math class (Introductory Algebra and subsequent algebra-related courses).

MECHANICAL AND COMPUTER DRAFTING (DEPARTMENT: 421)

MDDRAFT-741 Credits: 1
Computer-Aided Drafting – CAD 1
This course provides instruction for skills and knowledge for two-dimensional drafting using AutoCAD software. This includes the following: drawing setup, drafting 2D objects, editing entities, and creating and managing layers. Also covered are creating blocks, applying linear dimensioning, and inserting hatch patterns and text. The focus is directed toward creating accurate drawings.

MDDRAFT-742 Credits: 1
Computer-Aided Drafting – CAD 2
This course continues to work with AutoCAD using advanced features and commands such as blocks with attributes, x-references, splines, object linking and embedding, viewports, Model Space and Paper Space. More detail is given for drafting formats such as creating orthographic projections, isometrics and auxiliary views. Students also learn how to read a scale and convert hand drawings to computer drawings. Prerequisites(s): MDDRAFT-741.

MDDRAFT-743 Credits: 1
Architecture Build/Modeling I & II
This course provides an overview of the fields of civil engineering and architecture, while emphasizing the interrelationship and dependence of both fields on each other. Hands-on projects and activities include the use of Revit, a software program that automatically converts 2D drawings to 3D. Course topics include the roles of civil engineers and architects, project planning, site planning, building design, and project documentation and presentation.

MDDRAFT-746 Credits: 1
3D Modeling and Design 1
Focus is on the seven stages of the design process, from problem identification to presentation. Emphasis is on developing a portfolio throughout the course that documents class projects. Students will learn of elements and principles of design. Students will develop sketching and visualization skills, through hand sketching, annotated drawings and geometric relationships. Major emphasis is on Inventor software by Autodesk. Inventor is used as a design tool to create 3D computer models, assemblies and parts lists. Applying good design criteria of function and aesthetic value will be used to communicate solutions to simple product development and reverse engineering projects.

MDRAFT-747 Credits: 1
3D Modeling and Design 2
Emphasis is on further development of student portfolio. Students will develop their own original designs of products that are functional and aesthetic. Students will develop sketches and create design matrices for product development. Major emphasis is on Inventor software by Autodesk. Students will learn more advanced features of the software. Inventor software is used to teach model analysis, verification and documentation. Presentation techniques and marketing applications also will be covered. Other software introductions will be PowerPoint, Publisher and AutoCAD. Prerequisite(s): MDDRAFT-746.

OFFICE TECHNOLOGY (DEPARTMENT: 106)

OFTECH-735 Credits: 1
Keyboard, Keypad and Windows
This is a competency-based course for learning the alphanumeric and numeric keyboard using the touch method. In addition, the numeric keypad is presented. Students experience hands-on practice using a mouse, menus and Windows accessories. Furthermore, the student will format, type, print, edit and save simple documents using MS Word.

OFTECH-739 Credits: 1
Business Operations Co-Op Part 1
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-735.

OFTECH-742 Credits: 2
Business Co-Op Work Experience 1
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-735.

OFTECH-743 Credits: 2
Business Co-Op Work Experience 2
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-742.

OFTECH-744 Credits: 2
Business Co-Op Work Experience 3
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-743.

OFTECH-773 Credits: 1
Business Co-Op Work Experience 4
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-744.

OFTECH-790 Credits: 1
Business Co-Op Work Experience 5
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-773.

OFTECH-793 Credits: 1
Business Co-Op Work Experience 6
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-790.

OFTECH-794 Credits: 1
Business Co-Op Work Experience 7
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-793.

OFTECH-795 Credits: 1
Business Co-Op Work Experience 8
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-794.

OFTECH-796 Credits: 1
Business Co-Op Work Experience 9
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-795.

OFTECH-797 Credits: 1
Business Co-Op Work Experience 10
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-796.

OFTECH-798 Credits: 1
Business Co-Op Work Experience 11
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-797.

OFTECH-799 Credits: 1
Business Co-Op Work Experience 12
Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project either accounting based or technology based, and business portfolio completion. Prerequisite(s): OFTECH-798.

READING (DEPARTMENT: 858)

READING – BASIC SKILLS LEVEL 1

READB1-717 Credits: 4
Basic Reading 1
Level 1 Reading (grade equivalent 0-1.9) emphasizes reading simple material on familiar subjects and comprehending simple compound sentences in single or linked paragraphs containing a familiar vocabulary. Learners who successfully complete Level 1 Reading achieve beginning basic education benchmarks according to NRS guidelines.
READING – BASIC SKILLS LEVEL 2
READB2-727 Credits: 4
Basic Reading 2
Level 2 Reading (grade equivalent 2.0-3.9) emphasizes reading text on familiar subjects that have a simple and clear underlying structure. Learners use context to determine meaning and can interpret actions required in specific directions. Learners read simple charts, graphs, labels, payroll stubs and simple authentic material. Learners who successfully complete Level 2 Reading achieve low intermediate basic education benchmarks according to NRS guidelines.

READING – BASIC SKILLS LEVEL 3
READB3-737 Credits: 4
Basic Reading 3
Level 3 Reading (grade equivalent 4.0-5.9) emphasizes reading text on familiar subjects or from which new vocabulary can be determined by context. Learners read simple descriptions and narratives and can make some minimal inferences about familiar texts, and compare and contrast information from texts. Learners read authentic materials on familiar topics, such as simple employee handbooks. Learners who successfully complete Level 3 Reading achieve high intermediate basic education benchmarks according to NRS guidelines.

READING – BASIC SKILLS LEVEL 4
READB4-747 Credits: 4
Basic Reading 4
Level 4 Reading (grade equivalent 6.0-8.9) emphasizes comprehension of a variety of materials, such as periodicals, non-technical journals on common topics, and expository writing. Learners identify spelling, punctuation and grammatical errors and follow simple multi-step directions. Learners identify the main idea in reading selections and use context to determine meaning. Learners who successfully complete Level 4 Reading achieve low secondary education benchmarks according to NRS guidelines.

READING – BASIC SKILLS LEVEL 5
READB5-757 Credits: 4
Pre-College Reading 5
Level 5 Reading (grade equivalent 9.0-10.9) emphasizes comprehension of a variety of literary works, including primary source materials and professional journals. Learners explain and analyze information, use context cues and higher order processes to interpret meaning of written material, and read technical information and complex manuals. Learners who successfully complete Level 5 Reading achieve high adult secondary education benchmarks according to NRS guidelines.

READING – BASIC SKILLS LEVEL 6
READB6-767 Credits: 4
Pre-College Reading 6
Level 6 Reading (grade equivalent 11.0-12.9) emphasizes adapting strategies and skills to a variety of reading tasks and becoming a critical reader. Learners apply prior experience and knowledge, use study skills, and transfer reading and vocabulary skills to a variety of printed and illustrative materials found in the workplace, school and everyday life. Learners who successfully complete Level 6 Reading achieve a reading level comparable to the Wisconsin 12th grade exit standards for reading and are prepared to enter postsecondary education and/or obtain and maintain employment.

READING – POST HIGH SCHOOL
READPH-771 Credits: 5
READING – POST HIGH SCHOOL 1
Pre-College Reading 1
This course emphasizes preparation for reading at the high school and college levels. Majors include developing reading skills, interpreting and analyzing written material, and adapting and transferring reading and vocabulary skills to various reading tasks. Learners who successfully complete this course achieve high adult secondary education benchmarks according to NRS guidelines.

READPH-772 Credits: 5
READING – POST HIGH SCHOOL 2
Pre-College Reading 2
This course emphasizes adapting strategies and skills to a variety of reading tasks and becoming a critical reader. Learners apply prior experience and knowledge, use study skills, and transfer reading and vocabulary skills to a variety of printed and illustrative materials found in the workplace, school and everyday life. Learners who successfully complete this course are prepared to enter postsecondary education and/or obtain and maintain employment. The class assumes competence in use of basic reading strategies.

AND LANGUAGE FOR GED
RLGED-766 Credits: 2.5
RLA for GED
This course requires the GED learner to read closely, write clearly, and apply editing strategies to complex texts appropriately. The content in Reading Comprehension, Writing, and Language Conventions and Usage will be the context for the development of the needed critical-thinking, reading and writing strategies.

RLGEDF-765 Credits: 2.5
RLA for GED Fundamentals
This course requires the GED learner to read closely and write clearly. The content in Reading Comprehension, Writing, and Language Conventions and Usage will be the context for the development of the needed critical-thinking, reading and writing strategies.

SCIENCE (DEPARTMENT: 856)
SCIGED-768 Credits: 2.5
Science for GED
This course introduces foundational skills crucial to your success on the GED Science test. The content in Life Science, Earth and Space, and Physical Science will be the context for the development of scientific reasoning in both textual and quantitative practices.

SCIENCE – ADULT HIGH SCHOOL
SCIHS-701 Credits: 1
General Science 1
Designed to give students a better understanding of the environment, this course demonstrates the importance of the sciences in everyday life. Topics include matter, energy, electricity and heat. Includes class demonstrations and group experiments.

SCIHS-702 Credits: 1
General Science 2
This course is a study of our changing planet and the makeup of our living world. Topics include geology, weather, climate, the universe, life on earth, ecology, our human body, and environmental problems.

SCIHS-703 Credits: 1
Biology 1
Students obtain an overview of biology and learn about the basic tools for biology, the chemical and structural basis of life, genetics and microbiology through lecture and labs.
SCIHS-704  Credits: 1
Biology 2
Students develop an understanding of the anatomy and physiology of animals, with an emphasis on human biology, through lecture, dissections and experiments.

SCIHS-705  Credits: 1
Chemistry 1
The language and logic of chemistry are developed by studying elements, compounds and mixtures; atomic structure; the periodic table and the Periodic Law; chemical bonding; the naming of compounds; the writing of formulas, and other topics. Prerequisite(s): MATHHS-716 or MATHPH-716.

SCIHS-706  Credits: 1
Chemistry 2
Instruction is continued in the laws and principles of chemistry through a study of oxygen, hydrogen, carbon, the properties of gases, the kinetic theory of matter, ionization, solutions, oxidation-reduction, radioactivity and other topics. Prerequisite(s): SCIHS-705 or SCIPH-705.

SCIHS-715  Credits: 1
Environmental Biology
This is a continuation of Biology 1 and 2. Students will develop an awareness of the interrelationships and interactions of life and with the environment through lecture and labs. Topics will include plant life, evolution and ecology.

SCIHS-750  Credits: 1
Physical Science 1
Physical Science 1 teaches the nature of science while incorporating physics, chemistry, Earth science and space science. Topics include nonliving matter, scientific problem-solving, metric measurement, nature of chemicals, periodic tables, force, acceleration, momentum, work, power, and machines.

SCIHS-751  Credits: 1
Physical Science 2
Physical Science 2 is a course designed to teach the nature of science while incorporating physics, chemistry, Earth science and space science. Topics include heat and temperature, waves, communication and technology, the solar system, the universe, planet Earth, the atmosphere, and using natural resources.

SCIPH-704  Credits: 1
Biology 2
Students will develop an understanding of the anatomy and physiology of animals, with an emphasis on human biology, through lecture, dissections and experiments.

SCIPH-705  Credits: 1
Chemistry 1
The language and logic of chemistry are developed by studying elements, compounds and mixtures; atomic structure; the periodic table and the Periodic Law; chemical bonding; the naming of compounds; the writing of formulas, and other topics. Prerequisite(s): MATHHS-716 or MATHPH-716.

SCIPH-706  Credits: 1
Chemistry 2
Instruction is continued in the laws and principles of chemistry through a study of oxygen, hydrogen, carbon, the properties of gases, the kinetic theory of matter, ionization, solutions, oxidation-reduction, radioactivity and other topics. Prerequisite(s): SCIHS-705 or SCIPH-705.

SMENG-761  Credits: 1
Motorcycles and Outdoor Power Equipment 1
This course introduces motorcycle repair and all-terrain vehicles (ATVs) to students. The focus of this course is to experience reading service manuals in order to understand how to repair motorcycles and ATVs from different manufacturers. Motorcycle and ATV engines, drivetrains and carbureted fuel systems are the main focus of this course. Students will learn about the operations of engines through hands-on applications by assembling and replacing pistons, rings, valves, crankshafts, cams, bearings, bushings, carburetor slides, chock mechanisms and all other engine components. Students will use American Standard, Metric and specialty tools. Students will be able to start and tune engines. Students will learn and experience how to use diagnostic tools, which read the internal workings of an operating engine. Prerequisite(s): SMENG-761.

SMENG-762  Credits: 1
Motorcycles and Outdoor Power Equipment 2
This course introduces motorcycle repair and all-terrain vehicles (ATVs) to students. The focus of this course is to experience reading service manuals in order to understand how to repair motorcycles and ATVs from different manufacturers. Motorcycle and ATV engines, drivetrains and carbureted fuel systems are the main focus of this course. Students will learn about the operations of engines through hands-on applications by assembling and replacing pistons, rings, valves, crankshafts, cams, bearings, bushings, carburetor slides, chock mechanisms and all other engine components. Students will use American Standard, Metric and specialty tools. Students will be able to start and tune engines. Students will learn and experience how to use diagnostic tools, which read the internal workings of an operating engine. Prerequisite(s): SMENG-761.

SMENG-763  Credits: 1
Motorcycles and Outdoor Power Equipment 3
This course continues teaching students about the operations and repairs of motorcycles and all-terrain vehicles (ATVs). This course can be used as the launching point for students who may be interested in pursuing a career in motorcycle repair. Students will experience and learn more diagnostic procedures. Fine-tuning and increased performance will be the focus of this course. They will be introduced to electrical components and fuel injection systems. Drivetrain components, i.e., clutches, gear ratios and transmissions, will be discussed and worked on. Chain drivers and direct drives will be available to work on. More specialty tools will be used. Prerequisite(s): SMENG-762.

SMENG-764  Credits: 1
Motorcycles and Outdoor Power Equipment 4
The focus of this course will be engine performance, fuel injection and the electronics of outdoor recreational vehicles. Students will learn how to read diagnostic equipment and will learn basic wiring fundamentals. Electrical language will be taught. Reading electrical instruments will be learned. Students will be able to learn how to perform basic troubleshooting techniques, repair and install wiring systems and learn the interrelations of the engine’s electrical components of battery, coils, fuel system, ignition, rectifiers, lights, etc. Students will be exposed to replacing old components with newer components for better performance and reliability. Prerequisite(s): SMENG-762.
700-SERIES COURSE DESCRIPTIONS

SOCIAL SCIENCE (DEPARTMENT: 859)

SOCIAL SCIENCE FOR GED

SOCGED-768 Credits: 2.5
Social Studies for GED
This course introduces foundational skills and levels of complexity crucial to your success on the GED Social Studies test. The content in Government and Civics, U.S. History, Economics, Geography and the World, and Citizenship will be the context for the development of integrated social studies reasoning and problem-solving skills applicable to academic and workplace environments.

SOCIAL SCIENCE – ADULT HIGH SCHOOL

SOCHS-701 Credits: 1
American Government
A study is made of American democracy. Topics include political principles, documents, and the development of rights of a free people. Emphasis is placed upon three major areas: the Congress, the Presidency and the Supreme Court.

SOCHS-704 Credits: 1
Economics
A study of our great challenge to use our limited resources to satisfy unlimited human wants for goods and services. This course attempts to explain how humans and nations resolve this problem.

SOCHS-709 Credits: 1
World Geography I
This course helps students understand that the world has systems that can be compared, analyzed and evaluated through the study of landforms, climates, ecosystems and their interactions. Students will learn that the five themes of place, location, movement, region and human environmental interactions can be applied throughout the globe. In addition, students will look at world events and their impact on countries, cultures, environments and individuals. Students will study the geography of the following regions of the world: North America, Central America and South America.

SOCHS-710 Credits: 1
World Geography II
This course helps students understand that the world has systems that can be compared, analyzed and evaluated through the study of landforms, climates, ecosystems and their interrelationships. Students will learn that the five themes of place, location, movement, region and human environmental interactions can be applied throughout the globe. In addition, students will look at world events and their impact on countries, cultures, environments and individuals. Students will study the geography of the following regions of the world: North America, Central America and South America.

SOCHS-720 Credits: 1
Psychology
The basic concepts, methods and applications of psychology in the daily life of the individual are studied. The student receives a broad introduction to the field of psychology as the science of human behavior.

SOCHS-750 Credits: 0.5
Civic Literacy
In this course, the student learns the basic principles expressed in important political documents in U.S. history, as well as the relationships between national, state and local governments.

SOCHS-752 Credits: 0.5
Advanced Civic Literacy
In this course, the student will expand upon his/ her knowledge obtained in Civic Literacy. The emphasis is on researching material from the internet and other resources. Students also watch or participate in governmental functions.

SOCHS-761 Credits: 1
Sociology
This course develops an awareness of the social structures, social processes and institutions that make up society. By analyzing the various societal processes and structures, it enables the student to relate to group experiences.
DIRECTORY OF CREDENTIAL INFORMATION

Administration

Martin, Vicki J.
President, B.A., University of Wisconsin – Milwaukee; M.A., University of North Dakota; M.S., Cardinal Stritch University; Ph.D., University of Wisconsin – Madison.

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Hollow, Jeffrey
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Zima, Cheryl
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Regional Campus Administration

Alsop-Kingery, Rebecca L.
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Isahaku, Sadique
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Kress, Brenda
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Manion, Christine M.
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Smith, Regina O.
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Walker, Dorothy L.
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Wang, Yan
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School of Business Administration

Carlson, Brian
Interim Dean, School of Business and School of Media and Creative Arts, and Associate Dean, B.S., Eastern Michigan University; M.A., Michigan State University.

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Stout, Brian M.
Associate Dean, A.B., Ripon College; M.B.A., Western International University; B.S., University of Wisconsin – Madison; Ed.S., University of Wisconsin – Stout.

School of Health Sciences Administration

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Associate Dean, B.S.N., Carroll College; MSN, Concordia University; Ph.D., Marquette University; Family Nurse Practitioner; Advanced Practice Nurse Prescriber; Registered Nurse.

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MATC’s Workforce Solutions Administration  
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<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Education/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poshepny, Amy B.</td>
<td>Cosmetology Instructor; Licensed Barbering or Cosmetology Manager.</td>
<td>University of Wisconsin – Madison; B.S., American College of Education; Licensed Wisconsin Barbering or Cosmetology Instructor; Licensed Wisconsin Barbering or Cosmetology Manager.</td>
</tr>
<tr>
<td>Pruszka, Margaret M.</td>
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<td></td>
</tr>
<tr>
<td>Reinders, Judy A.</td>
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<td></td>
</tr>
<tr>
<td>Reiss, John F.</td>
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<td></td>
</tr>
<tr>
<td>Reyes, Erika</td>
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<td></td>
</tr>
<tr>
<td>Rupnik, Rochelle A.</td>
<td>Hospitality, B.A., University of Wisconsin – Milwaukee; M.B.A., Cardinal Stritch University; Certified Meeting Professional.</td>
<td></td>
</tr>
<tr>
<td>Sanders, Diane P.</td>
<td>Barbering and Cosmetology, A.A.S., B.S., Cardinal Stritch University.</td>
<td></td>
</tr>
<tr>
<td>Sayers, Sharolyn C.</td>
<td>Office Technology, A.A., Blackhawk Technical College; B.A., M.B.A., Concordia University; Ph.D., Capella University.</td>
<td></td>
</tr>
<tr>
<td>Schneider, Andrew J.</td>
<td>Baking and Pastry Arts, Apprenticeship.</td>
<td></td>
</tr>
<tr>
<td>Slough, Neil L.</td>
<td>Business Administration, B.S., Regents College – Albany; M.S., Rochester Institute of Technology.</td>
<td></td>
</tr>
<tr>
<td>Smallley, Carmen M.</td>
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<td></td>
</tr>
<tr>
<td>Socha, Debra A.</td>
<td>Baking, Diploma, Moraine Park Technical College; B.S., University of Wisconsin – Stout; Certified Master Baker.</td>
<td></td>
</tr>
<tr>
<td>Stanislawski, Anthony J.</td>
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<td></td>
</tr>
<tr>
<td>Stepanovich, Charles G.</td>
<td>Baking, A.A.S., Milwaukee Area Technical College.</td>
<td></td>
</tr>
<tr>
<td>Stubenauch, Julie A.</td>
<td>Barbering and Cosmetology, A.A.S., Milwaukee Area Technical College; Licensed Barbering or Cosmetology Instructor; Licensed Barbering or Cosmetology Manager.</td>
<td></td>
</tr>
<tr>
<td>Toledo, Rebecca G.</td>
<td>Accounting, B.S., University of the Philippines; M.B.A., San Francisco State University.</td>
<td></td>
</tr>
<tr>
<td>Tuska, Shari M.</td>
<td>Barbering and Cosmetology, B.A., Alverno College; License Cosmetology; License Cosmetology Manager.</td>
<td></td>
</tr>
<tr>
<td>Wakley, Del P.</td>
<td>Marketing, B.A., University of Wisconsin – Madison; M.B.A., University of Wisconsin – Milwaukee; Ed.D., Nova Southeastern University; Ph.D., Nova Southeastern University.</td>
<td></td>
</tr>
<tr>
<td>Walenta, Paul K.</td>
<td>Marketing, B.B.A., University of Wisconsin – Whitewater; M.S., Silver Lake College of the Holy Family.</td>
<td></td>
</tr>
<tr>
<td>Walker, Kara K.</td>
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<td></td>
</tr>
<tr>
<td>Ward, Kanika</td>
<td>Barbering and Cosmetology, B.S., Tuskegee University; M.B.A., The University of Wisconsin – Milwaukee; Aesthetician; Aesthetics Instructor.</td>
<td></td>
</tr>
<tr>
<td>Zarate, Victor X.</td>
<td>Barbering and Cosmetology, Apprenticeship; Milwaukee Area Technical College; Licensed Cosmetology Instructor; Licensed Barbering Manager.</td>
<td></td>
</tr>
</tbody>
</table>

**School of Health Sciences Faculty**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Education/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dries, Kelly</td>
<td>Dean, School of Health Sciences, B.S., University of Wisconsin – Milwaukee; M.S., Ph.D., Cardinal Stritch University.</td>
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<tr>
<td>Andersen, Heathier</td>
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<td></td>
</tr>
<tr>
<td>Anderson-Dahl, Debra A.</td>
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<td></td>
</tr>
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<td>Armstead, Ethel L.</td>
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<tr>
<td>Name</td>
<td>Education and Experience</td>
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