

MATC



*Transforming
Lives,
Industry &
Community*

**YOUR GUIDE TO
MILWAUKEE AREA
TECHNICAL COLLEGE**

**2021-22
CATALOG**

MATC.EDU/APPLY | 414-297-MATC



The MATC Promise means free tuition for eligible students!

The MATC Promise for New High School Graduates

In the 2021-22 school year, MATC will welcome its sixth class of MATC Promise students. The MATC Promise helps make college an option for students who never thought it was possible. MATC Promise pays tuition for up to 75 credits — after other scholarships and grants are applied. The cost of books, program fees and equipment are not covered by the Promise program. Students can get connected to an in-demand career in as little as one to two years – or start a four-year degree.

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 or technical diploma. The cost of books, program fees and equipment are not covered by the program. The Promise also provides support to help students stay on track to graduate and connect to a career.

For details, visit matc.edu/promise.

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 CO203). 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.

Choose MATC for a Brighter Future

Since 1912, MATC has been preparing students for a wide range of careers and we're proud to continue helping students reach their personal and professional goals. Today, the college serves more than 30,000 students.

Many people are choosing MATC to get where they want to be in life. No matter what your individual goals, MATC can serve as the path to a brighter, more fulfilling future. We remain dedicated to transforming lives, industry and community.



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This catalog was prepared according to information current as of January 15, 2021. All information is subject to change.

Mission

Education that transforms lives,
industry and community

Vision

The best choice in education, where
everyone can succeed

Values

- Empowerment
- Inclusion
- Innovation
- Integrity
- Respect

Also see matc.edu and search **Values**.



MATC's Academic & Career Pathways, Your Road to Success

Pathways are designed to put you on the path to success: graduation and a career, transferring to a four-year university or both. You'll have a Pathway team that can help with issues outside the classroom too, like finding child care, food, housing and transportation. See pages 24-28 for details about each of these Pathways.

MATC can help you earn high school credentials, learn English and gain additional educational support through Community Education programs. See pages 311-313.

Business & Management

Academic & Career Pathway

Do you want to begin a career in accounting, business management or finance? Have you ever thought about becoming an entrepreneur, or working in real estate? Our Business & Management Pathway covers all these fields, and so much more, with comprehensive courses designed to take you to the next level.

Community & Human Services

Academic & Career Pathway

Does being an EMT or paralegal sound right for you? How about being a barber or a child care provider? If so, you'll want to check out our Community & Human Services Pathway, which prepares you to help others through a variety of careers focused on service.

Creative Arts, Design & Media

Academic & Career Pathway

This pathway prepares you to showcase your creative talents. Programs range from animation to TV/video production, baking to interior design, music occupations to photography.

General Education

Academic & Career Pathway

Many students choose this pathway as their route to a four-year degree. You can fulfill many of the general education requirements for a bachelor's degree. That way, you could start at your four-year school with junior standing, and dive into courses for your selected major.

Healthcare

Academic & Career Pathway

MATC offers cutting-edge programs so you can become a healthcare provider and strengthen the well-being of our community. We work with healthcare organizations to offer innovative clinical and cultural immersion experiences for our students. Come visit our state-of-the-art dental clinic, simulation labs and food science kitchen!

Manufacturing, Construction & Transportation

Academic & Career Pathway

If you are looking to further your education by obtaining an associate degree or technical diploma, or experience on-the-job training with an apprenticeship, explore this pathway to prepare for a career in manufacturing, construction or transportation industries.

STEM

(Science, Technology, Engineering & Math)

Academic & Career Pathway

If you are seeking an education and career that embraces your technical aptitude and challenges your analytical side, the STEM Pathway has a home for you! This pathway includes civil engineering, electronics technology, information technology, mechanical design technology and more.



Academic & Career Pathways
MILWAUKEE AREA *Technical College*

Contact Information and Locations

Campus Locations

Downtown Milwaukee Campus
700 West State Street
Milwaukee, WI 53233
414-297-MATC

Mequon Campus
5555 West Highland Road
Mequon, WI 53092
262-238-2200

Oak Creek Campus
6665 South Howell Avenue
Oak Creek, WI 53154
414-571-4500

West Allis Campus
1200 South 71st Street
West Allis, WI 53214
414-456-5500

Education Center

**MATC Education Center
at Walker's Square**
816 West National Avenue
Milwaukee, WI 53204
414-297-7923

Virtual Student Support Services

For hours and links,
see matc.edu/gethelp

Contact Us

Business & Management

Academic & Career Pathway
Downtown Milwaukee Campus,
Main Building, Room M386
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
414-456-5323
leadpathway@matc.edu

Community & Human Services

Academic & Career Pathway
Downtown Milwaukee Campus,
T Building, Room T200
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
414-570-4426
servepathway@matc.edu

Creative Arts, Design & Media

Academic & Career Pathway
Downtown Milwaukee Campus,
C Building, Room C204
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
414-297-6004
creativeartspathway@matc.edu

General Education

Academic & Career Pathway
Downtown Milwaukee Campus,
C Building, Room C204
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
414-297-6584
genedpathway@matc.edu

Healthcare

Academic & Career Pathway
Downtown Milwaukee Campus,
H Building, Room H116
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
262-238-2281
healthpathway@matc.edu

Manufacturing, Construction & Transportation

Academic & Career Pathway
Downtown Milwaukee Campus,
T Building, Room T200
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
**Education Center at Walker's
Square,** Room 205A
414-297-8901
mctpathway@matc.edu

STEM

Academic & Career Pathway
Downtown Milwaukee Campus,
Main Building, Room M386
Mequon Campus, Room A108
Oak Creek Campus, Room A121
West Allis Campus, Room 103
414-297-6319
stempathway@matc.edu



For a full listing
of key college telephone
numbers go to matc.edu
then click the **Menu** and
select **Contact Us**.

Find Us on Social Media



#ProudToBeMATC

Associate Degrees, Technical Diplomas and Certificates

Business & Management

Academic & Career Pathway

Accounting (10-101-1), **A**
Accounting Assistant (31-101-1), **T**
Accounting Bookkeeper Trainee, **C**
Administrative Professional (10-106-6), **A**
Banking and Financial Services (10-114-3), **A**
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**
Digital Marketing and Integrated Communications (31-104-9), **T**
Entrepreneurship (31-145-2), **T**
Entrepreneurship, **C**
Event Management (10-109-6), **A**
Financial Services (31-114-3), **T**
Financial Services Trainee, **C**
Foundations of Lodging and Hospitality Management (31-109-5), **T**
Hospitality Management (10-109-2), **A**
Human Resources (10-116-1), **A**
Marketing (10-104-3), **A**
Marketing – Online Accelerated (10-104-3), **A**
Medical Administrative Specialist (10-160-4), **A**
Medical Billing (31-160-5), **T**
Office Technology Assistant (31-106-1), **T**
Property Management, **C**
Real Estate (10-194-1), **A**
Real Estate Broker Associate (30-194-1), **T**
Real Estate Salesperson, **C**
Sales and Customer Experience (30-104-10), **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**

Community & Human Services

Academic & Career Pathway

Aesthetics (30-502-3), **T**
Barber (31-502-5), **T**
Child Care Services (31-307-1), **T**
Cosmetology (31-502-1), **T**

Criminal Justice Studies (10-504-5), **A**
Early Childhood Education (10-307-1), **A**
Emergency Medical Technician (30-531-3), **T**
Emergency Medical Technician – Advanced (30-531-6), **T**
Emergency Medical Technician – Paramedic (31-531-1), **T**
Environmental Health and Water Quality Technology (10-506-1), **A**
Fire Protection Technician (10-503-2), **A**
Funeral Service (10-528-1), **A**
Human Service Associate (10-520-3), **A**
Legal Studies/Paralegal (10-110-1), **A**
Post-Baccalaureate Legal Studies/Paralegal (30-110-2), **T**
Preschool, **C**
Water Technician, **C**

Creative Arts, Design & Media

Academic & Career Pathway

Animation (10-207-1), **A**
Audio Engineer (30-701-1), **T**
Audio Production (10-701-4), **A**
Baking and Pastry Arts (10-314-1), **A**
Baking Production (31-314-2), **T**
Computer Simulation and Gaming (10-153-1), **A**
Culinary Arts (10-316-1), **A**
Culinary Assistant (31-316-1), **T**
Digital Imaging (30-203-1), **T**
eProduction (10-701-3), **A**
Food Service Assistant (30-316-1), **T**
Front-End Web Developer (31-206-1), **T**
Graphic Design (10-201-1), **A**
Interior Design (10-304-1), **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**

General Education

Academic & Career Pathway

Associate of Arts (20-800-1), **A**
Associate of Arts:
Online Accelerated (20-800-1), **A**
Associate of Arts – Community Engagement:
Pre-Major (20-800-1), **A**
Associate of Arts – Global Studies:
Pre-Major (20-800-1), **A**
Associate of Arts – Teacher Education:
Pre-Major (20-800-1), **A**
Associate of Science (20-800-2), **A**
Associate of Science – Chemical Technology:
Pre-Major (20-800-2), **A**
Associate of Science – Economics:
Pre-Major (20-800-2), **A**
Associate of Science – Psychology:
Pre-Major (20-800-2), **A**
Individualized Technical Studies, **A**

Healthcare

Academic & Career Pathway

Anesthesia Technology (10-541-1), **A**
Cardiovascular Technology – Echocardiography (10-521-2), **A**
Cardiovascular Technology – Invasive (10-521-1), **A**
Central Service Technician (30-534-1), **T**
Dental Assistant (30-508-2), **T**
Dental Hygiene (10-508-1), **A**
Dietary Manager, **C**
EKG Technician, **C**
Health Information Technology (10-530-1), **A**
Health Unit Coordinator (30-510-2), **T**
Healthcare Customer Service, **C**
Healthcare Services Management (10-530-3), **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**
Nutrition and Dietetic Technician (10-313-1), **A**
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**

New Programs Under Development

MATC works with local industry and business partners to develop new programs that meet workforce needs. See pages 29 & 107 for names of programs coming soon. For the most current list of MATC's academic programs, see matc.edu.

Offered at Milwaukee Area Technical College, 2021-22

Manufacturing, Construction & Transportation

Academic & Career Pathway

Air Conditioning and Refrigeration Technology (10-601-1), **A**
Appliance Technician (31-445-1), **T**
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**
Boiler Operator, **C**
Bricklaying (30-408-2), **T**
Carpentry (31-410-1), **T**
Computer Numerical Control (CNC) Technician (32-444-1), **T**
Dental Technician (30-507-1), **T**
Diesel and Powertrain Servicing (31-412-3), **T**
Electrical Power Distribution/Line Mechanic (31-413-2), **T**
Electricity (31-413-1), **T**
Landscape Horticulture (10-001-4), **A**
Landscape Horticulture Technician (31-001-5), **T**
Machine Tool Operations (31-420-1), **T**
Manufacturing Maintenance (32-462-1), **T**
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**
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**

STEM

(Science, Technology, Engineering & Math)

Academic & Career Pathway

Architectural Technology (10-614-1), **A**
Biomedical Electronics Technology (10-605-6), **A**
Chemical Processing Technician (31-603-1), **T**
Chemical Technician (10-603-1), **A**
Civil Engineering Technology (10-607-1), **A**
Computer Electronics Technology (10-605-3), **A**
Electronic Engineering Technology (10-605-7), **A**
Electronic Technology – Automation (10-605-1), **A**
Electronics Technician Fundamentals (30-605-1), **T**
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**
IT Mobile Applications Developer (10-152-8), **A**
IT Network Specialist (10-150-2), **A**
IT Network Specialist – Online Accelerated Cohort (10-150-2), **A**
IT Networking and Infrastructure Administration (31-150-2), **T**
IT User Support Technician (30-154-6), **T**
IT Web and Software Developer (10-152-7), **A**
Level 2 – Service Center Technician, **C**
Mechanical and Computer Drafting (31-421-2), **T**
Mechanical Design Technology (10-606-1), **A**
Microsoft Enterprise Desktop Support Specialist, **C**
Quality Engineering Technology, (10-623-9), **A**
Service Center Technician, **C**
Surveying and Mapping (30-607-1), **T**



These academic programs are grouped in this catalog by:

A - Associate degree programs, pages 29-106

T - Technical diploma programs, pages 107-183

C - Certificate programs, pages 184-202

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

Your Journey With MATC Begins Here

Let's Get Started

Apply online at matc.edu or visit us in person at any campus!

If you visit, you'll find computer stations for completing applications for admission and financial aid, and for completing registration. Our team will be ready to help.



Applying to MATC

Some Requirements Before You Apply:

- You must have a high school diploma or GED equivalency certificate to enter an MATC associate degree or technical diploma program – only a few exceptions apply.
- For students who want to finish high school, MATC offers Adult High School, GED and HSED opportunities (see pages 311-313).
- Some courses require specific high school experience. If you don't have those course requirements, you can fulfill them through our Adult High School, or our General Education Career & Academic Pathway.

We're Here to Help You Succeed

MATC can help you reach your goals, with bilingual services and programs, tutoring, academic advising, career counseling and employment services. You can find more information about these services in this catalog. You also can visit matc.edu, choose **Student Life and Resources** from the menu and select **Student Support**.

Join Us for 2021-22!

Start dates:

Summer session starts **week of June 13, 2021**

Fall semester starts **week of August 22, 2021**

Spring semester starts **week of January 16, 2022**

Flexible start dates include 12-week and eight-week sessions. See matc.edu and search **Academic Calendar**.

If You Need Financial Aid:

Apply for federal financial aid as early as possible. Complete the online form at studentaid.gov or download the myStudentAid app. The MATC federal school code is 003866. Visit matc.edu and search **Financial Aid** for specific due dates and more information.

Just Want to Take a Course?

If you want to take courses but don't want to earn an associate degree or technical diploma, you don't need to complete the full admissions process, but will not be eligible for financial aid. You will still need to complete a Non-Program Student application and register for the classes you want to take. Go to matc.edu, click on **Future Student** and then **Take a Class**.

Readmission for Returning Students

Coming back to MATC? Great! If you have taken a break from your program (over two semesters, not including summer), then you'll need to apply for readmission. You can complete a program readmission application online at matc.edu, search **Returning Students**. You will need to follow the program requirements in effect at the time of your readmission. Please note that if the program you are reapplying to has a waiting list, you may have to join that list.

International Students

MATC welcomes international students! Those who plan to apply for a student visa should visit matc.edu and search **International Students**. You also may call **414-297-6282** or write to:

Milwaukee Area Technical College
International Student Admissions Office
700 West State Street
Milwaukee, WI 53233

Waiting Lists

Waiting lists are used when we have more applicants than we have spots available in a program. When you complete your application to a program that's already full, you'll be placed on the list in the order that you finished applying.

While waiting to take core courses, you can still enroll in your program's specified general studies courses, such as English, math and electives.

Healthcare Pathway – The Petition Process

The Healthcare Academic & Career Pathway uses a petition process for entry into some programs, which requires you to complete the petition application during the petition window dates.

Find instructions on how to complete the petition process by visiting matc.edu and searching **Petitioning**.

Let's Get
Started!

How to Apply To Apply to a Program, Follow These Steps

1

Apply for Admission

Fill out your application at matc.edu/apply or visit any MATC campus

Pay the \$30 application fee
(Fee waived for Summer 2021, Fall 2021 and Spring 2022)

2

Submit Official Transcripts

Depending on your experience, you will submit one or more from the following list:

- 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)

3

Submit Other Required Items

Some programs have additional admission requirements such as criminal background check or licensure. Check program requirements for details.

4

Watch for Your Acceptance Letter

Congratulations! You've been accepted. Keep going.

Criminal Background Check

A criminal background check (CBC) is required for some programs and courses. Agencies who serve as clinical or field placement sites reserve the right to deny a student's placement based upon criminal background check results. For CBC requirements, check information on a program's webpage at matc.edu and course information at selfservice.matc.edu.



5

Log In to Self-Service

- Visit selfservice.matc.edu and click on **Forgot your user name?**
- Your user name will be sent to the email account you used to apply.
- After you receive your user name, return to Self-Service and enter your user name.
- At the next form, enter your MATC email address.
- Your default password begins with Fa21\$ and ends with the month and day of your birthdate. For example, if birthdate is August 3, the default password is: Fa21\$0803
- Select Student Planning to search classes and register.
- Select Student Finance for payment options.

6

Participate in STORM

STORM is your virtual orientation experience that supports onboarding, class registration and getting to know MATC. You will get an invitation from your Admissions Navigator. RSVP to participate and meet your Pathway Advisor!

7

Register for Classes and Payment Options

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

8

Attend New Student Welcome Session

Credit for Prior Learning and Experience (CPLÉ)

Get credit for what you already know

Before you pick your courses and start at MATC, think about what previous courses and experiences could earn you college credit. It's possible you've already gained college-level learning on your own. CPLÉ is a way to earn credit for specific MATC courses based on skills learned as part of courses completed from another college, work experience, professional licenses, certificates, apprenticeships, military training or through training programs. To graduate, all students must complete 25% of their coursework at MATC. Visit matc.edu and search **CPLÉ** for more information.



MATC
STUDENTS: SAVE TIME ONLINE WITH
SELF-SERVICE

Get Information 24/7 With Self-Service

Once you enroll, you will have an easy way to help you stay connected and access key college services.

At selfservice.matc.edu, you can:

- Register for classes
- Pay tuition and fees and enroll in a payment plan
- Get immediate, 24/7 information about your financial aid without waiting on hold or in a line
- View your class schedule and cumulative GPA
- Review and print your unofficial transcript
- View your semester grades

TRY IT OUT — LOGIN AT
[SELF-SERVICE.MATC.EDU](http://selfservice.matc.edu)
WITH YOUR MATC EMAIL
AND PASSWORD.



Registration

Registration Is How You Sign Up for Classes

- Students register online at selfservice.matc.edu.
- Remember to make sure you have met the course prerequisites.

Service Members Priority Registration

We honor the fact that state law gives veterans and members of the armed forces priority in registering for courses at Wisconsin technical colleges and the University of Wisconsin System. Service members' priority registration information is available at matc.edu by searching **MESO**.

Priority Registration

If you're already enrolled in an associate degree or technical diploma program, you get to register earlier. You'll have the opportunity to register 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.



Make It A
PRIORITY
See Your **PATHWAY**
ADVISOR

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.

Payment Options

Select a payment option to avoid being dropped from all classes. Payment options include awarded financial aid, sponsorship received by MATC, enrolled in the MATC Payment Plan or paid in full. Visit selfservice.matc.edu to enroll in a payment plan. You can pay online at selfservice.matc.edu or in person.

Fees for most courses are set by the Wisconsin Technical College System Board and are updated each academic year.

Explore MATC's Programs

Associate Degrees

Associate of Arts (A.A.), Associate of Science (A.S.) and Associate in Applied Science (A.A.S.) degree programs usually take at least two years to complete for a full-time student. Many students choose the A.A. and A.S. options to fill requirements for a four-year degree transfer. Check with the four-year institution you plan to attend, and ensure your courses will count toward your degree.

Technical Diplomas

Are you looking to prepare for a specific job or upgrade your job skills? MATC offers specialized technical diploma programs. Timeframes range from one-semester, one-year and two-year programs that provide extensive career training. Technical diploma courses usually involve more time in hands-on activities, more class time and less homework.

Certificates

MATC's certificate programs are targeted, short-term (generally one-semester) programs that provide coursework to update job skills and prepare students for new career opportunities.

Apply Your MATC Credits to Related Programs

MATC has designed many of its programs to offer students a quicker path to completing advanced credentials by applying their credits earned previously in a related MATC certificate or technical diploma. Related programs are shown at the top of a program's catalog page. Talk with a Pathway Advisor for details.

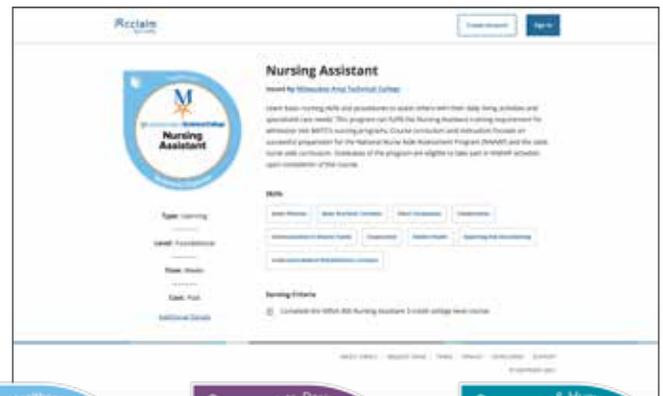
Digital Badges

Digital badges, or microcredentials, are a visual way to represent a person's abilities and competencies attained through coursework, combined with a verifiable description of the activities and knowledge it took to earn the badge.

It's easy to display the badges you earn on your virtual resumé, social media channels and professional networks.



Digital badges that you can earn as you pursue a certificate, technical diploma or associate degree are shown on the program's webpage at matc.edu. The college continues to develop its offering of digital badges. For the most current listing, visit matc.edu and search **Badges**.



Transfer Opportunities

Start Your Bachelor's Degree With MATC

MATC Can Be Your Path to a Four-Year Degree

We have agreements with more than 40 four-year colleges and universities, making transferring to complete your bachelor's degree a convenient and affordable option.

Talk to your advisor and find out which courses and MATC programs will transfer to the college or university you plan to attend. It's also a good idea to keep in touch with the admissions department of that four-year school, so you can make sure you're taking the right MATC courses for your transfer.

Types of Transfers and Transfer Agreements

Liberal Arts and Sciences Transfer

Earn 60 or more bachelor's degree transfer credits through programs in MATC's General Education Academic & Career Pathway. You can transfer credits earned in MATC's 200-level courses to most four-year colleges and universities in Wisconsin, and to others across the nation. MATC's Associate of Arts (A.A.) and Associate of 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.



Plan Ahead: Make Your Transfer Seamless

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** (search **Four-Year Transfer**). Transfer agreements set the credits that will transfer to a four-year institution. If no agreement is in place, you should talk with the institution you are planning to attend and discuss what they are willing to accept.

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 and universities.

All-Inclusive Transfer Agreements

MATC students may transfer many or all of their credits from MATC and apply them toward a four-year degree at the accepting school.

Transfer Agreements by Institution

To explore four-year colleges and universities that have transfer agreements with MATC, go to **matc.edu** and search **Transfer Agreements**.

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** and see the **Calendar** for dates and times.

For complete University of Wisconsin System transfer information, visit **wisconsin.edu/transfer**.

Flexible Learning Options at MATC

We'll Work With Your Schedule

To fit work and family schedules:

- The college has eight-week, 12-week and 16-week courses.
- Evening classes are held at all four campuses and other sites throughout the district.
- Weekend classes are held on Friday evenings and Saturdays.
- We offer more than 400 online classes.
- Some associate degree, technical diploma and certificate programs are offered entirely online. Visit matc.edu and search **Online Learning** for more information.
- Accelerated degree programs are available and designed especially for working adults.

Auditing Courses

Interested in learning something new, without the pressure of exams and grades? Auditing courses lets you do just that. Audited courses aren't for credit, and aren't eligible for financial aid or veterans benefits. Not every course can be audited. For auditing information, contact register@matc.edu or call 414-297-7900.

NOTE: If you are a Wisconsin resident 60 years or older, you may audit classes in our 100-, 200-, 300-level courses for free on a space-available basis; you will be able to register on the first day of the class. (You cannot change to audit status if you register before the start of the class.) As an audit, all tuition will be waived; however, material and other course fees will be charged; these fees will appear under the heading "tuition."

Continuing Education Courses (CEC)

MATC offers CEC and personal enrichment course opportunities. Students can visit selfservice.matc.edu for course listings.

Continuing education courses are also available to businesses through MATC's Workforce Solutions, either on campus, online or at the workplace. Visit matc.edu and search **Workforce Solutions**.



Apprenticeships

Earn a wage while you learn a trade

Apprenticeships are formal training agreements for hands-on learning. Employers teach skills of the trade on the job, and classroom instruction reinforces this knowledge. To become an apprentice you need to be registered with the Bureau of Apprenticeship Standards and have an employer sponsor your attendance in classes for one day per week. For more information, visit matc.edu and search **Apprenticeships**.

Internships

Hands-on experience in your field

Internships allow students to apply what they've learned while gaining real experience, by combining in-class work with a career-related job. You'll earn college credits, acquire work experience and enhance personal growth. Internships are mandatory in some MATC programs and optional in others; refer to the program's curriculum. Visit matc.edu and search **Internships** for more information.

Study Abroad Opportunities

Would you like to study in a different part of the world? MATC offers a number of study abroad opportunities for students interested in learning firsthand about cultures around the world. Some scholarships are available to help fund MATC-sponsored study abroad opportunities, and you can earn credit for your program. Visit matc.edu and search **International Study** for more information.

Workforce Solutions

MATC Workforce Solutions offers businesses professional training and development including custom and on-site options. We provide training that is responsive for today's fast-paced, ever-changing business environment and produce outcomes that can be applied on the job immediately. Led by experienced professional educators, each cost-effective program is custom-designed and scalable to fit individual business needs.

Our services include:

- Organization-wide training and development programs at your location, our campus or delivered in an online virtual format
- 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, visit matc.edu and search **Workforce Solutions**.

Opportunities to Complete High School Credentials

MATC offers several programs for adults, and teens in some cases, who need to finish high school requirements.

Adult High School

MATC's Adult High School can help you finish high school graduation requirements. High school students 16 or 17 years of age also can enroll in evening, online, weekend or summer session Adult High School classes for credit recovery.

General Educational Development (GED)

The GED test, offered at all MATC campuses, is an option for those who haven't finished high school. Most employers require at least a GED, and it's one way to meet entrance requirements at MATC and other colleges. We offer GED prep courses, too.

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.

Program for Emerging Scholars

Through this program, students age 16 years or older who meet certain requirements may take classes leading to a high school diploma at MATC.

For more information on the programs listed above, see the Community Education section on pages 311-313.

More Opportunities for High School Students

If you're a high school student, you can begin your college education by taking dual credit now! Examples include:

- Dual Enrollment Academy
- Start College Now
- Transcribed Credit
- Contracted Courses

For information about these opportunities, visit matc.edu and search **High School Opportunities**.

Apply for Financial Aid

Before You Begin:

In order to receive financial aid, you must be admitted to an MATC associate degree or technical diploma program before the admission application deadline.

1

STEP ONE: Gather all required FAFSA®

information. Collect your signed 2019 Federal Tax Return, W-2s and untaxed income received. If you're a dependent, you'll need your parents' Federal Tax Returns as well.

2

STEP TWO: Complete your FAFSA

information. Go to studentaid.gov or download the myStudentAid app for iOS and Android. The MATC federal school code is 003866.

3

STEP THREE: Sign the FAFSA. You (and a parent if you're a dependent) will agree to the

FAFSA certification statement and sign the application. You can sign electronically using your FAFSA user ID (both you and your parent will need your own individual FAFSA user IDs).

4

STEP FOUR: View your Student Aid Report.

You'll receive a Student Aid Report (SAR), sent via email if you listed an email address, or available on selfservice.matc.edu. Review the information to make sure it's correct. Contact the MATC Financial Aid office for assistance with any inaccuracies.

MATC Financial Aid Office

Contact Information

Visit the Financial Aid office, Downtown Milwaukee Campus, Student Center/S Building, or the Admissions Center at the Mequon, Oak Creek or West Allis campuses. Call **414-297-6282** or email finaid@matc.edu.



Apply for Scholarships

You may be eligible for scholarships from the MATC Foundation! Don't miss these great opportunities.

- The 2021 scholarship application period for **new high school graduates and first-time MATC students** is July 5-30, 2021
- The scholarship application period for **current and continuing MATC students** begins in February and ends in late March; scholarship recipients are selected and notified via email in May
- Most scholarships are awarded as multi-semester (Fall and Spring) scholarships for the next academic year
- **Apply online at: matc.academicworks.com**

For help, email scholarships@matc.edu.



The MATC Promise Means Free Tuition for Eligible Students

The MATC Promise for New High School Graduates

MATC established Wisconsin's first free-tuition Promise program in 2015. The MATC Promise for New High School Graduates pays the tuition for up to 75 credits for eligible students, after federal and state financial grant aid has been applied. The cost of books, program fees and equipment are not covered.

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 program.

Find out more about both MATC Promise programs at matc.edu/promise.



Whether you are looking to explore new career options, have a résumé reviewed, or have your prior experience evaluated, MATC's Student Employment, Career and Transfer team is here to help! Our services include:

- Student employment/Work Study
- Internships/InternConnect
- JobUp Milwaukee
- Career coaching/planning
- CareerHub events
- Find a job/career readiness
- Career services for diverse populations
- Transfer out – explore our four-year transfer partners
- Transfer in and Credit for Prior Learning and Experience
- Employer resources

The Student Career, Employment and Transfer Center is located at the Downtown Milwaukee Campus in Room S101, and services are available at all regional campuses by appointment. For more information, see matc.edu/careerhub, email careerhub@matc.edu or call 414-297-6244.

MATC Is Proud to Partner With Handshake, a Robust Online Career Platform

Handshake is a great resource for students and alumni to connect with internships and job opportunities. Learn more at joinhandshake.com.

Find Employment Information With the Graduate Career Report

MATC's Graduate Career Report is an important resource for prospective and current students regarding career and education planning.

Visit matc.edu and search **Career Report**.

Supported Courses

MATC believes you can succeed in college – regardless of your ACT, high school grade-point average or your passing GED score. We will help provide the right academic support. When you start at MATC, you'll be registered in college-level courses with extra supports if you need them. The college will review your previous academic records to see if you may need help such as extra hours of instruction, tutoring, homework help or lab work.

Student Accommodation Services

Student Accommodation Services (SAS) ensures that students with disabilities have equal opportunities and access to all courses, programs and activities offered at MATC. Prospective students with disabilities should contact Transition Services at the Downtown Milwaukee Campus, **414-297-7839** or visit **matc.edu** and search **SAS** for more information.

Veterans Services (Military Education Support Office – MESO)

We proudly recognize recipients of the GI Bill

If you plan to take advantage of federal or state military educational benefits, paperwork should be submitted prior to the start of each semester. We handle all certifying and processing of educational benefits at the Downtown Milwaukee Campus. For efficiency, please contact the proper office – all military service, veterans and dependents educational benefits are processed in the MESO Office only. Keep in mind you may be eligible for other types of financial aid in addition to VA benefits. Also remember MATC offers eligible student veterans and current military service members priority registration for each term in keeping with state law. Contact the MESO School Certifying Official (SCO) at **414-297-8363**, or email **meso@matc.edu**.

Office of Bilingual Education

This office aids bilingual students seeking guidance in completing their college education. For more information about these services call **414-297-8882**. Also see page 313.

Academic Advising

After you're admitted, an MATC Academic Pathway Advisor is one of your first contacts to help you start your journey to your diploma or degree. An Academic Pathway Advisor will help you determine what classes you should take first and explain more about your program of study.

Academic Support Centers and Tutoring Services

Academic Support Centers (ASC) are open to all MATC students, and include assistance in computer applications, course assignments, online use, math, science, social sciences, study skills, writing and tutoring services. For more information, visit **matc.edu** and search **MATC ASC**.

- **Communications Center** staff provide assistance in online work and in business courses related to communications
- **Computer Production Center** staff offer assistance in using a computer for course assignments
- **Math Center** staff provide assistance in all math levels
- **Science Center** staff offer assistance in science and Healthcare Pathway courses, use of computerized instructional resources and internet use
- **Writing Center** staff offer assistance in course-related written assignments and projects, résumé writing and research papers. Online writing help is available – visit **matc.edu** and search **MATC Online Tutoring**.

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.

MATC Libraries

The libraries provide an array of resources and services, including great spaces to study. Services are available at all four campus libraries, and available virtually via the Ask a Librarian service at **answers.matc.edu**. The Ask a Librarian service is also available by texting 414-937-5379.

Student Experience

MATC Student Experience Statement

Students at MATC experience an engaging and empowering education characterized by:

- a welcoming learning environment that fosters personal growth and prepares students for the future;
- a warm and supportive community for every person, regardless of religious belief, sexual orientation, gender identity, ability, or racial or ethnic background;
- supportive, personalized services designed to help students succeed;
- innovative technology that inspires students' creativity;
- real-world experiences that foster students' grit and their desire to stay in school;
- meaningful friendships with other students and strong connections with caring, compassionate and encouraging faculty and staff; and
- a fun, culturally sensitive, and inclusive campus community that promotes a sense of belonging and school pride.

Child Care Services

Your kids are in good hands at MATC

Children's Centers

We understand that affordable, reliable child care can be a challenge for students. That's why we offer reliable, quality child care to support your success. Available at each campus, MATC Children's Centers offer a variety of learning experiences that encourage emotional, social, intellectual and physical development. All locations are nationally accredited and hold a five-star quality rating from the state of Wisconsin. Flexible scheduling is available, but children must be registered prior to attending children's centers. 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**

Mental Health Counseling Services

We know the importance of maintaining good mental health and are here to help. Each MATC campus offers crisis intervention, referrals and brief, supportive listening. All services are free, confidential and tailored to fit student needs. Email counseling@matc.edu.

The counselors are available at each campus 7:45 a.m.-6 p.m. Mondays through Thursdays, 7:45 a.m.-4 p.m. Fridays.

For more information and resources, go to matc.edu and search **Mental Health**.

Office of Multicultural Student Services Community, Support, Advocacy, Advising

Working to leverage cultural strengths to help overcome the challenges faced by students of diverse backgrounds, the Office of Multicultural Student Services provides support services, case management, advocacy and intervention, and academic advising. It's made up of four main offices:

- African American Student Services
- American Indian Student Services
- Asian American Student Services
- Latino Student Services

Advisors serve as advocates for current and prospective students of color from diverse backgrounds. Advisors work to keep students enrolled through their proactive measures to help.

Multicultural Student Services is located at the Downtown Milwaukee Campus. For more information, call **414-297-6968** or visit matc.edu and search **Multicultural Student Services**.

Veterans Resource Center

We recognize that military-affiliated students have unique needs on a college campus, and staff members in the Veterans Resource Center ease the transition from the military to college. The Veterans Resource Center on the Downtown Milwaukee Campus is where military-affiliated students can get information about veteran resources, use computers, do homework or socialize. Veterans, those currently serving in the military, and dependents and spouses receiving benefits can contact Veterans Specialist Wesley Walker, walkerw9@matc.edu, **414-297-6835**.

Find Out Why We're #ProudToBeMATC!

Get engaged with MATC Engage – matc.campuslabs.com/engage

The Office of Student Life is dedicated to serving all areas beyond the classroom! This includes:

- Educational, recreational and cultural programming
- Honor recognition
- Problem-solving
- Student housing information
- Student organizations
- Student advocacy and student development

If you have college-related concerns or problems, you are encouraged to seek help from the **Office of Student Life**:

- Downtown Milwaukee Campus, 414-297-6229
- Mequon Campus, 262-238-2218
- Oak Creek Campus, 414-571-4715
- West Allis Campus, 414-456-5304

Visit matc.edu and search **Student Life**.

MATC's convenient student services include the Campus Meal Plan for on-campus dining and the Bookstore for ordering books and supplies. Details can be found at matc.edu and search **Meal Plan** or **Bookstore**.

Stormer Pass: Your Student ID

The MATC Stormer Pass is the official identification card for students at MATC. It provides an easy, safe and convenient method to make purchases and use services on campus. While off campus, use your Stormer Pass as your U.S. Bank card when you open a U.S. Bank checking account. Contact the **Office of Student Life** at **414-297-6229**, email stormerpass@matc.edu, visit matc.edu or contact U.S. Bank at 414-226-0105.

Student Activities

To see what's happening on campus, visit matc.campuslabs.com and log in with your **MATC email and password**.

There are tons of opportunities for students to participate in fun and fulfilling extracurriculars. Here are a few of the amazing opportunities at MATC.

Student Athletic Teams – The Stormers

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

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



Students on all of our sports teams learn and practice skills that serve them throughout their lives. MATC sports teams are members of the National Junior College Athletic Association and the North Central Community College Conference. For information about athletic opportunities and the schedule of games and matches, visit matcstormers.com.

Student Organizations

With more than 35 student organizations and clubs to choose from, you're sure to find a group that's right for you at MATC. Featuring academic, professional, service, cultural and special-interest organizations, MATC values providing enriching and exciting opportunities for students. 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 of organizations, see matc.campuslabs.com/engage.

Student Government

Do you want to make an impact as a student leader? Participating in Student Government is a great opportunity, and contributes to MATC while developing your skills in communication, organization and leadership. Through Student Government, all MATC students are represented by elected student representatives. Officially recognized as the voice of the student body by the administration of MATC, Student Government makes recommendations to the director of Student Life regarding student- or college-related issues. To become involved, call the Student Life office at your campus.



Student Newspaper

Interested in photography, art and design, advertising or writing? Check out the college's student newspaper, *MATC Times*. Email matctimes@gmail.com.

Student Development Events

These programs and events present information you can apply to life on campus, as well as your overall personal development. For a schedule of events, see matc.campuslabs.com/engage.

Student Enrichment and 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 a schedule, see matc.campuslabs.com/engage.

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. Visit matc.edu and search **Honor Societies**.

Dreamkeepers Student Resource Center

The MATC Dreamkeepers Student Resource Center connects students to campus and community resources to help them overcome barriers that interfere with their academic success. It is home to the Dreamkeepers emergency financial assistance grant, which provides assistance to students at risk of dropping out due to unexpected financial emergencies. Students can apply for the grant at matc.dreamkeepers.org (eligibility required).

The Dreamkeepers Student Resource Center is located at the Downtown Milwaukee Campus in the S Building, Room S215. For information on hours and services, call **414-297-6199** or email dreamkeepers@matc.edu. At matc.edu, search **Resource Center**.

Process to Share Complaints and Compliments

The college's formal process for students, alumni, community members, parents and staff to share a complaint or compliment is as follows:

Step One: Complete the online form (available in English and in Spanish). Go to matc.edu and search **Compliments/Complaints**.

(Complaints must be filed within 30 days of occurrence.)

Step Two: You will receive an automated response that the complaint or compliment has been received and is under review.

Step Three: Upon conclusion, and after investigating the nature of the complaint/compliment, the appropriate MATC staff will respond in writing within 10 college business days. The response will include:

- A written description of the complaint/compliment, including all pertinent details
- A statement regarding action taken

Office of the Ombudsperson

This office offers an alternate channel for students to informally raise and address college-related concerns, issues or conflicts in a confidential, independent, safe and nonbiased space.

The ombudsperson (or ombuds) serves as a resource for students by offering off-the-record conversations for those seeking advice and guidance on options and resolution strategies regarding their situations. The ombuds will not make decisions for students, but rather will equip, coach and empower students to make their own decisions and/or advocate on their own behalf. Communication with this office does not put MATC on notice.

Find more information at matc.edu and search **ombuds**. The office can be contacted via the inquiry form on the webpage, by calling **414-297-6294** or by emailing ombuds@matc.edu (please be aware that email is not a secure or confidential method of communication).

The ombuds office is not part of any formal process at the college and does not replace or circumvent any existing channels at the college, such as filing a formal complaint. The ombuds' intent is to supplement these channels by offering another viable option for problem-solving. The ombuds is impartial and does not advocate for or represent any individual, group or the college, but advocates for fairness, respect and equality.

Academic Standards at MATC

The **MATC Standards of Academic Success** are the requirements for students to maintain satisfactory academic progress. This lets students know when they may need additional help, and when they are at risk.

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:

- Minimum 2.0 semester grade-point average (GPA) based on coursework completed at MATC during the semester
- Minimum 2.0 cumulative GPA based on all coursework completed at MATC
- Minimum 67% semester course completion rate (percentage of credits completed out of credits attempted at MATC for the semester being evaluated)
- Minimum 67% 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. See the Student Handbook for more information.

Graduation Requirements at MATC

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% of credits be taken at MATC.

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

Graduation application deadlines:

For Fall – **October 31**

For Spring – **March 31**

Satisfactory Academic Progress (SAP) – For Financial Aid

Keeping up with school, so you don't risk losing your financial aid

Students receiving financial aid must make Satisfactory Academic Progress 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. To be considered in good standing at MATC, a student must meet all of the following requirements:

Grade-Point Average (GPA) Requirement:

- Students 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**. That means you have to pass two-thirds of your classes. This is a cumulative percentage. Credits attempted are 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.

Visit matc.edu and search **Academic Standards** for more details.

Eligibility for Loans and State Grants

Before the federal financial aid census date, you need to be enrolled in at least six credit hours to be eligible for a loan and for state grants. In order for your loan to be processed, you must complete the online loan counseling and sign an online master promissory note at studentaid.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. This could cover the cost of books, fees, required uniforms or tools until your funds are available. You'll need approval from the Financial Aid office, and will sign a promissory note agreeing to pay these costs by a set date. A processed federal Student Aid Report is necessary for this option.

Prerequisites

Prerequisites are previous courses you need to have taken for success in a class. You'll need to complete the required prerequisites for a class before enrolling. Prerequisite courses are listed with the course description on selfservice.matc.edu.

Contact your 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.

Student Handbook and Student Code of Conduct

The Office of Student Life 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
- Conduct that obstructs or impairs, or attempts to obstruct or impair, MATC's authorized activities, whether inside or outside a classroom, office, lecture hall, library, laboratory, auditorium, student center, or other place where an MATC-authorized activity is being held
- Conduct that endangers the safety or welfare of students, instructors, administrators, staff or visitors
- Unauthorized possession of college property or property of another member of the college community
- Making a false statement, either verbally or in writing, to any MATC employee or agent on an MATC related matter
- Conduct that engages in racial, religious, national origin, age, sexual or handicap harassment
- Acts of academic dishonesty

Academic dishonesty includes cheating, collaborating with another without the approval of the instructor, plagiarizing, stealing the work of another, falsifying records of work and assisting another student in any of the above.

Students judged to have violated the Student Code of Conduct are subject to disciplinary action, in accordance with due process procedures described in the Student Code of Conduct booklet provided by the Office of Judicial Affairs. The Student Code of Conduct is the definitive document on student conduct and the judicial system. See matc.edu or call **414-297-8177**.

MATC Student Records Information

Family Educational Rights and Privacy Act (FERPA)

MATC complies with FERPA, which exists to:

- Let students know what educational records are kept by the college
- Give them the right to inspect those records and ask for corrections if necessary
- 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 request otherwise. MATC considers directory information to be only the following: name; major field of study; dates of attendance; full-time/part-time status; degrees, technical diplomas or certificates awarded; and participation in officially recognized activities and sports. MATC will not provide information regarding time and location of a student's classes, and does not provide student or instructor home addresses and/or telephone numbers.

Personally identifiable information in your education record will not be released or disclosed unless you consent to it. However, one exception is disclosure to school officials with legitimate educational interests. This typically means an official needs to review an education record 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 related to educational records or the release of your records, please call **414-297-6824**.

Pathways to Your Career Goals Begin at MATC



I am delighted that you are considering attending Milwaukee Area Technical College. Whether you are in high school, want to return to college to finish a degree or want to attain new skills, we are committed to your success.

MATC's Academic & Career Pathway teams will provide help with academic needs as well as assistance with child care, housing, transportation and other needs outside the classroom. There are many additional reasons students choose MATC:

- Courses taught by **expert instructors** with real-world industry experience
- **Small class sizes** and comprehensive student services
- **Active campus life**, including student groups, athletics and housing opportunities
- Highest quality **child care**, available on four campuses
- Employment services (CareerHub) to find **internships and jobs**
- **Transferability** of courses to over 40 four-year universities
- New Center for University Partnerships & Studies for **access to four-year degrees** on campus

Affordable, High Quality and Close to Home

With MATC's high-quality education, 94% of graduates find employment within six months of graduation.

Our Financial Aid office can help you determine the best way to pay for your education and we offer many scholarships, including the MATC Promise for eligible students. 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.

MATC's Downtown Milwaukee Campus sits next to the Fiserv Forum and Deer District, and we have campuses conveniently located in Mequon, Oak Creek, West Allis, and the Education Center at Walker's Square on Milwaukee's near south side. MATC also has offered online classes for more than 20 years and we continue to strengthen these options.

Equity and Inclusion

MATC is breaking down barriers that stand between students and their academic and career success by providing a safe place where differences are valued and celebrated – and all feel a sense of belonging. We promote awareness, training, and crucial conversations to move beyond our individual biases, whether unconscious or implicit, to create an inclusive environment that welcomes, accepts, and respects all students and employees while serving the unique needs of each individual. This resonates through the attitudes and behaviors of all those who work and learn at the college.

Thank you for considering MATC as your partner for success. We hope to see you at the college!

Vicki J. Martin, Ph.D.
MATC President

MATC Is Committed to the Success of All Students

Through our work with the American Association of Community Colleges' Pathways model, the national Achieving the Dream network and the new Moon Shot for Equity, the college is using proven tools to help all students succeed.

Accreditation Information

MATC is accredited by the **Higher Learning Commission**, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1411 800-621-7440; info@hlcommission.org

Specific MATC academic programs are accredited, approved and/or certified by the following organizations and agencies.

Aesthetician

State of Wisconsin Department of Safety and Professional Services

4822 Madison Yards Way
Madison, WI 53705
608-266-2112
dps.wi.gov/Pages/Professions/Aesthetician/Default.aspx

Anesthesia Technology

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

9355 - 113th Street N, #7709
Seminole, FL 33775
727-210-2350
caahep.org/Students/Program-Info/Anesthesia-Technology.aspx

Automotive Maintenance Technician

ASE Education Foundation

1503 Edwards Ferry Road NE, Suite 401
Leesburg, VA 20176
703-669-6650
aseeducationfoundation.org

Automotive Technology – Comprehensive

ASE Education Foundation

1503 Edwards Ferry Road NE, Suite 401
Leesburg, VA 20176
703-669-6650
aseeducationfoundation.org

Aviation Maintenance Technician – General

Federal Aviation Administration Headquarters

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

Aviation Technician – Airframe and Powerplant

Federal Aviation Administration Headquarters

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 and Pastry Arts

American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC)

180 Center Place Way
St. Augustine, FL 32095
904-824-4468 | acfcchefs.org/accreditation

Barber

State of Wisconsin Department of Safety and Professional Services

4822 Madison Yards Way
Madison, WI 53705
608-266-2112

Cardiovascular Technology - Echocardiography

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

9355 - 113th Street N, #7709
Seminole, FL 33775
727-210-2350
caahep.org/Students/Program-Info/Cardiovascular-Technology.aspx
Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT).

Cardiovascular Technology - Invasive

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

9355 - 113th Street N, #7709
Seminole, FL 33775
727-210-2350
caahep.org/Students/Program-Info/Cardiovascular-Technology.aspx
Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT).

Civil Engineering Technology

Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors

A-E Examining Board
Department of Safety and Professional Services
P.O. Box 8366
Madison, WI 53708-8366
608-266-2112
dps.wi.gov/pages/BoardsCouncils/AE/Default.aspx

Computer Numerical Control (CNC) Technician

The National Institute for Metalworking Skills
10565 Fairfax Boulevard, Suite 10
Fairfax, VA 22030
703-352-4971
nims-skills.org

Cosmetology

State of Wisconsin Department of Safety and Professional Services
4822 Madison Yards Way
Madison, WI 53705
608-266-2112
dsps.wi.gov/Pages/Professions/Cosmetologist/Default.aspx

Criminal Justice Studies

Wisconsin Department of Justice Training & Standards Bureau
17 West Main Street
P.O. Box 7857
Madison, WI 53707-7857
608-266-8800
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
904-824-4468
acfcchefs.org/accreditation

Dental Hygiene

Commission on Dental Accreditation
211 East Chicago Avenue
Chicago, IL 60611
800-232-6180
ada.org/coda

Diesel and Powertrain Servicing

ASE Education Foundation
1503 Edwards Ferry Road NE, Suite 401
Leesburg, VA 20176
703-669-6650
aseeducationfoundation.org

Dietary Manager

Program is approved by the Association of Nutrition & Foodservice Professionals (ANFP)
406 Surrey Woods Drive
St. Charles, IL 60174
800-323-1908
anfponline.org

Early Childhood Education

National Association for the Education of Young Children (NAEYC)
1313 L Street NW, Suite 500
Washington, DC 20005
800-424-2460 or 202-232-8777
naeyc.org/accreditation

EMT – Paramedic Technician

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 | coaemsp.org

Funeral Service

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

Health Information Technology

Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
200 East Randolph Street, Suite 5100
Chicago, IL 60601
312-235-3255 | cahiim.org

Legal Studies/Paralegal

Program is approved by the American Bar Association
321 North Clark Street
Chicago, IL 60654
312-988-5616
americanbar.org/groups/paralegals/

Medical Assistant

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
9355 - 113th Street N, #7709
Seminole, FL 33775
727-210-2350
caahep.org/Accreditation/CAAHEP-Accreditation-Process.aspx

Accreditation is based upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (CRB-AAMAE).

Medical Laboratory Technician

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
5600 North River Road, Suite 720
Rosemont, IL 60018
773-714-8880 | naaccls.org

Nutrition and Dietetic Technician

Accreditation Council for Education in Nutrition and Dietetics (ACEND)

120 South Riverside Plaza, Suite 2190
Chicago, IL 60606-6995
800-877-1600 or 312-899-0040
acend@eatright.org

Occupational Therapy Assistant (OTA)

Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)

6116 Executive Boulevard, Suite 200
North Bethesda, MD 20852-4929
301-652-6611
acoteonline.org

Pharmacy Technician

ASHP/ACPE Pharmacy Technician Accreditation Commission

4500 East-West Highway, Suite 900
Bethesda, MD 20814
301-664-8835 or 301-657-3000
ashp.org

Phlebotomy

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 North River Road, Suite 720
Rosemont, IL 60018
773-714-8880
naacls.org

Physical Therapist Assistant

Commission on Accreditation of Physical Therapy Education (CAPTE)

1111 North Fairfax Street
Alexandria, VA 22314
800-999-2782 or 703-684-2782
capteonline.org

Practical Nursing

Accreditation Commission for Education in Nursing (ACEN)

3390 Peachtree Road NE, Suite 1400
Atlanta, GA 30326
404-975-5000
acenursing.org

Practical Nursing LPN–RN Educational Progression

Accreditation Commission for Education in Nursing (ACEN)

3390 Peachtree Road NE, Suite 1400
Atlanta, GA 30326
404-975-5000 | acenursing.org

Radiography

Joint Review Committee on Education in Radiologic Technology (JRCERT)

20 North Wacker Drive, Suite 2850
Chicago, IL 60606
312-704-5300
jrcert.org

Real Estate

State of Wisconsin Department of Safety and Professional Services

4822 Madison Yards Way
Madison, WI 53705
608-266-2112

Registered Nursing

Accreditation Commission for Education in Nursing (ACEN)

3390 Peachtree Road NE, Suite 1400
Atlanta, GA 30326
404-975-5000
acenursing.org

Respiratory Therapist

Commission on Accreditation for Respiratory Care (CoARC)

264 Precision Boulevard
Telford, TN 37690
817-283-2835 | 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)

9355 - 113th Street N, #7709
Seminole, FL 33775
727-210-2350

caahep.org/Students/Program-Info/Surgical-Technology.aspx

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

A-E Examining Board
Department of Safety and Professional Services
P.O. Box 8366
Madison, WI 53708-8366
608-266-2112
dsps.wi.gov/pages/BoardsCouncils/AE/Default.aspx

Business & Management

Academic & Career Pathway

Is your goal to be competitive in the rapidly changing business and financial services industries? Whether you want to own your own business, or work for a corporation, a nonprofit organization, a small startup – or expand your leadership influence – the instruction by MATC’s expert faculty will prepare you with the skills, experience and confidence to succeed.

matc.edu/course-catalog/business-management

Pathway Offices

Downtown Milwaukee Campus,

Main Building, Room M386

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

leadpathway@matc.edu | 414-456-5323

A Associate Degree program

T Technical Diploma program

C Certificate program

- Accounting (A), page 30
- Accounting Assistant (T), page 108
- Accounting Bookkeeper Trainee (C), page 185
- Administrative Professional (A), page 31
- Banking and Financial Services (A), page 48
- Bilingual Office Assistant/
for bilingual students (T), page 121
- Business Analyst (A), page 50
- Business Management (A), page 51
- Business Management (T), page 123
- Business Management Trainee (C), page 189
- Digital Marketing and Integrated
Communications (T), page 135
- Entrepreneurship (T), page 142
- Entrepreneurship (C), page 192
- Event Management (A), page 66
- Financial Services (T), page 143
- Financial Services Trainee (C), page 193
- Foundations of Lodging and Hospitality
Management (T), page 145
- Hospitality Management (A), page 72
- Human Resources (A), page 73
- Marketing (A), page 85
- Marketing – Online Accelerated (A), page 86
- Medical Administrative Specialist (A), page 88
- Medical Billing (T), page 158
- Office Technology Assistant (T), page 162
- Property Management (C), page 198
- Real Estate (A), page 98
- Real Estate Broker Associate (T), page 170
- Real Estate Salesperson (C), page 199
- Sales and Customer Experience (T), page 173
- Special Event Management (T), page 174
- Supply Chain Management (A), page 101
- Supply Management (T), page 175
- Transportation – Logistics (T), page 178

Community & Human Services

Academic & Career Pathway

Programs in this pathway train and educate the service-related professionals who provide the lifeblood of a thriving community. With input from local employers, MATC's courses ensure you receive high-quality, career-focused training with the most up-to-date equipment and facilities.

[matc.edu/course-catalog/
community-human-services](http://matc.edu/course-catalog/community-human-services)

Pathway Offices

Downtown Milwaukee Campus,

T Building, Room T200

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

servepathway@matc.edu | 414-570-4426

A Associate Degree program

T Technical Diploma program

C Certificate program

- Aesthetician (T), page 109
- Barber (T), page 120
- Child Care Services/
bilingual mode available (T), page 127
- Cosmetology (T), page 129
- Criminal Justice Studies (A), page 58
- Early Childhood Education/
bilingual mode available (A), page 61
- Emergency Medical Technician (T), page 139
- Emergency Medical Technician
– Advanced (T), page 140
- Emergency Medical Technician
– Paramedic (T), page 141
- Environmental Health and Water Quality
Technology (A), page 64
- Fire Protection Technician (A), page 67
- Funeral Service (A), page 68
- Human Service Associate (A), page 74
- Legal Studies/Paralegal (A), page 84
- Post-Baccalaureate Legal Studies/
Paralegal (T), page 165
- Preschool/bilingual mode available (C), page 197
- Water Technician (C), page 201

Creative Arts, Design & Media

Academic & Career Pathway

Showcase your creative talents through a program in this pathway. State-of-the-art classrooms, labs and equipment will provide you with hands-on instruction, so you can develop a portfolio, gain career-related experience, and join a community of artistic professionals.

matc.edu/course-catalog/creative-arts-design-media

Pathway Offices

Downtown Milwaukee Campus,

C Building, Room C204

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

creativeartspathway@matc.edu | 414-297-6004

A Associate Degree program

T Technical Diploma program

- Animation (A), page 34
- Audio Engineer (T), page 112
- Audio Production (A), page 45
- Baking and Pastry Arts (A), page 47
- Baking Production (T), page 119
- Computer Simulation and Gaming (A), page 57
- Culinary Arts (A), page 59
- Culinary Assistant/
bilingual mode available (T), page 130
- Digital Imaging (T), page 134
- eProduction (A), page 65
- Food Service Assistant (T), page 144
- Front-End Web Developer (T), page 146
- Graphic Design (A), page 69
- Interior Design (A), page 76
- Music Occupations (A), page 90
- Photography (A), page 93
- Production Artist (T), page 169
- Television & Video Production (A), page 104
- TV/Video Field Production Assistant (T), page 180
- TV/Video Studio Production Assistant (T), page 181
- Unity Developer (T), page 182
- Web & Digital Media Design (A), page 105

General Education

Academic & Career Pathway

Start your bachelor's degree at MATC by completing an Associate of Arts or Associate of Science degree. These programs are composed of general education courses (English, math, sciences, humanities), and the credits can transfer to four-year colleges and universities, including the University of Wisconsin System and private colleges/universities. Pre-majors let you choose a curriculum tailored to support your future transfer goals.

matc.edu/course-catalog/general-education

Pathway Offices

Downtown Milwaukee Campus,

C Building, Room C204

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

genedpathway@matc.edu

414-297-6584

A Associate Degree program

- Associate of Arts (A), page 36
- Associate of Arts: Online – Accelerated (A), page 37
- Associate of Arts – Community Engagement: Pre-Major (A), page 38
- Associate of Arts – Global Studies: Pre-Major (A), page 39
- Associate of Arts – Teacher Education: Pre-Major (A), page 40
- Associate of Science (A), page 41
- Associate of Science – Chemical Technology: Pre-Major (A), page 42
- Associate of Science – Economics: Pre-Major (A), page 43
- Associate of Science – Psychology: Pre-Major (A), page 44
- Individualized Technical Studies (A), page 75

Community Education

MATC also provides opportunities to earn high school credentials, learn English and gain additional educational support, including at community-based organizations. See pages 311-313.

Healthcare

Academic & Career Pathway

Prepare to be a healthcare provider with the necessary leadership skills to strengthen the health and well-being of our community. Visit our state-of-the-art dental clinic, simulation labs and food science kitchen, and see MATC's many other impressive spaces where you will grow both personally and professionally. matc.edu/course-catalog/healthcare

Pathway Offices

Downtown Milwaukee Campus, H Building, H116
414-297-6263

Mequon Campus, Room A108, 262-238-2281

Oak Creek Campus, Room A121

West Allis Campus, Room 103

healthpathway@matc.edu

A Associate Degree program

T Technical Diploma program

C Certificate program

- Anesthesia Technology (A), page 33
- Cardiovascular Technology – Echocardiography (A), page 52
- Cardiovascular Technology – Invasive (A), page 53
- Central Service Technician (T), page 125
- Dental Assistant/bilingual mode available (T), page 131
- Dental Hygiene (A), page 60
- Dietary Manager/bilingual mode available (C), page 190
- EKG Technician (C), page 191
- Health Information Technology (A), page 70
- Health Unit Coordinator (T), page 147
- Healthcare Customer Service (C), page 194
- Healthcare Services Management (A), page 71
- Medical Assistant (T), page 157
- Medical Coding Specialist (T), page 159
- Medical Interpreter/for bilingual students (T), page 160
- Medical Laboratory Technician (A), page 89
- Nursing Assistant/bilingual mode available (T), page 161
- Nutrition and Dietetic Technician (A), page 91
- Occupational Therapy Assistant (A), page 92
- Pharmacy Technician (T), page 163
- Phlebotomy (T), page 164
- Physical Therapist Assistant (A), page 94
- Practical Nursing (T), page 167
- Practical Nursing LPN-RN Educational Progression (A), page 95
- Radiography (A), page 97
- Registered Nursing (A), page 99
- Renal Dialysis Technician (T), page 172
- Respiratory Therapist (A), page 100
- Surgical Technology (A), page 102

Manufacturing, Construction & Transportation

Academic & Career Pathway

Get the hands-on, real-world instruction that employers value in the manufacturing, construction and transportation fields. MATC's campuses feature state-of-the-art equipment and you'll work with our industry-expert faculty to be sure you're job-ready on day one.

matc.edu/course-catalog/manufacturing-construction-transportation

Pathway Offices

Downtown Milwaukee Campus,

T Building, Room T200

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

Education Center at Walker's Square, Room 205A

mctpathway@matc.edu | 414-297-8901

A Associate Degree program

T Technical Diploma program

C Certificate program

- Air Conditioning and Refrigeration Technology (A), page 32
- Appliance Technician (T), page 110
- Architectural Woodworking/Cabinetmaking (T), page 111
- Auto Collision Repair and Finish Technician (T), page 113
- Automated Building Systems (T), page 114
- Automotive Express Lube Technician (C), page 186
- Automotive Maintenance Technician (T), page 115
- Automotive Technology – Comprehensive (A), page 46
- Automotive Technology Maintenance Light Repair (T), page 116
- Aviation Maintenance Technician – General (C), page 187
- Aviation Technician – Airframe (T), page 117
- Aviation Technician – Powerplant (T), page 118
- Boiler Operator (C), page 188
- Bricklaying (T), page 122
- Carpentry (T), page 124
- Computer Numerical Control (CNC) Technician (T), page 128
- Dental Technician (T), page 132
- Diesel and Powertrain Servicing (T), page 133
- Electrical Power Distribution/Line Mechanic (T), page 136
- Electricity (T), page 137
- Landscape Horticulture (A), page 83
- Landscape Horticulture Technician (T), page 153
- Machine Tool Operations (T), page 154
- Manufacturing Maintenance (T), page 155
- Power Engineering and Boiler Operator (T), page 166
- Preparatory Plumbing (T), page 168
- Refrigeration, Air Conditioning and Heating Service Technician (T), page 171
- Technical Studies: Apprentice (A), page 103
- Tool and Die Making (T), page 177
- Truck Driving (T), page 179
- Welding (T), page 183
- Welding Fundamentals (C), page 202
- Welding Technology/bilingual mode available (A), page 106

STEM

Academic & Career Pathway

Our STEM (Science, Technology, Engineering & Math) programs are aligned with industry trends focused on changes in technology, equipment and software. Explore our STEM programs if you are interested in a career that will develop your technical aptitude, embrace your passion for problem-solving and challenge your analytical side.

matc.edu/course-catalog/stem

Pathway Offices

Downtown Milwaukee Campus,

Main Building, Room M386

Mequon Campus, Room A108

Oak Creek Campus, Room A121

West Allis Campus, Room 103

stempathway@matc.edu | Phone 414-297-6319

A Associate Degree program

T Technical Diploma program

C Certificate program

- Architectural Technology (A), page 35
- Biomedical Electronics Technology (A), page 49
- Chemical Processing Technician (T), page 126
- Chemical Technician (A), page 54
- Civil Engineering Technology (A), page 55
- Computer Electronics Technology (A), page 56
- Electronic Engineering Technology (A), page 62
- Electronic Technology – Automation (A), page 63
- Electronics Technician Fundamentals (T), page 138
- IT Computer Support Specialist (A), page 77
- IT Computer Support Technician (T), page 148
- IT Digital Forensics Analyst (T), page 149
- IT Help Desk Support Specialist (T), page 150
- IT Information Systems Security Specialist (A), page 78
- IT Mobile Applications Developer (A), page 79
- IT Network Specialist (A), page 80
- IT Network Specialist – Online Accelerated Cohort (A), page 81
- IT Networking and Infrastructure Administration (T), page 151
- IT User Support Technician (T), page 152
- IT Web and Software Developer (A), page 82
- Level 2 – Service Center Technician (C), page 195
- Mechanical and Computer Drafting (T), page 156
- Mechanical Design Technology (A), page 87
- Microsoft Enterprise Desktop Support Specialist (C), page 196
- Quality Engineering Technology (A), page 96
- Service Center Technician (C), page 200
- Surveying and Mapping (T), page 176

ASSOCIATE DEGREES

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

Associate of Arts and Associate of Science degree programs include courses in the 200-level; credits earned in most 200-level courses will be accepted by four-year colleges and universities to satisfy course requirements for bachelor's degree programs. It is important to consult with the four-year school regarding specific credit transfer details.

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-level; selected 100-level courses are accepted for transfer to bachelor's degree programs, but it is important to check transferability with the four-year school you plan to attend.

Accounting, p. 30
Administrative Professional, p. 31
Air Conditioning and Refrigeration
Technology, p. 32
Anesthesia Technology, p. 33
Animation, p. 34
Architectural Technology, p. 35
Associate of Arts, p. 36
Associate of Arts Online – Accelerated, p. 37
Associate of Arts – Community Engagement:
Pre-Major, p. 38
Associate of Arts – Global Studies:
Pre-Major, p. 39
Associate of Arts – Teacher Education:
Pre-Major, p. 40
Associate of Science, p. 41
Associate of Science – Chemical Technology:
Pre-Major, p. 42
Associate of Science – Economics:
Pre-Major, p. 43
Associate of Science – Psychology:
Pre-Major, p. 44
Audio Production, p. 45
Automotive Technology – Comprehensive, p. 46
Baking and Pastry Arts, p. 47
Banking and Financial Services, p. 48
Biomedical Electronics Technology, p. 49
Business Analyst, p. 50
Business Management, p. 51
Cardiovascular Technology –
Echocardiography, p. 52
Cardiovascular Technology – Invasive, p. 53
Chemical Technician, p. 54
Civil Engineering Technology, p. 55
Computer Electronics Technology, p. 56

Computer Simulation and Gaming, p. 57
Criminal Justice Studies, p. 58
Culinary Arts, p. 59
Dental Hygiene, p. 60
Early Childhood Education/
bilingual mode available, p. 61
Electronic Engineering Technology, p. 62
Electronic Technology – Automation, p. 63
Environmental Health and Water Quality
Technology, p. 64
eProduction, p. 65
Event Management, p. 66
Fire Protection Technician, p. 67
Funeral Service, p. 68
Graphic Design, p. 69
Health Information Technology, p. 70
Healthcare Services Management, p. 71
Hospitality Management, p. 72
Human Resources, p. 73
Human Service Associate, p. 74
Individualized Technical Studies, p. 75
Interior Design, p. 76
IT Computer Support Specialist, p. 77
IT Information Systems Security Specialist, p. 78
IT Mobile Applications Developer, p. 79
IT Network Specialist, p. 80
IT Network Specialist –
Online Accelerated Cohort, p. 81
IT Web and Software Developer, p. 82
Landscape Horticulture, p. 83
Legal Studies/Paralegal, p. 84
Marketing, p. 85
Marketing – Online Accelerated, p. 86
Mechanical Design Technology, p. 87
Medical Administrative Specialist, p. 88

Medical Laboratory Technician, p. 89
Music Occupations, p. 90
Nutrition and Dietetic Technician, p. 91
Occupational Therapy Assistant, p. 92
Photography, p. 93
Physical Therapist Assistant, p. 94
Practical Nursing LPN-RN
Educational Progression, p. 95
Quality Engineering Technology, p. 96
Radiography, p. 97
Real Estate, p. 98
Registered Nursing, p. 99
Respiratory Therapist, p. 100
Supply Chain Management, p. 101
Surgical Technology, p. 102
Technical Studies: Apprentice, p. 103
Television & Video Production, p. 104
Web & Digital Media Design, p. 105
Welding Technology/
bilingual mode available, p. 106

Coming soon:

The following associate degree programs are being developed. When finalized, program information will be posted at matc.edu.

Aesthetician – Skin Care Therapist
Community Health Nutrition Navigator
Diagnostic Medical Sonographer
Educational Interpreter
Integrative Health

Accounting

ASSOCIATE DEGREE

Program Code: 10-101-1

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

Associate Degrees



ACCOUNTING

matc.edu/academics/pathways

Certificate

- Accounting Bookkeeper Trainee, p. 185

Technical Diploma

- Accounting Assistant, p. 108

Associate Degree

- Accounting, p. 30

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

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

COURSES

Credits

ACCTG-111	Accounting 1 ^.....	4
ACCTG-121	Income Taxation ^.....	4
ACCTG-122	Accounting Software Applications ^.....	3
MATH-107	College Mathematics ‡ ^.....	3
	(or) Any 200-level MATH course	
ACCTG-113	Accounting 2 ‡ ^.....	4
ACCTG-130	Computerized Accounting ‡ ^.....	3
ACCTG-142	Payroll Accounting ^.....	2
BADM-165	Legal Environment of Business ^.....	3
ENG-195	Written Communication ^.....	3
	(or) ENG-201 English 1 ‡	
ACCTG-116	Intermediate Accounting ‡.....	4
ACCTG-126	Accounting for Managers.....	3
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG course	
FIN-180	Financial Statement Analysis ‡.....	3
ACCTG-140	Accounting for Governmental and Nonprofit Entities ‡.....	3
ACCTG-145	Forensic Accounting ‡.....	3
	(or) ACCTG-155 Applied Individual Income Tax ‡	
ACCTG-150	Accounting Practice With a Systems Approach ‡.....	3
FIN-120	Introduction to Money, Banking and Financial Markets ‡.....	3
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	

TOTAL CREDITS: 60

‡ Prerequisite required.

^ Counts toward earning the Accounting 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Administrative Professional

ASSOCIATE DEGREE

Program Code: 10-106-6

West Allis Campus



ADMINISTRATIVE PROFESSIONAL

matc.edu/academics/pathways

Technical Diploma

• Office Technology Assistant, p. 162

Associate Degree

• Administrative Professional, p. 31

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.

COURSES

		Credits
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
OFTECH-101	Office Technologies 1 ^.....	3
OFTECH-103	Keyboard and Keypad ^.....	1
OFTECH-122	Business English Essentials ^.....	3
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) Any 200-level SOCSCI or HIST course	
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
OFTECH-104	Budgeting Basics for Support Personnel ^	3
OFTECH-119	Information Management ^.....	3
OFTECH-133	Business Document Production 1 ‡ ^.....	3
OFTECH-184	MS Office: Word, Excel, Access and PowerPoint ‡ ^.....	3
MATH-123	Math With Business Applications ‡	3
OFTECH-111	Workplace Communication for Support Personnel	3
OFTECH-123	Proofreading and Editing	3
OFTECH-153	Collaboration Tools.....	1
OFTECH-165	Administrative Office Procedures 1 ‡ ^... 3	
OFTECH-182	Customer Service Skills ^.....	3
ELECTIVES	(Three credits needed).....	3
OFTECH-170	Meeting and Event Planning for Support Personnel	3
OFTECH-185	MS Office – Intermediate ‡	3
OFTECH-187	Business Publications.....	3
OFTECH-196	Administrative Professional Internship ‡ ^	1
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	

TOTAL CREDITS: 60

‡ 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Air Conditioning and Refrigeration Technology

ASSOCIATE DEGREE

Program Code: 10-601-1

Oak Creek Campus



The Refrigeration, Air Conditioning and Heating Service Technician technical diploma ladders into this associate degree. Contact an MATC advisor for information.

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.

COURSES

	Credits
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
GEOSCI-112 Principles of Sustainability	3
(or) Any 200-level BIOSCI, CHEM, GEOSCI, PHYS course	
HVAC2-109 Introduction to the HVAC Industry.....	1
HVAC2-110 Air Conditioning Fundamentals.....	3
HVAC2-113 Electrical Fundamentals	3
HVAC2-132 Architectural and Mechanical Fundamentals.....	4
ENG-197 Technical Reporting.....	3
(or) Any 200-level ENG course	
HVAC2-114 Electrical Controls and Systems ‡	4
HVAC2-115 Refrigeration 1 ‡.....	4
HVAC2-120 Heating Systems 1 ‡	4
HVAC2-116 Refrigeration 2 ‡.....	4
HVAC2-121 Heating Systems 2 ‡	4
HVAC2-146 Digital Energy Management Systems ‡.....	2
HVAC2-148 Heat Pumps ‡	3
MATH-107 College Mathematics ‡	3
(or) Any 200-level MATH course	
HVAC2-125 Control Application and Circuits ‡	4
HVAC2-126 Air Conditioning Systems ‡	3
HVAC2-144 Servicing and Troubleshooting Refrigeration and Air Conditioning ‡.....	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 64

‡ 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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Anesthesia Technology

ASSOCIATE DEGREE

Program Code: 10-541-1

Downtown Milwaukee Campus



ANESTHESIA TECHNOLOGIST

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Associate Degree

- Anesthesia Technology, p. 33

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 (Cer.A.T.T.).

Career Outlook

Anesthesia technologists are in high demand.

Program Learning Outcomes

- Exhibit patient care skills
- Model professional behaviors as an AT
- Provide psychological support and explain procedures to patients

(For full description, see matc.edu.)

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.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 9355 - 113th Street N, #7709, Seminole, FL 33775; 727-210-2350; caahep.org/Students/Program-Info/Anesthesia-Technology.aspx.

Start Date: August



matc.edu/course-catalog/healthcare

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

COURSES

		Credits
ANTECH-102	Introduction to Anesthesia Technology ‡	2
BIOSCI-177	General Anatomy and Physiology ‡	4
	(or) BIOSCI-201 Anatomy and Physiology 1 ‡	
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
HEALTH-101	Medical Terminology ^	3
HEALTH-104	Culture of Healthcare ^	2
HEALTH-107	Digital Literacy for Healthcare ^	2
ANTECH-117	AT Fundamentals 1 ‡	3
ANTECH-118	AT Instrumentation 1 ‡	3
ANTECH-120	AT Clinical Procedures ‡	2
BIOSCI-179	Advanced Anatomy and Physiology ‡	4
	(or) BIOSCI-202 Anatomy and Physiology 2 ‡	
CVTECH-110	EKG Analysis ‡	2
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-level SOCSCI course	
ANTECH-133	Anesthetics ‡	3
ANTECH-137	AT Fundamentals 2 ‡	3
ANTECH-138	AT Instrumentation 2 ‡	3
ANTECH-139	Anesthesia Technology Clinical Experience 1 ‡	3
CVTECH-132	Physics of Medicine ‡	3
ANTECH-185	Anesthesia Technology Clinical Seminar ‡	2
ANTECH-186	Anesthesia Technology Clinical Experience 2 ‡	4
ANTECH-187	Anesthesia Technology Clinical Experience 3 ‡	4

TOTAL CREDITS: 64

‡ Prerequisite required.

^ Counts toward earning the Healthcare Customer Service certificate.

Program curriculum requirements are subject to change.

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

Animation

ASSOCIATE DEGREE

Program Code: 10-207-1

Downtown Milwaukee Campus (Also offered online)



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

MATC's unique facilities and the program's innovative curriculum offer a comprehensive background in animation. Students have opportunities to learn about 2D animation and 3D animation. Portfolio reviews in several courses are designed to assist you in compiling work samples to show employers.

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
- 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.

COURSES

Credits

ANIM-101	Basic Drawing for Animators	3
ANIM-104	Principles of Character Development.....	3
ANIM-106	Principles of 3D Animation	3
CSG-115	CSG Production.....	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
ANIM-120	Environment and Set Design ‡.....	3
	(or) ANIM-114 Storyboard Pro ‡	
ANIM-125	3D Modeling ‡	3
	(or) ANIM-138 Animation for Game Development ‡	
ANIM-140	Timelines, Keyframes and Kinematics ‡	3
ANIM-156	Broadcast Animation ‡	3
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
ANIM-124	Animation Layout and Design ‡.....	3
ANIM-130	3D Simulations and Illustrations ‡	3
ANIM-145	Intermediate 3D Animation ‡	3
	(or) ANIM-121 Intermediate 2D Animation ‡	
CSG-147	Game Studio Management.....	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	
ANIM-110	Digital Life Drawing.....	3
ANIM-150	Advanced Animation ‡	2
ANIM-160	Animation Portfolio ‡	2
ANIM-165	Motion Analysis for Animation ‡	3
CSG-119	Designing Interactive Displays ‡.....	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
SOCSOCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSOCI course	

TOTAL CREDITS: 64

‡ 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



matc.edu/course-catalog/creative-arts-design-media

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

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.

COURSES

Credits

ARCHT-101	Architectural Theory and Drawing 1	4
ARCHT-105	Architectural History	2
ARCHT-110	Computer Applications for Architecture.....	2
ARCHT-121	Architectural Materials and Methods 1	2
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
MATH-115	College Technical Mathematics 1 ‡	5
ARCHT-109	Architectural Theory and CADD 2 ‡	4
ARCHT-120	Structural Systems and Components ‡	3
ARCHT-122	Architectural Materials and Methods 2 ‡	3
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
MATH-116	College Technical Mathematics 2 ‡	4
ARCHT-103	Architectural Theory and CADD 3 ‡	5
ARCHT-131	Mechanical and Environmental Systems 1 ‡	2
ELECTIVES	(Two credits needed).....	2
PHYS-139	Survey of Physics	3
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
ARCHT-104	Architectural Theory and CADD 4 ‡	5
ARCHT-107	Building Estimating.....	2
ARCHT-132	Mechanical and Environmental Systems 2 ‡	2
ARCHT-141	Architectural Practices and Procedures ‡	2
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-level HIST or SOCSCI course	

TOTAL CREDITS: 64

‡ 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



matc.edu/course-catalog/stem

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

Associate of Arts Liberal Arts and Sciences Four-Year College Transfer Program

ASSOCIATE DEGREE

Program Code: 20-800-1

All campuses



The Associate of 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.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 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 – 12 credits required 12
 Select credits from 200-level courses in the humanities (such as English, music, speech, art, foreign language).
 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, ENG-207 ‡.

See courses listed on Program Plan. Discuss your course selections with Pathway Advisor.

Social Sciences – 12 credits required 12
 Select credits from 200-level courses in the Social Sciences. See courses listed on Program Plan. Discuss your course selections with Pathway Advisor.

World/Foreign Language – 4 credits required 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.

Mathematics – 3 credits required 3
 Select from any 200-level MATH courses, except MATH-260.

Natural Sciences – 7 credits required 7
 Select from 200-level BIOSCI, CHEM, GEOSCI or PHYS courses. Four credits must be in a laboratory science. See courses listed on Program Plan. Discuss your course selections with Pathway Advisor.

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

Additional Electives – 10 credits required 10
 Additional foreign language credits are not required but are recommended.

TOTAL CREDITS: 60

Associate of Arts: Online – Accelerated

ASSOCIATE DEGREE

Program Code: 20-800-1

Offered entirely online



Liberal Arts and Sciences Four-Year College Transfer Program

This online accelerated degree program provides you 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 also can 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.

Start Dates: August and January

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 To apply for financial aid, visit fafsa.gov. School Code: 003866

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		
SOCSOCI-203	Introduction to Sociology	3
SPEECH-206	Intercultural Communication	3
ECON-202	Principles of Macroeconomics	3
PSYCH-231	Introductory 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.		
HIST-212	America Since 1877	3
Quin 4: Spring term, fourth session		
SOCSOCI-221	American National Government and Politics Today	3
ART-201	Understanding Art	3
GEOSCI-232	Earth Science	3
GEOSCI-234	Earth Science Laboratory	1
SOCSOCI-217	Valuing Diversity	3
Quin 5: Summer term, fifth session		
Choose any 200-level BIOSCI, CHEM, GEOSCI or PHYS course		
Additional Electives – 6 credits required		6
Additional foreign language is not required but is recommended.		
TOTAL CREDITS:		60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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.

Associate of Arts Community Engagement: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-1

All campuses

Associate Degrees



Liberal Arts and Sciences Four-Year College Transfer Program

This Associate of 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 credit 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.

‡ 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 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. Curriculum requirements are subject to change.

Start Dates: August and January

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 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 (or) ENG-207 Creative Writing ‡
 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 ‡
- ENG-224 Introduction to U.S. Latino Literature ‡

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
 SOCSOCI-203 Introduction to Sociology
 SOCSOCI-217 Valuing Diversity
 SOCSOCI-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 – 3 credits required at the level
 of intermediate algebra or above** 3

**Natural Sciences – 7 credits required
 (4 credits must be in a laboratory science)** 7
 GEOSCI-232 Earth Science, take concurrently with
 GEOSCI-234 Earth Sciences Laboratory
 Any 200-level natural science technology or environmental
 sciences-related course; choose one of the following:

- GEOSCI-233 Environmental Science
- GEOSCI-246 Climate Change Fundamentals
- BIOSCI-260 Plagues, People and Power

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

Additional Electives – 4 credits required 4

TOTAL CREDITS: 60

Associate of Arts Global Studies: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-1

All campuses



Liberal Arts and Sciences Four-Year College Transfer Program

This Associate of Arts program prepares you 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 credit 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.

Program curriculum requirements are subject to change.

Start Dates: August and January

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 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-206 Intercultural Communication	
World Language – 4 credits required for MATC Associate of Arts degree	4
However, five levels of languages are required at four-year colleges	
Humanities – 15 credits required	15
Recommended – Any additional 200-level FLANG courses	
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-229 World History Since 1500	
(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 (4 credits must be lab)	7
GEOSCI-232 Earth Science (3 credits), take concurrently with GEOSCI-234 Earth Sciences Laboratory (1 credit)	
Any 200-level natural science technology or environmental sciences-related course; choose one of the following:	
GEOSCI-233 Environmental Science	
GEOSCI-246 Climate Change Fundamentals	
BIOSCI-260 Plagues, People and Power	
Physical Education – 3 credits required	3
Select any 200-level PHYED course(s).	
Additional Electives – 3 credits required	3
Choose any 200-level courses.	
TOTAL CREDITS: 60	

Associate Degrees

Associate of Arts Teacher Education: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-1

All campuses



Liberal Arts and Sciences 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.

Start Dates: August/January/June

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 To apply for financial aid, visit fafsa.gov. School Code: 003866

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: EDF-249 Orientation to Urban Teaching, EDF-253 Issues in Urban Teaching, EDF-254 Field Experience in Urban K-12 Classrooms and EDF-255 Introduction to Teaching. Students complete observational and participatory experiences with Milwaukee Public Schools.

English/Speech – 9 credits required	9
ENG-201 English 1 ‡	
ENG-202 English 2 ‡	
SPEECH-201 Elements of Speech	
Social Science – 15 credits required	15
Mathematics – 6 credits required	6
Natural Science – 7 credits required	7
GEOSCI-233 + a lab course	
Humanities – 15 credits required	15
ART-201, MUSIC-205, ENG-207 ‡ (or) SPEECH-212	
ENG-220 ‡	
+ three more courses	
World Languages – 4 credits required	4
Physical Education – 3 credits required	3
Elective - 1 credit required	1
TOTAL CREDITS:	60

Associate of Science Liberal Arts and Sciences Four-Year College Transfer Program

ASSOCIATE DEGREE

Program Code: 20-800-2

All campuses



The Associate of 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.*

Start Dates: August and January



General Education
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/general-education

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 – 6 credits required 6
Three credits must be in 200-level diversity/ethnic studies courses – see list in Program Plan.
Three credits must be in 200-level Humanities courses – see list of Humanities courses in Program Plan.

Discuss your selections with Pathway Advisor.

Social Sciences – 6 credits required 6
Select 200-level courses in the Social Sciences – see list of courses in Program Plan; discuss your selections with Pathway Advisor.

World/Foreign Language* – 4 credits required 4

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

Natural Sciences – 15 credits required 15
(8 credits must be lab) See list of courses in Program Plan; discuss your course selections with Pathway Advisor.

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

Additional Electives – 12 credits required 12

TOTAL CREDITS: 60

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.

Associate Degrees

Associate of Science Chemical Technology: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-2

Downtown Milwaukee Campus

Associate Degrees



Liberal Arts and Sciences Four-Year College Transfer Program

The Associate of 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



General Education
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/general-education

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 – 6 credits required 6
See courses listed on Program Plan; discuss your course selections with Pathway Advisor.

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, ENG-207 ‡.

Social Sciences – 6 credits required 6
Select 200-level courses in the Social Sciences. See list of courses in Program Plan; discuss your course selections with Pathway Advisor.

World/Foreign Language – 4 credits required 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.

Natural Sciences – 20 credits required 20

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

Mathematics – 5 credits required 5

MATH-231 Analytic Geometry and Calculus 1 ‡

Physical Education – 3 credits required 3

Select any 200-level PHYED course(s).

Additional Electives – 7 credits required 7

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

TOTAL CREDITS: 60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Associate of Science Economics: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-2

All campuses



Liberal Arts and Sciences Four-Year College Transfer Program

Economic issues affect you as a consumer, producer, worker, citizen and investor. Gain knowledge of economics and develop the analytical, critical thinking and communication skills needed for transfer to a four-year college, and to begin a career related to economics, business or finance. You also will become competent in making personal decisions that rely on understanding economics.

This program provides the first two years of bachelor's degree credit courses that can transfer to four-year colleges and universities. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major. 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.

Start Dates: August and January

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 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 – 6 credits required	6
Three credits must be in 200-level diversity/ethnic studies courses – see list in Program Plan.	
Three credits must be in 200-level courses in the Humanities – see list of courses in Program Plan.	
Discuss your course selections with Pathway Advisor.	
World/Foreign Language – 4 credits required	4
Select one 200-level Foreign Language (FLANG) course (or) one year of World Language in high school with a grade of C or higher.	
Economics – 18 credits required	18
ECON-201 and ECON-202; and select 12 additional credits from 200-level Economics (ECON) courses, see Program Plan.	
Mathematics – 11 credits required	11
MATH-201 College Algebra ‡	
MATH-211 Survey in Calculus and Analytic Geometry ‡	
MATH-260 Basic Statistics ‡	
Natural Sciences – 9 credits required	9
(8 credits must be lab) See list of courses in Program Plan; discuss your course selections with Pathway Advisor.	
Physical Education – 3 credits required	3
Select any 200-level PHYED course(s).	

TOTAL CREDITS: 60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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.

Associate of Science Psychology: Pre-Major

ASSOCIATE DEGREE

Program Code: 20-800-2

All campuses

Associate Degrees



Liberal Arts and Sciences Four-Year College Transfer Program

This pre-major reflects the diversity of psychology as a science and profession. Applied research opportunities are available to MATC students through affiliations with local organizations. The coursework helps prepare students for many career possibilities in psychology, education, social and welfare services, health services and industry.

This program provides the first two years of bachelor's degree credit courses that can transfer to four-year colleges and universities. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major. 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

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education
 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 – 6 credits required 6
 Three credits must be in 200-level diversity/ethnic studies – see list in Program Plan.

Three credits must be in 200-level Humanities – see list of Humanities courses in Program Plan.

Discuss your course selections with Pathway Advisor.

World Languages – 4 credits required 4
 Select one 200-level Foreign Language (FLANG) course (or) one year of World Language in high school with a grade of C or higher.

Psychology – 18 credits required 18
 PSYCH-230 Cross-Cultural Psychology ‡
 PSYCH-231 Introductory Psychology
 PSYCH-232 Abnormal Psychology ‡
 PSYCH-240 Health Psychology ‡
 PSYCH-270 Educational Psychology ‡
 PSYCH-233 Social Psychology ‡
 (or) PSYCH-237 Child Psychology ‡
 (or) PSYCH-238 Lifespan Psychology

(Note: only one of these last three courses will count toward the Pre-Major)

Mathematics – 12 credits required 12
 MATH-201 College Algebra ‡
 MATH-231 Analytic Geometry and Calculus 1 ‡
 MATH-260 Basic Statistics ‡

Natural Sciences – 8 credits required 8
 (8 credits must be lab) See list of courses in Program Plan; discuss your course selections with Pathway Advisor.

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

TOTAL CREDITS: 60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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.

Audio Production

ASSOCIATE DEGREE

Program Code: 10-701-4

Downtown Milwaukee Campus



AUDIO PRODUCTION

matc.edu/academics/pathways

Technical Diploma

• Audio Engineer, p. 112

Associate Degree

• Audio Production, p. 45

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.

Career Outlook

The explosion of social media and web use for independent artists, plus the increase in affordable digital audio workstations, present opportunities for audio engineers.

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

(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.

Start Dates: August and January



matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

AUDIO-100	Introduction to Audio Software ^.....	1
AUDIO-102	Techniques of Sound Recording ‡ ^.....	3
AUDIO-103	Recording Live Concerts ‡ ^.....	3
ENG-195	Written Communication ^.....	3
	(or) ENG-201 English 1 ‡	
MUSIC-148	Music Fundamentals 1 ^.....	2
MUSIC-189	Voice Lab 1 ^.....	1
AUDIO-111	Advanced Audio Software ‡ ^.....	1
AUDIO-114	Critical Listening of Sound and Music.....	2
AUDIO-116	Advanced Techniques of Sound Recording ‡ ^.....	3
AUDIO-117	Sound Reinforcement ^.....	3
ELECTIVES	(Three credits needed).....	3
MATH-107	College Mathematics ‡.....	3
	(or) Any 200-level MATH course	
MUSIC-177	Piano Lab 1 ^.....	1
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
AUDIO-118	Studio Management and Design ‡.....	2
AUDIO-120	Audio Production for Visual Media.....	3
AUDIO-125	Advanced MIDI Recording ‡.....	1
ENG-196	Oral/Interpersonal Communication.....	3
	(or) Any 200-level ENG or SPEECH course	
MUSIC-101	Music Business.....	2
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSCI or HIST course	
AUDIO-126	Electronics for Audio Engineers ‡ ^.....	2
AUDIO-127	Mastering for Media ‡.....	3
AUDIO-128	Final Project – Field Work ‡.....	3
ELECTIVES	(Three credits needed).....	3
MKTG-118	Social Media Marketing.....	3

TOTAL CREDITS: 60

‡ Prerequisite required.

^ Counts toward earning the Audio Engineer technical diploma.

Program curriculum requirements are subject to change.

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

Automotive Technology – Comprehensive

ASSOCIATE DEGREE

Program Code: 10-602-6

Mequon Campus

Associate Degrees



AUTOMOTIVE TECHNOLOGY – COMPREHENSIVE

matc.edu/academics/pathways

Technical Diploma

- Automotive Technology Maintenance Light Repair, p. 116

Associate Degree

- Automotive Technology – Comprehensive, p. 46

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.

Career Outlook

The demand for trained automotive technicians is high.

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 transmissions/transaxle 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.

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

Start Dates: August and October



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

AUTO2-150	Automotive Fundamentals ^	2
AUTO2-151	Electrical Systems 1 ‡ ^	4
AUTO2-152	Automotive Climate Control ‡ ^	2
AUTO2-154	Fuel Management 1 ‡ ^	2
AUTO2-161	Express Service ‡ ^	3
AUTO2-164	Applied Automotive Experience 1 ‡	1
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
AUTO2-147	Electrical Systems 2 ‡ ^	2
AUTO2-153	Alignment, Suspension and Steering ‡ ^ ..	3
AUTO2-159	Automotive Brakes ‡ ^	4
AUTO2-165	Applied Automotive Experience 2 ‡	1
ECON-195	Economics ^	3
	(or) ECON-219 Personal Finance and Consumer Economics	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
AUTO2-148	Manual Transmissions and Drivelines ‡	2
AUTO2-155	Fuel Management 2 ‡	4
AUTO2-160	Automotive Accessories ‡	3
AUTO2-166	Applied Automotive Experience 3 ‡	1
GEOSCI-112	Principles of Sustainability	3
	(or) Any 200-level BIOSCI, CHEM, GEOSCI, PHYS course	
AUTO2-156	Fuel Management 3 ‡	4
AUTO2-157	Engine Concepts ‡	4
AUTO2-158	Automotive Transmissions ‡	4
AUTO2-167	Applied Automotive Experience 4 ‡	1
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG course	

TOTAL CREDITS: 62

‡ 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.

Baking and Pastry Arts

ASSOCIATE DEGREE

Program Code: 10-314-1

Downtown Milwaukee Campus



BAKING AND PASTRY ARTS

matc.edu/academics/pathways

Technical Diploma

• Baking Production, p. 119

Associate Degree

• Baking and Pastry Arts, p. 47

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.

Students completing the Baking and Pastry Arts associate degree technical coursework receive the Certified Pastry Culinarian title from the American Culinary Federation.

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; 904-824-4468; acfcchefs.org/accreditation.



Start Dates: August and January

Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

BAKING-120	Basic Baking Techniques ‡ ^.....	3
BAKING-122	Baking Principles and Ingredient Functions ^.....	3
CULART-100	Introduction to Food Service/Hospitality Industry ‡.....	1
CULART-117	Nutrition for Culinary Arts ^.....	1
CULART-118	Sustainable Food Communities.....	1
CULMGT-112	Food Service Sanitation ^.....	2
MATH-134	Mathematical Reasoning ^..... (or) Any 200-level MATH course	3
BAKING-101	Specialty Baking and Pastry Techniques 1 ‡ ^.....	3
BAKING-125	Artisan Breads ‡ ^.....	3
BAKING-129	Healthy and Natural Baking ‡ ^.....	2
BAKING-130	Field Experience in Baking and Pastry Arts ‡ ^.....	1
CULMGT-105	Culinary Math and Cost Control ^.....	3
ENG-195	Written Communication ^..... (or) ENG-201 English 1 ‡	3
BAKING-108	Hotel and Restaurant Dessert Production ‡.....	2
BAKING-113	Cake Decorating, Icing and Fondant ‡.....	3
BAKING-131	Baking and Classical Cakes ‡.....	2
CULART-109	Garde Manger 1 ‡.....	1
CULART-116	Mise en Place/Culinary Fundamentals ‡.....	2
CULART-122	Stocks, Soups and Sauces ‡.....	1
ENG-196	Oral/Interpersonal Communication ^..... (or) Any 200-level ENG or SPEECH course	3
SOCSOCI-103	Think Critically and Creatively..... (or) Any 200-level SOCSOCI or HIST course	3
BAKING-107	Café Operations ‡.....	5
BAKING-127	Chocolate, Confections and Sugar Work ‡.....	3
HOTEL-133	Supervision in Hospitality Industry.....	3
PSYCH-199	Psychology of Human Relations..... (or) Any 200-level PSYCH course	3

TOTAL CREDITS: 60

‡ 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.

Banking and Financial Services

ASSOCIATE DEGREE

Program Code: 10-114-3

Downtown Milwaukee, West Allis campuses (Also offered online)



BANKING AND FINANCIAL SERVICES

matc.edu/academics/pathways

Certificate

- Financial Services Trainee, p. 193

Technical Diploma

- Financial Services, p. 143

Associate Degree

- Banking and Financial Services, p. 48

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.

COURSES

	Credits
ACCTG-111 Accounting 1 ^.....	4
BADM-106 MS Office for Business Applications ^	3
ENG-195 Written Communication ^	3
(or) ENG-201 English 1 ‡	
FIN-110 Principles of Banking ^	3
MKTG-104 Selling Principles ^	3
BADM-134 Business Organization and Management ..	3
FIN-120 Introduction to Money, Banking and Financial Markets ^.....	3
MATH-107 College Mathematics ‡	3
(or) Any 200-level MATH course	
RBUS-102 Mathematics of Business ^	3
SOCSCI-197 Contemporary American Society	3
(or) Any 200-level SOCSCI or HIST course	
ACCTG-113 Accounting 2 ‡.....	4
BADM-104 Business Statistics ‡.....	3
ECON-195 Economics.....	3
(or) Any 200-level ECON course	
ENG-197 Technical Reporting.....	3
(or) Any 200-level ENG or SPEECH course	
FIN-170 Credit Management ^.....	3
HRMGT-198 Business Ethics	3
BADM-126 Business Finance ‡.....	3
FIN-122 Investment Principles ‡ ^	3
FIN-180 Financial Statement Analysis.....	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	

TOTAL CREDITS: 62

‡ 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Biomedical Electronics Technology

ASSOCIATE DEGREE

Program Code: 10-605-6

Downtown Milwaukee Campus



BIOMEDICAL ELECTRONICS TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Electronics Technician Fundamentals, p. 138

Associate Degree

- Biomedical Electronics Technology, p. 49

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.

Career Outlook

Jobs are competitive in the Milwaukee area. Employment opportunities include hospitals, equipment manufacturers and independent service organizations.

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 a 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.

Start Dates: August and January



matc.edu/course-catalog/stem

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

COURSES

		Credits
ELCTEC-110	DC/AC Electronics 1 ‡ ^	4
ELCTEC-130	Digital Electronics ‡ ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
MATH-115	College Technical Mathematics 1 ‡ ^	5
BIOSCI-189	Basic Anatomy	3
ELCTEC-111	DC/AC Electronics 2 ‡ ^	3
ELCTEC-120	Electronic Devices ‡ ^	4
ELCTEC-186	Fabrication Techniques ‡	1
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
MATH-116	College Technical Mathematics 2 ‡	4
ELCTEC-134	Biomedical Instrumentation ‡	4
ELCTEC-137	Biomedical Electronics Technician Practicum 1 ‡	2
ELCTEC-140	Microprocessors ‡ ^	3
ELCTEC-150	Data Communications and Networking ‡ ..	3
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-level HIST or SOCSCI course	
ELCTEC-133	Medical Imaging Equipment ‡	4
ELCTEC-138	Biomedical Electronics Technician Practicum 2 ‡	2
ELCTEC-139	Advanced Biomedical Electronics ‡	3
ELCTEC-176	Computer Networks ‡	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	

TOTAL CREDITS: 63

‡ 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.

Business Analyst

ASSOCIATE DEGREE

Program Code: 10-102-1

Downtown Milwaukee Campus

Associate Degrees



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 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.

COURSES		Credits
BADM-106	MS Office for Business Applications.....	3
BADM-134	Business Organization and Management.....	3
BNLST-121	Business Analyst Planning and Monitoring	3
BNLST-122	Business Analyst Essentials	3
MATH-123	Math With Business Applications ‡	3
	(or) Any 200-level MATH course	
BADM-104	Business Statistics ‡	3
BNLST-123	Requirements of Life Cycle Management.....	3
BNLST-124	Elicitation Techniques	3
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
MGTDEV-189	Team Building and Problem-Solving.....	3
BNLST-127	Requirements Analysis and Design	3
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
ITDEV-149	Data Reporting.....	3
MGTDEV-190	Leadership Development	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
BNLST-135	Business Analyst Strategy Analysis.....	3
BNLST-136	Business Analyst Solution Evaluation.....	3
BNLST-137	Business Analyst Internship ‡.....	1
BNLST-138	Business Analyst Capstone	3
MGTDEV-188	Project Management.....	3
SOCSCI-103	Think Critically and Creatively	3
	(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 61

‡ 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



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Business Management

ASSOCIATE DEGREE

Program Code: 10-102-3

All campuses (Also offered online)



BUSINESS MANAGEMENT

matc.edu/academics/pathways

Certificate

- Business Management Trainee, p. 189

Technical Diploma

- Business Management, p. 123

Associate Degree

- Business Management, p. 51

Attain a strong foundation in a range of areas including supervision, business communications, office technologies, human resources and marketing. Students have the opportunity to select courses with a career-ready emphasis or with a four-year college/university transfer emphasis.

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.

COURSES

Credits

BADM-106	MS Office for Business Applications ^.....	3
BADM-110	Business Communications With Technology ^.....	3
	(or) ENG-208 Technical Communications ‡ (or) ENG-202 English 2 ‡*	
BADM-134	Business Organization and Management ^.....	3
ENG-195	Written Communication ^.....	3
	(or) ENG-201 English 1 ‡*	
ACCTG-110	Financial Accounting ^.....	3
	(or) ACCTG-111 Accounting 1	
BADM-192	Risk Management and Insurance ^.....	3
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG or SPEECH course*	
MKTG-102	Marketing Principles.....	3
BADM-104	Business Statistics ‡.....	3
BADM-145	Small Business Management ‡ ^.....	3
	(or) LOGMGT-146 Operations Management	
BADM-165	Legal Environment of Business.....	3
ECON-195	Economics.....	3
	(or) ECON-202 Principles of Microeconomics (or) any 200-level ECON course*	
MATH-107	College Mathematics ‡ ^.....	3
	(or) Any 200-level MATH course*	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSCI course*	
BADM-120	Business Analysis ‡ ^.....	3
BADM-155	Management Principles ‡.....	3
ELECTIVES	(Six credits needed).....	6
MATH-123	Math With Business Applications ‡.....	3
	(or) Any 200-level MATH course*	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course*	

TOTAL CREDITS: 60

‡ 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.

Start Dates: August and January



matc.edu/course-catalog/business-management

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

Cardiovascular Technology – Echocardiography

ASSOCIATE DEGREE

Program Code: 10-521-2

Downtown Milwaukee Campus

Associate Degrees



CARDIOVASCULAR TECHNOLOGIST

matc.edu/academics/pathways

Certificate

- EKG Technician, p. 191

Associate Degree

- Cardiovascular Technology – Echocardiography, p. 52
- Cardiovascular Technology – Invasive, p. 53

Learn to perform echocardiograms, a widely used diagnostic test for heart disease. Echocardiography technologists perform the tests in hospitals and outpatient facilities, utilizing ultrasound equipment to gather data about the cardiac chambers, valves and vessels leading to and from the heart. Completing this program fulfills prerequisites to take the Registered Cardiac Sonographer (CCI) or Registered Diagnostic Cardiac Sonographer (ARDMS) exam.

Program Learning Outcomes

- Exhibit patient care skills
- Model professional behaviors as a CVT
- Explain diagnostic and/or interventional procedures
- Apply principles of anatomy and pathophysiology to cardiovascular care

(For full description, see matc.edu.)

Admission Requirements

High school diploma or GED, and one year of high school-level biology, chemistry and algebra required. Program admits students through a petition selection process. See program's webpage at matc.edu to view 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), 9355 - 113th Street N, #7709, Seminole, FL 33775; 727-210-2350; caahep.org/Students/Program-Info/Cardiovascular-Technology.aspx. Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT).

Start Date: January



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-197	Microbiology * ^.....	4
ENG-195	Written Communication..... (or) ENG-201 English 1 ‡	3
PSYCH-199	Psychology of Human Relations..... (or) Any 200-level PSYCH course	3
SOCSCI-172	Introduction to Diversity Studies..... (or) Any 200-level SOCSCI course	3
CVTECH-102	Introduction to CVT ‡ ^.....	2
CVTECH-110	EKG Analysis ‡ ^.....	2
CVTECH-115	Essentials of Cardiac Care 1 ‡ ^.....	4
CVTECH-118	Echocardiography Basics ‡.....	3
CVTECH-119	Introduction to Sonography Fundamentals ‡.....	4
ENG-197	Technical Reporting..... (or) Any 200-level ENG or SPEECH course	3
CVTECH-121	Echo Clinical Procedures ‡.....	2
CVTECH-140	Echo Instrumentation ‡.....	4
CVTECH-144	Advanced Echo Practicum ‡.....	3
CVTECH-145	Echocardiography Fundamentals ‡.....	4
CVTECH-149	Echocardiography Clinical Experience 1 ‡.....	2
CVTECH-142	Echo Case Review ‡.....	3
CVTECH-143	Ultrasound Principles and Physics ‡.....	3
CVTECH-195	Echocardiography Clinical Seminar ‡.....	2
CVTECH-196	Echocardiography Clinical Experience 2 ‡.....	4
CVTECH-197	Echocardiography Clinical Experience 3 ‡.....	4
ELECTIVES	(Two 100-level credits).....	2

TOTAL CREDITS: 64

‡ Prerequisite required.

^ Counts toward earning the EKG Technician certificate.

* Cardiovascular Technology students are not required to take BIOSCI-177/179 or 201/202 as prerequisites to BIOSCI-197; go to Selfservice.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.

Cardiovascular Technology – Invasive

ASSOCIATE DEGREE

Program Code: 10-521-1

Downtown Milwaukee Campus



CARDIOVASCULAR TECHNOLOGIST

matc.edu/academics/pathways

Certificate

- EKG Technician, p. 191

Associate Degree

- Cardiovascular Technology – Echocardiography, p. 52
- Cardiovascular Technology – Invasive, p. 53

Prepare for a rewarding career as a cardiac catheterization technologist, assisting cardiologists in cardiac catheterization labs with the care of heart patients and performing diagnostic and interventional procedures related to stent placements, pacemaker implants, and other heart or blood vessel conditions. Completing this program fulfills prerequisites to take the Registered Cardiovascular Invasive Specialist (RCIS) exam given by Cardiac Credentialing International (CCI).

Program Learning Outcomes

- Exhibit patient care skills
- Model professional behaviors as a CVT
- Explain diagnostic and/or interventional procedures
- Apply principles of anatomy and pathophysiology to cardiovascular care

(For full description, see matc.edu.)

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 for 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), 9355 - 113th Street N, #7709, Seminole, FL 33775; 727-210-2350; caahep.org/Students/Program-Info/Cardiovascular-Technology.aspx. Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT).

Start Date: January



matc.edu/course-catalog/healthcare

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

COURSES

		Credits
BIOSCI-197	Microbiology * ^.....	4
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) Any 200-level SOCSCI course	
CVTECH-102	Introduction to CVT ‡ ^.....	2
CVTECH-110	EKG Analysis ‡ ^.....	2
CVTECH-115	Essentials of Cardiac Care 1 ‡ ^.....	4
CVTECH-117	Invasive CVT Fundamentals 1 ‡.....	4
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG or SPEECH course	
CVTECH-120	CVT Clinical Procedures ‡.....	2
CVTECH-122	Peripheral Vascular Essentials ‡.....	3
CVTECH-132	Physics of Medicine ‡.....	3
CVTECH-134	Hemodynamics ‡.....	3
CVTECH-135	Essentials of Cardiac Care 2 ‡.....	4
CVTECH-137	Invasive CVT Fundamentals 2 ‡.....	4
CVTECH-133	Cardiovascular Agents ‡.....	3
CVTECH-139	Invasive CVT Clinical 1 ‡.....	2
CVTECH-185	Invasive CVT Clinical Seminar ‡.....	2
CVTECH-186	Invasive CVT Clinical Experience 2 ‡.....	4
CVTECH-187	Invasive CVT Clinical Experience 3 ‡.....	4
ELECTIVES	(Two 100-level credits needed).....	2

TOTAL CREDITS: 64

‡ Prerequisite required.

* Cardiovascular Technology students are not required to take BIOSCI-177/179 or 201/202 as prerequisites to BIOSCI-197; go to Selfservice.matc.edu and submit a waiver indicating you are a CVT student.

^ Counts toward earning the EKG Technician certificate. Program curriculum requirements are subject to change.

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

Chemical Technician

ASSOCIATE DEGREE

Program Code: 10-603-1

Downtown Milwaukee Campus



CHEMICAL TECHNICIAN

matc.edu/academics/pathways

Technical Diploma

- Chemical Processing Technician, p. 126

Associate Degree

- Chemical Technician, p. 54

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.

COURSES

Credits

CHEMT-101	Chemical Laboratory/Process Safety ‡ ^... 2
CHEMT-103	Introduction to Chemical Technology ^ 2
CHEMT-111	General Chemistry 1 ‡ ^ 5 (or) CHEM-211 Chemistry 1 ‡
ENG-195	Written Communication ^ 3 (or) ENG-201 English 1 ‡
CHEMT-105	Introduction to Instrumental Methods ^ 3
CHEMT-112	General Chemistry 2 ‡ ^ 5 (or) CHEM-212 Chemistry 2 ‡
ENG-197	Technical Reporting ^ 3 (or) Any 200-level ENG or SPEECH course
PHYS-139	Survey of Physics ^ 3
CHEMT-107	Industrial Methods of Analysis ‡ 2
CHEMT-116	Instrumental Analysis ‡ 5 (or) CHEM-216 Instrumental Analysis ‡
CHEMT-117	Organic Chemistry 1 ‡ 3 (or) CHEM-217 Organic Chemistry 1 ‡
CHEMT-119	Organic Chemistry Laboratory 1 ‡ 2 (or) CHEM-219 Organic Chemistry Laboratory 1 ‡
ELECTIVES	(Three 100-level credits needed) 3
PSYCH-199	Psychology of Human Relations 3
CHEMT-109	Chemical Processes ‡ 3
CHEMT-115	Quantitative Analysis ‡ 5 (or) CHEM-215 Quantitative Chemical Analysis ‡
CHEMT-118	Organic Chemistry 2 ‡ 3 (or) CHEM-218 Organic Chemistry 2 ‡
ELECTIVES	(Three 100-level credits needed) 3
SOCSCI-197	Contemporary American Society 3 (or) Any 200-level SOCSCI course

TOTAL CREDITS: 61

‡ 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.

Start Date: August



matc.edu/course-catalog/stem

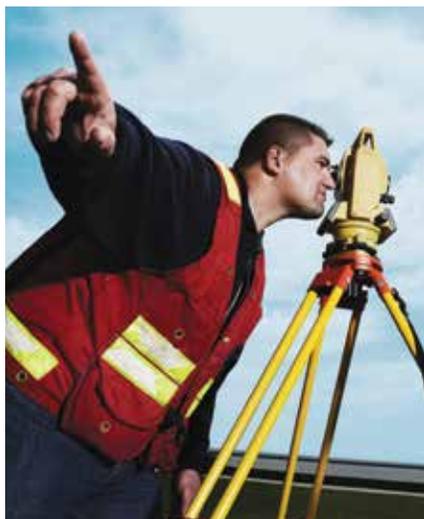
To apply for financial aid, visit fafsa.gov. School Code: 003866

Civil Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-607-1

Downtown Milwaukee Campus



CIVIL ENGINEERING

matc.edu/academics/pathways

Technical Diploma

• Surveying and Mapping, p. 176

Associate Degree

• Civil Engineering Technology, p. 55

Assist civil engineers in planning, designing, scheduling, estimating, surveying and inspecting construction projects. Also, specific elective surveying courses provide an option for a land surveying career.

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 through the Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors, A-E Examining Board, Department of Safety and Professional Services, P.O. Box 8366, Madison, WI 53708-8366; 608-266-2112; dps.wi.gov/pages/BoardsCouncils/AE/Default.aspx.

Start Date: August



matc.edu/course-catalog/stem

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

COURSES

		Credits
CIVIL-101	Civil Engineering Drawing ^	2
CIVIL-102	Introduction to AutoCAD ^	2
CIVIL-105	Computer Applications ^	2
CIVIL-135	Public Works Engineering and Estimating... 3	3
CIVIL-155	Surveying 1 ^	2
MATH-115	College Technical Mathematics 1 ‡ ^	5
CIVIL-106	Intermediate AutoCAD ‡ ^	2
CIVIL-147	Soils and Materials Testing ‡	3
CIVIL-156	Surveying 2 ‡ ^	2
ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
MATH-116	College Technical Mathematics 2 ‡	4
CIVIL-110	Introduction to Civil 3D ^	2
CIVIL-141	Statics and Strength of Materials ‡	4
CIVIL-157	Route and Highway Surveying ‡ ^	3
ELECTIVE	(Three credits needed)	3
ENG-197	Technical Reporting	3
PSYCH-199	Psychology of Human Relations	3
CIVIL-142	Structures ‡	3
CIVIL-148	Structural Detailing ‡	3
CIVIL-158	Land Surveying ‡	2
CIVIL-170	Sewer and Water Systems ‡	3
ELECTIVE	(Two credits needed)	2
SOCSCI-197	Contemporary American Society	3

TOTAL CREDITS: 64

‡ 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.

Computer Electronics Technology

ASSOCIATE DEGREE

Program Code: 10-605-3

Downtown Milwaukee Campus



COMPUTER ELECTRONICS TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Electronics Technician Fundamentals, p. 138

Associate Degree

- Computer Electronics Technology, p. 56

Learn to develop, install, maintain, troubleshoot and repair computers and processors in manufacturing and control systems. Work with edge computers, smart sensors, and networking hardware and software. This program is manufacturing and hardware focused compared to IT related programs.

Career Outlook

Outlook is strong for computer electronics technicians with skills to perform installation, configuration, upgrading and maintenance of computer and network systems, and who can develop technical software.

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.

COURSES

Credits

ELCTEC-110	DC/AC Electronics 1 ‡ ^	4
ELCTEC-130	Digital Electronics ‡ ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
MATH-115	College Technical Mathematics 1 ‡ ^	5
ELCTEC-111	DC/AC Electronics 2 ‡ ^	3
ELCTEC-120	Electronic Devices ‡ ^	4
ELCTEC-140	Microprocessors ‡ ^	3
ELCTEC-186	Fabrication Techniques ‡	1
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
MATH-116	College Technical Mathematics 2 ‡	4
ELCTEC-150	Data Communications and Networking ‡ ..	3
ELCTEC-173	Computing With C ‡	3
ELCTEC-174	Hardware Systems ‡	3
ELCTEC-178	Software Systems ‡	3
PHYS-139	Survey of Physics	3
	(or) PHYS-221 College Physics 1 ‡	
ELCTEC-172	Input/Output Programming ‡	3
ELCTEC-176	Computer Networks ‡	3
ELCTEC-179	Advanced Computer Systems ‡	3
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	
SOCSCI-197	Contemporary American Society	3
	(or) SOCSCI-203 Introduction to Sociology	

TOTAL CREDITS: 63

‡ 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.

Start Dates: August and January



matc.edu/course-catalog/stem

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

Computer Simulation and Gaming

ASSOCIATE DEGREE

Program Code: 10-153-1

Downtown Milwaukee Campus (Also offered online)



COMPUTER SIMULATION AND GAMING

matc.edu/academics/pathways

Technical Diploma

- Unity Developer, p. 182

Associate Degree

- Computer Simulation and Gaming, p. 57

Prepare for a career in animation and gaming, plus attain skills transferable to other industries such as computer programming, multimedia development and film production. Students have opportunities to focus on game design or programming.

Career Outlook

Testers, designers and producers are in demand as the use of this technology increases rapidly. New games are continually in production, and computer simulations are used as educational and training tools in schools and businesses.

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.

COURSES

		Credits
CSG-110	Introduction to Computer Simulation and Gaming ^	3
CSG-114	Introduction to Game Development/ Programming ^	3
	(or) CSG-131 Introduction to Game Design	
CSG-115	CSG Production ^	3
CSG-117	Game Logic and Problem-Solving ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
CSG-118	Game Engine Scripting ‡ ^	3
CSG-120	Interactive Display Production 1 ^	1
CSG-127	Agile Project Management	3
CSG-128	Intermediate Game Development Programming ‡ ^	3
	(or) CSG-133 Intermediate Game Design ‡	
CSG-129	CSG Architecture ‡	2
CSG-130	CSG Design ‡	3
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG course	
CSG-179	CSG API Programming ‡ ^	4
CSG-181	CSG Collaborative Lab ‡	4
CSG-185	Data Structures for Game Developers ‡	3
	(or) CSG-138 Advanced Game Design ‡	
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-level MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
ANIM-160	Animation Portfolio ‡	2
CSG-119	Designing Interactive Displays ‡ ^	3
CSG-132	Artificial Intelligence ‡	3
CSG-180	Multimedia Collaborative Lab ‡	3
SOCSOCI-197	Contemporary American Society	3
	(or) Any 200-level SOCSOCI course	

TOTAL CREDITS: 64

‡ 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.

Start Dates: August and January



matc.edu/course-catalog/creative-arts-design-media

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

Criminal Justice Studies

ASSOCIATE DEGREE

Program Code: 10-504-5

Downtown Milwaukee, Mequon and Oak Creek campuses



This program is being developed as a Career 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

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

This program is approved by the Wisconsin Department of Justice Training & Standards Bureau, 17 West Main Street, P.O. Box 7857, Madison, WI 53707-7857; 608-266-8800; www.doj.state.wi.us/dles/training-and-standards-bureau.

Start Dates: August and January



matc.edu/course-catalog/community-human-services

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

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
POLICE-161	Ethics in Law Enforcement.....	3
POLICE-900	Introduction to Criminal Justice.....	3
POLICE-901	Constitutional Law	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
ENG-196	Oral/Personal Communication	3
	(or) Any 200-level ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	
POLICE-902	Criminal Law ‡.....	3
POLICE-907	Community Policing Strategies	3
POLICE-908	Traffic Theory.....	3
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
POLICE-160	Contemporary Legal Issues.....	3
POLICE-162	Sensitive Crimes	3
POLICE-906	Criminal Investigation Theory ‡.....	3
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSCI course	
ELECTIVES	(Three credits needed)	3
POLICE-903	Professional Communications ‡.....	3
POLICE-904	Juvenile Law ‡	3
POLICE-905	Report Writing ‡	3
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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

Culinary Arts

ASSOCIATE DEGREE

Program Code: 10-316-1

Downtown Milwaukee Campus



CULINARY ARTS

matc.edu/academics/pathways

Technical Diploma

• Food Service Assistant, p. 144

Associate Degree

• Culinary Arts, p. 59

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. Students completing the Culinary Arts associate degree technical coursework receive the Certified Culinarian title from the American Culinary Federation.

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

(See full description at 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.

^ 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; 904-824-4468; acfchefs.org/accreditation.



Start Dates: August and January

Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

COURSES

COURSES	Credits
CULART-100 Introduction to Food Service/Hospitality Industry ‡ ^	1
CULART-116 Mise en Place/Culinary Fundamentals ‡ ^	2
CULART-117 Nutrition for Culinary Arts ^	1
CULART-118 Sustainable Food Communities ^	1
CULMGT-112 Food Service Sanitation ^	2
MATH-134 Mathematical Reasoning	3
(or) Any 200-level MATH course	
SOCSCI-103 Think Critically and Creatively	3
(or) Any 200-level SOCSCI or HIST course	
CULART-103 Culinary Arts Practicum ‡	2
CULART-107 Field Experience in Food Service/Hospitality ‡	1
CULART-122 Stocks, Soups and Sauces ‡	1
CULART-124 Meat Identification and Fabrications ‡ ...	1
CULART-126 Seafood/Shellfish Cookery ‡	1
CULART-128 Vegetables, Starches and Grains ‡	1
CULMGT-101 Menu Planning and Design	2
CULMGT-105 Culinary Math and Cost Control	3
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
BAKING-135 Baking for Culinarians ‡	3
CULART-114 Business/Industry Food Service/Catering 1 ‡	4
CULART-134 American Regional Cuisine ‡	1
CULART-135 European and Mediterranean Cuisine ‡ ...	1
CULART-136 Asian Cuisine ‡	1
CULART-137 South and Central American Cuisine ‡	1
CULMGT-102 Food and Beverage Procurement ‡	2
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
CULART-105 Dining Room Service ‡	2
CULART-106 Contemporary Restaurant Cooking ‡	4
CULART-109 Garde Manger 1 ‡	1
CULART-111 Garde Manger 2 ‡	1
CULART-138 Restaurant Operations ‡	2
HOTEL-133 Supervision in the Hospitality Industry	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	

TOTAL CREDITS: 60

Associate Degrees

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.

Career Outlook

Employment prospects for licensed dental hygienists are good. Positions may be found in private dental offices, nursing homes and school settings.

Program Learning Outcomes

- Model dental hygiene professional code of ethics
- Counsel clients/patients to reduce health risks
- Provide community care oral health services in a variety of settings
- Manage infection and hazard control

(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. Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, IL 60611; 800-232-6180; ada.org/coda.

Start Dates: August and January



Healthcare
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology ‡..... 4 (or) BIOSCI-201 Anatomy and Physiology 1 ‡	4
DENHYG-101	Dental Health Safety ‡	1
DENHYG-102	Oral Anatomy, Embryology and Histology ‡	4
DENHYG-103	Dental Radiography ‡.....	2
DENHYG-105	Dental Hygiene Process 1 ‡	4
ENG-195	Written Communication..... 3 (or) ENG-201 English 1 ‡	3
BIOSCI-197	Microbiology ‡	4
CHEM-186	Introductory Biochemistry ‡	4
	(or) CHEM-207 General Chemistry ‡ and CHEM-208 Survey of Biochemistry ‡	
DENHYG-106	Dental Hygiene Process 2 ‡	4
DENHYG-107	Dental Hygiene Ethics and Professionalism ‡	1
DENHYG-108	Periodontology ‡.....	3
DENHYG-109	Cariology ‡	1
DENHYG-110	Nutrition and Dental Health ‡	2
DENHYG-111	General and Oral Pathology ‡.....	3
ENG-196	Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	3
DENHYG-112	Dental Hygiene Process 3 ‡	5
DENHYG-113	Dental Materials ‡	2
DENHYG-114	Dental Pharmacology ‡	2
DENHYG-115	Community Dental Health ‡.....	2
DENHYG-118	Dental Anxiety and Pain Management ‡.....	2
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
DENHYG-117	Dental Hygiene Process 4 ‡	4
ELECTIVES	(One 100-level credit needed).....	1
SOCSCI-172	Introduction to Diversity Studies..... 3 (or) Any 200-level HIST or SOCSCI course	3

TOTAL CREDITS: 67

‡ Prerequisite required.

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



EARLY CHILDHOOD EDUCATION

matc.edu/academics/pathways

Certificate

- Preschool, p. 197

Technical Diploma

- Child Care Services, p. 127

Associate Degree

- Early Childhood Education, p. 61

Bilingual (Spanish) mode offered at West Allis Campus

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.

This program is accredited by the National Association for the Education of Young Children (NAEYC), 1313 L Street NW, Suite 500, Washington, DC 20005; 800-424-2460 or 202-232-8777; naeyc.org/accreditation.

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/community-human-services

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

COURSES

		Credits
CHILDD-148	ECE: Foundations of Early Childhood Education ^.....	3
CHILDD-151	ECE: Infant and Toddler Development ^	3
CHILDD-167	ECE: Health, Safety and Nutrition ^	3
CHILDD-174	ECE: Introductory Practicum ^	3
ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
	(or) Any 200-level ENG or SPEECH course	
CHILDD-108	ECE: Early Language and Literacy ^	3
CHILDD-177	ECE: Intermediate Practicum ‡	3
CHILDD-179	ECE: Child Development ^	3
CHILDD-195	ECE: Family and Community Relationships ^	3
ENG-196	Oral/Interpersonal Communication.....	3
	(or) Any 200-level ENG or SPEECH course	
CHILDD-110	ECE: Social Studies, Art and Music	3
CHILDD-175	ECE: Preschool Practicum ‡.....	3
CHILDD-188	ECE: Guiding Child Behavior ^	3
GEOSCI-112	Principles of Sustainability	3
	(or) Any 200-level BIOSCI, CHEM, GEOSCI or PHYS course	
PSYCH-188	Developmental Psychology	3
	(or) PSYCH-238 Lifespan Psychology	
	(or) Any 200-level PSYCH course	
CHILDD-112	ECE: STEM	3
CHILDD-187	ECE: Children With Differing Abilities	3
CHILDD-199	ECE: Advanced Practicum ‡.....	3
ELECTIVES	(Three 100-level credits needed)	3
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) SOCSCI-217 Valuing Diversity	
	(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 60

‡ Prerequisite required.

^ Counts toward earning the Child Care 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.

Associate Degrees

Electronic Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-605-7

West Allis Campus



ELECTRONIC ENGINEERING TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Electronics Technician Fundamentals, p. 138

Associate Degree

- Electronic Engineering Technology, p. 62

Gain the expertise for professional testing/repair positions in the electronics field. If you are interested in continuing your education to pursue a Bachelor of Science Electrical Engineering degree at Milwaukee School of Engineering (MSOE), select the MSOE-BSEE Transfer courses.

Career Outlook

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.

‡ 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: Electronic Systems Technician.

Start Dates: August and January



matc.edu/course-catalog/stem

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

JOB-READY COURSES

Credits

ELCTEC-110	DC/AC Electronics 1 ‡ ^	4
ELCTEC-130	Digital Electronics ‡ ^	3
ENG-195	Written Communication (or) ENG-201 ‡	3
MATH-115	College Technical Mathematics 1 ‡ ^	5
	(or) MATH-230 ‡ (or) MATH-231 ‡	
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231	
ELCTEC-111	DC/AC Electronics 2 ‡ ^	3
ELCTEC-120	Electronic Devices ‡ ^	4
ELCTEC-140	Microprocessors ‡ ^	3
MATH-116	College Technical Mathematics 2 ‡	4
	(or) MATH-231 ‡ (or) MATH-232 ‡	
ELCTEC-121	Electronic Devices Advanced ‡	3
ELCTEC-150	Data Communications and Networking ‡	3
ELCTEC-196	PLC Systems Basic ‡	3
ENG-197	Technical Reporting (or) ENG-208 ‡	3
PHYS-139	Survey of Physics (or) PHYS-221 ‡	3
ELCTEC-131	Advanced Digital Electronics ‡	3
	(or) ELCTEC-198 ‡	
ELCTEC-141	Microcontrollers ‡	3
ELCTEC-176	Computer Networks ‡	3
ELCTEC-195	Motors and Controls ‡	4
SOCSCI-197	Contemporary American Society	3
	(or) SOCSCI-203	

TOTAL CREDITS: 63

MSOE-BSEE TRANSFER* COURSES

Credits

ECON-195	Economics (or) ECON-201 (or) ECON-202	3
ELCTEC-110	DC/AC Electronics 1 ‡ ^ (or) ELCTEC-115 ‡	4
ELCTEC-130	Digital Electronics ‡ ^ (or) ELCTEC-117 ‡	3
ENG-201	English 1 ‡	3
PSYCH-231	Introductory Psychology (or) PSYCH-199	3
ELCTEC-111	DC/AC Electronics 2 ‡ ^	3
	(or) ELCTEC-116 ‡	
ELCTEC-120	Electronic Devices ‡ ^	4
	(or) ELCTEC-118 ‡	
ELCTEC-140	Microprocessors ‡ ^	3
	(or) ELCTEC-119 ‡	
PHYS-221	College Physics 1 ‡ (or) PHYS-274 ‡	4
SOCSCI-203	Introduction to Sociology	3
ELCTEC-112	DC/AC Electronics 3 ‡	3
ELCTEC-121	Electronic Devices Advanced ‡	3
ELCTEC-195	Motors and Controls ‡	4
ELCTEC-196	PLC Systems Basic ‡	3
ENG-208	Technical Communications ‡	3
MATH-231	Analytic Geometry and Calculus 1 ‡	5
ELCTEC-124	Electronic Circuit Analysis ‡	3
ELCTEC-141	Microcontrollers ‡	3
ELCTEC-150	Data Communications and Networking ‡	3
ELECTIVES	(Five credits needed)	5
MATH-232	Analytic Geometry and Calculus 2 ‡	5

***73 CREDITS for MSOE-BSEE TRANSFER PROGRAM**

Electronic Technology – Automation

ASSOCIATE DEGREE

Program Code: 10-605-1

Downtown Milwaukee Campus



ELECTRONIC TECHNOLOGY – AUTOMATION

matc.edu/academics/pathways

Technical Diploma

- Electronics Technician Fundamentals, p. 138

Associate Degree

- Electronic Technology – Automation, p. 63

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.

Start Dates: August and January



matc.edu/course-catalog/stem

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

COURSES

		Credits
ELCTEC-110	DC/AC Electronics 1 ‡ ^	4
ELCTEC-130	Digital Electronics ‡ ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
MATH-115	College Technical Mathematics 1 ‡ ^	5
ELCTEC-111	DC/AC Electronics 2 ‡ ^	3
ELCTEC-120	Electronic Devices ‡ ^	4
ELCTEC-140	Microprocessors ‡ ^	3
ELCTEC-186	Fabrication Techniques ‡	1
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
MATH-116	College Technical Mathematics 2 ‡	4
ELCTEC-150	Data Communications and Networking ‡	3
ELCTEC-173	Computing With C ‡	3
ELCTEC-195	Motor Controls ‡	4
ELCTEC-196	PLC Systems Basic ‡	3
PHYS-139	Survey of Physics	3
	(or) PHYS-221 College Physics 1 ‡	
ELCTEC-192	Fluid Power ‡	2
ELCTEC-198	PLC Systems Advanced ‡	3
ELCTEC-199	Automated Systems ‡	3
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	
SOCSCI-197	Contemporary American Society	3
	(or) SOCSCI-203 Introduction to Sociology	

TOTAL CREDITS: 63

‡ 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.

Environmental Health and Water Quality Technology

ASSOCIATE DEGREE

Program Code: 10-506-1

Mequon Campus

Associate Degrees



ENVIRONMENTAL HEALTH AND WATER QUALITY TECHNOLOGY

matc.edu/academics/pathways

Certificate

- Water Technician, p. 201

Associate Degree

- Environmental Health and Water Quality Technology, p. 64

This program promotes environmental protection, improvement and sustainability, with a focus on protecting our water, food and air resources. Hands-on coursework includes principles and techniques used to assess water, food, and air quality to meet applicable regulations and to implement needed corrective measures. Students use field projects and internships to further develop the skills and abilities necessary for careers in these fields. Graduates will possess a solid foundation for a wide range of environmental and public health career opportunities.

Career Outlook

There is a steady need for essential workers, technicians and specialists in water and air quality; food safety; field monitoring; and other related environmental careers. Students have the option to earn the Water Technician certificate while completing this degree.

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

(For full description, see matc.edu.)

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.

COURSES

Credits

ENG-195	Written Communication ^.....	3
	(or) ENG-201 English 1 ‡	
ENVHEL-101	Introduction to Environmental Health/ Water Quality ^	3
ENVHEL-102	Environmental Biology.....	4
ENVHEL-109	Applied Environmental Chemistry ^	4
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-level MATH course	
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
ENVHEL-142	Principles of Water Resources ^.....	3
ENVHEL-145	Water/Wastewater Operations – Municipal	3
ENVHEL-173	Environmental Bacteriology.....	3
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
ECON-195	Economics	3
	(or) Any 200-level ECON course	
ENVHEL-104	Industrial Hygiene Technology ‡.....	4
ENVHEL-111	Applied Water Chemistry and Analysis ‡.	4
ENVHEL-115	Air Quality ‡.....	4
ENVHEL-146	Water/Wastewater Operations – Industrial ‡.....	2
ENVHEL-105	Fundamentals of Hazardous Materials Control ‡.....	4
ENVHEL-119	Food and Dairy Safety ‡	3
ENVHEL-127	Environmental Field Projects ‡.....	3
ENVHEL-128	Environmental Health Internship ‡	1
ENVHEL-143	Interpersonal Communication Skills and Environmental Management ‡.....	3

TOTAL CREDITS: 63

‡ 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



Community & Human Services
MILWAUKEE AREA Technical College

matc.edu/course-catalog/community-human-services

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

eProduction

ASSOCIATE DEGREE

Program Code: 10-701-3

Downtown Milwaukee Campus



ePRODUCTION
matc.edu/academics/pathways

Technical Diploma
• TV/Video Field Production Assistant, p. 180

Associate Degree
• eProduction, p. 65

To begin a career in producing on-demand visual media content, this degree prepares you to distribute high-quality video content for the internet, smartphones and other interactive technologies. You will learn how to acquire, edit and recode media for multiple delivery platforms, and gain hands-on experience at Milwaukee PBS studios.

Career Outlook

The need for employees skilled in the electronic production of content on-demand is growing as businesses strive to reach consumers via new technologies.

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
- Manage a production from concept through 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.

COURSES

	Credits
ENG-195 Written Communication ^.....	3
(or) ENG-201 English 1 ‡	
EPROD-150 Introduction to eProduction ^.....	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
TV-101 TV/Video Studio Production Techniques ‡ ^.....	4
TV-181 Video in Society ^	1
WEBDEV-102 Introduction to Digital Media.....	3
ENG-197 Technical Reporting	3
(or) Any 200-level ENG or SPEECH course	
EPROD-151 Data Content Management/Implementation ^	3
TV-105 TV/Video Field Production Techniques ‡ ^.....	4
TV-107 Scriptwriting for Visual Media.....	3
TV-112 Storytelling Via Post-Production ‡ ^.....	3
ANIM-156 Broadcast Animation ‡.....	3
EPROD-152 eProduction Techniques/Implementation	3
EPROD-153 eProduction Practicum 1 ‡ ^	3
MATH-107 College Mathematics ‡.....	3
(or) Any 200-level MATH course	
TV-111 Field Lighting, Gripping and Gaffing	2
TV-142 Non-Linear Video Editing and Authoring ‡ ^	3
EPROD-154 eProduction Integration.....	3
EPROD-155 eProduction Advanced Techniques	3
SOCSCI-197 Contemporary American Society.....	3
(or) Any 200-level HIST or SOCSCI course	
TV-109 Techniques for Field Audio Acquisition ‡.....	2
TV-143 Interactive Content ‡.....	3
(or) TV-149 MCA Co-Op 1 ‡	

TOTAL CREDITS: 64

‡ 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.

Start Dates: August and January



matc.edu/course-catalog/creative-arts-design-media

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

Event Management

ASSOCIATE DEGREE

Program Code: 10-109-6

Downtown Milwaukee Campus



EVENT MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Special Event Management, p. 174

Associate Degree

- Event Management, p. 66

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 key 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 an event
- Manage financial resources
- Design an event
- Promote an 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.

COURSES	Credits
BADM-106 MS Office for Business Applications ^	3
ENG-195 Written Communication ^	3
(or) ENG-201 English 1 ‡	
GEOSCI-112 Principles of Sustainability	3
(or) Any 200-level BIOSCI, CHEM, GEOSCI or PHYS course	
HOTEL-122 Basic Hospitality Accounting ^	3
HOTEL-135 Hospitality Professional Service and Development	3
MEET-151 Introduction to Hospitality/Tourism ^	3
HOTEL-105 Hospitality Marketing, Sales and Revenue Strategy ^	3
HOTEL-124 Managerial Accounting for the Hospitality Industry	3
HOTEL-127 Fundamentals of Meetings and Special Events ^	3
MEET-116 Fundamentals of Green Meetings ^	2
MEET-180 Registration and Housing Logistics ‡ ^	3
MEET-181 Exposition and Special Event Management ‡ ^	3
CULMGT-140 Food and Beverage Operations	3
ECON-195 Economics	3
(or) ECON-219 Personal Finance and Consumer Economics	
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
HOTEL-133 Supervision in the Hospitality Industry	3
MEET-184 Risk Management and Crisis Planning ‡	3
HOTEL-130 Internship - Hotel/Meeting Management ‡ ..	1
MATH-134 Mathematical Reasoning ^	3
(or) Any 200-level MATH course	
MEET-178 Meeting and Convention Planning ‡	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) SOCSCI-200 Introduction to Ethical Issues	

TOTAL CREDITS: 63

‡ Prerequisite required.

^ Counts toward earning the Special Event 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.

Start Dates: August and January



matc.edu/course-catalog/business-management

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

Fire Protection Technician

ASSOCIATE DEGREE

Program Code: 10-503-2

Oak Creek Campus



FIRE PROTECTION TECHNICIAN

matc.edu/academics/pathways

Technical Diploma

- Emergency Medical Technician, p. 139

Associate Degree

- Fire Protection Technician, p. 67

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.

Career Outlook

As fire technology becomes more complex, the responsibilities and challenges a firefighter assumes are increasingly demanding. Therefore, well-trained and educated firefighters are sought by public and private entities.

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 and mitigation skills to emergency incidents

(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

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

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

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

COURSES

Credits

ENG-195	Written Communication 3 (or) ENG-201 English 1 ‡	3
FIRE-143	Building Construction for Fire Protection 3	3
FIRE-191	Principles of Emergency Services..... 2	2
FIRE-192	Principles of Emergency Services Safety and Survival..... 3	3
FIRE-193	Fire Protection Systems 3	3
BIOSCI-177	General Anatomy and Physiology ‡ 4	4
ENG-196	Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	3
FIRE-142	Firefighting Principles 4	4
FIRE-153	Hazardous Materials Awareness and Operations 1	1
FIRE-156	Strategies, Tactics and Incident Management ‡ 3	3
EMS-192	EMT ^ 5	5
FIRE-114	Employability Skills ‡ 3	3
FIRE-144	Advanced Firefighting Principles ‡ 2	2
FIRE-194	Fire Protection Hydraulics ‡ 3	3
SOCSCI-172	Introduction to Diversity Studies 3 (or) SOCSCI-217 Valuing Diversity	3
FIRE-151	Fire Prevention ‡ 4	4
FIRE-154	Hazardous Materials Chemistry ‡ 2	2
FIRE-157	Fire Investigation ‡ 3	3
FIRE-195	Fire Behavior and Combustion..... 3	3
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3

TOTAL CREDITS: 60

‡ Prerequisite required.

^ Counts toward earning the Emergency Medical 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.

Funeral Service

ASSOCIATE DEGREE

Program Code: 10-528-1

West Allis Campus



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, students are immersed in all facets of the funeral profession. 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 labs, 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).

American Board of Funeral Service Education Program Learning Outcomes

- Explain the importance of funeral service professionals in developing relationships with the families and communities they serve.
- Identify standards of ethical conduct in funeral service practice.
- Interpret how federal, state, and local laws apply to funeral service in order to ensure compliance.
- Apply principles of public health and safety in the handling and preparation of human remains.
- Demonstrate technical skills in embalming and restorative art that are necessary for the preparation and handling of human remains.
- Demonstrate skills required for conducting arrangement conferences, visitations, services, and ceremonies.
- Describe the requirements and procedures for burial, cremation, and other accepted forms of final disposition of human remains.
- Describe methods to address the grief-related needs of the bereaved.
- Explain management skills associated with operating a funeral establishment.
- Demonstrate verbal and written communication skills and research skills needed for funeral service practice.

(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 24 college credits in areas specified by the state examining board are required for admission into this program. See Pathway advisor for information.

Start Date: August



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

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

COURSES

		Credits
BIOSCI-177	General Anatomy and Physiology †.....	4
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 †	
FUNERL-106	Thanatochemistry.....	3
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) SOCSCI-210 Death and Dying	
ACCTG-110	Financial Accounting.....	3
BADM-165	Legal Environment of Business.....	3
BIOSCI-197	Microbiology †.....	4
ENG-196	Oral/Interpersonal Communication.....	3
	(or) Any 200-level ENG or SPEECH course	
FUNERL-104	Funeral Service Field Experience I †.....	2
FUNERL-110	Introduction to Funeral Service †.....	2
FUNERL-112	Laws, Rules and Regulations of Funeral Service †.....	3
FUNERL-114	Pathology of Funeral Service †.....	2
FUNERL-116	Funeral Service Practices †.....	4
FUNERL-121	National Funeral Board Prep I †.....	1
FUNERL-131	Embalming Theory †.....	4
FUNERL-105	Funeral Service Field Experience II †.....	2
FUNERL-117	Funeral Service Management †.....	4
FUNERL-120	Restorative Art †.....	4
FUNERL-122	National Funeral Board Prep II †.....	1
FUNERL-132	Funeral Service Science †.....	3
FUNERL-153	Psychology of Funeral Service †.....	3

TOTAL CREDITS: 64

† Prerequisite required.

Program curriculum requirements subject to change.

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

Accreditation

The Funeral Service Program at MATC is accredited by the American Board of Funeral Service Education (ABFSE), 992 Mantua Pike, Suite 108, Woodbury Heights, NJ 08097 (816) 233-3747. Web: www.abfse.org

National Board Passage rates for this program are available on the Funeral Service Program webpage. National Board Examination pass rates, graduation rates and employment rates for this and other ABFSE-accredited programs are available at www.abfse.org in the Directory of Accredited Programs.

The American Board of Funeral Service Education - Committee on Accreditation has reaccredited this program for a period of seven years (through October 2021).

For program information contact:
Gabriel Schauf, Funeral Service
Program Coordinator,
schaufg@matc.edu, 414-456-5320.

Graphic Design

ASSOCIATE DEGREE

Program Code: 10-201-1

Downtown Milwaukee Campus (Also offered online)



GRAPHIC DESIGN
matc.edu/academics/pathways

Technical Diploma
• Production Artist, p. 169

Associate Degree
• Graphic Design, p. 69

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.

COURSES

Credits

ENG-195	Written Communication ^ 3 (or) ENG-201 English 1 ‡	3
GRDS-103	Design Elements and Principles ^ 3	3
GRDS-107	Digital Imaging: Adobe Photoshop ^ 3	3
GRDS-115	Typographic Fundamentals ^ 3	3
GRDS-122	Vector Graphics: Adobe Illustrator ^ 3	3
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
ENG-197	Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	3
GRDS-104	Researching and Concepting ‡ ^ 3	3
GRDS-110	Layout and Publishing: InDesign ‡ ^ 3	3
GRDS-111	Advertising Design ‡ ^ 3	3
GRDS-117	Packaging Design ‡ ^ 3	3
GRDS-128	Portfolio Pathway ‡ ^ 1	1
GRDS-121	Exhibition Design ‡ 3	3
GRDS-126	History of Advertising Media/Design 3	3
GRDS-129	Motion Graphic Design ‡ 3	3
GRDS-142	Brand and Media Strategies 3	3
MATH-134	Mathematical Reasoning 3 (or) Any 200-level MATH course	3
GRDS-112	Graphic Design Workshop ‡ 3	3
GRDS-113	Digital Media Preparation ‡ 3	3
GRDS-116	Integrated Design Thinking ‡ 3	3
GRDS-153	Portfolio Assessment ‡ 3	3
SOCSCI-172	Introduction to Diversity Studies 3 (or) Any 200-level SOCSCI or HIST course	3

TOTAL CREDITS: 64

‡ 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



matc.edu/course-catalog/creative-arts-design-media

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

Health Information Technology

ASSOCIATE DEGREE

Program Code: 10-530-1

Mequon Campus



HEALTH INFORMATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Medical Coding Specialist, p. 159

Associate Degree

- Health Information Technology, p. 70

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.

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.

This program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 200 East Randolph Street, Suite 5100, Chicago, IL 60601; 312-235-3255; cahiim.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-189	Basic Anatomy ^	3
	(or) BIOSCI-177 General Anatomy and Physiology ‡ (or) BIOSCI-201 Anatomy and Physiology 1 ‡ and BIOSCI-202 Anatomy and Physiology 2 ‡	
ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
HEALTH-101	Medical Terminology ^	3
HEALTH-107	Digital Literacy for Healthcare ^	2
HIT-182	Human Disease for the Health Professions ‡ ^	3
HIT-197	ICD Diagnosis Coding ‡ ^	3
HIT-199	ICD Procedure Coding ‡ ^	2
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
HEALTH-104	Culture of Healthcare ^	2
HIT-159	Healthcare Revenue Management	3
HIT-162	Foundations of HIM ‡ ^	3
HIT-165	Intermediate Coding ‡ ^	3
HIT-184	CPT Coding ‡ ^	3
HIT-163	Healthcare Stats and Analytics ‡	3
HIT-164	Introduction to Health Informatics ‡	3
HIT-178	Healthcare Law and Ethics ‡	2
MATH-189	Introductory Statistics	3
	(or) MATH-260 Basic Statistics	
PSYCH-188	Developmental Psychology	3
	(or) Any 200-level PSYCH course	
SOCSCI-172	Introduction to Diversity Studies	3
	(or) Any 200-level SOCSCI course	
HIT-161	Health Quality Management ‡	3
HIT-166	HIT Capstone ‡	1
HIT-167	Management of HIM Resources ‡	3
HIT-196	Professional Practice ‡	3

TOTAL CREDITS: 63

‡ Prerequisite required.

^ Counts toward earning the Medical Coding 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.

Healthcare Services Management

ASSOCIATE DEGREE

Program Code: 10-530-3

Mequon Campus (Also offered online)



HEALTHCARE SERVICES MANAGEMENT

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Health Unit Coordinator, p. 147
- Phlebotomy, p. 164

Associate Degree

- Healthcare Services Management, p. 71

Demonstrate leadership skills, manage support staff, and ensure efficient healthcare organizational workflows according to prescribed quality standards with the abilities attained through this program. Most courses are offered via flexible online and hybrid (in-class/online) formats.

Career Outlook

Employers in healthcare systems seek individuals who can function in multiple capacities. The Wisconsin Technical College System in October 2019 identified this profession as the No. 1 in-demand area of the Top 50 jobs.

Program Learning Outcomes

- Employ healthcare quality management techniques to encourage safe and efficient patient care
- Describe knowledge of healthcare systems management
- Utilize oral, written, and non-verbal communication skills in an organized and coherent manner
- Apply quantitative and qualitative reasoning skills

(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.

COURSES

COURSES	Credits
BIOSCI-189 Basic Anatomy3 (or) BIOSCI-177 General Anatomy and Physiology ‡ (or) BIOSCI-201 Anatomy and Physiology 1 ‡	3
ECON-195 Economics.....3 (or) Any 200-level ECON course	3
ENG-195 Written Communication ^ *3 (or) ENG-201 English 1 ‡	3
HEALTH-101 Medical Terminology ^ *3	3
HEALTH-104 Culture of Healthcare ^ *2	2
HEALTH-107 Digital Literacy for Healthcare ^ *2	2
HSM-130 Health Services Coordination 1 ‡ ^3 (or) CLABT-110 Basic Lab Skills ‡ * and CLABT-111 Phlebotomy ‡ *	3
HSM-131 Health Services Coordination 2 ‡ ^3 (or) MLABT-161 Computer Applications for the Medical Laboratory ‡ * and Two Credits of Electives	3
HSM-132 Health Services Applications ‡ ^3 (or) MLABT-166 Phlebotomy Clinical Experience ‡ *	3
HSM-145 Healthcare Law, Ethics and Professional Standards ‡3	3
MATH-189 Introductory Statistics ‡3 (or) MATH-260 Basic Statistics ‡	3
ACCTG-110 Financial Accounting3	3
ENG-197 Technical Reporting.....3 (or) Any 200-level ENG course	3
HSM-129 Human Resources Management in HCOs ‡3	3
HSM-139 Bioethics, Human Research Practices and Compliance ‡4	4
HSM-144 Introduction to the Business of Healthcare ‡3	3
BADM-126 Business Finance ‡3	3
HSM-143 Healthcare Quality Management ‡3	3
HSM-146 Leadership in Healthcare Organizations ‡4	4
PSYCH-199 Psychology of Human Relations3 (or) Any 200-level PSYCH course	3
SOCSCI-197 Contemporary American Society3 (or) Any 200-level HIST or SOCSCI course	3

TOTAL CREDITS: 63

^ 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



matc.edu/course-catalog/healthcare

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

Hospitality Management

ASSOCIATE DEGREE

Program Code: 10-109-2

Downtown Milwaukee Campus



HOSPITALITY MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Foundations of Lodging and Hospitality Management, p. 145

Associate Degree

- Hospitality Management, p. 72

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 a vital segment 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.

COURSES

Credits

ENG-195	Written Communication ^ 3 (or) ENG-201 English 1 ‡	3
HOTEL-110	Front Office Procedures and Management ^ 3	3
HOTEL-122	Basic Hospitality Accounting ^ 3	3
HOTEL-135	Hospitality Professional Service and Development ^ 3	3
MEET-151	Introduction to Hospitality/Tourism ^ 3	3
HOTEL-105	Hospitality Marketing, Sales and Revenue Strategy ^ 3	3
HOTEL-112	Front Office Computerized Procedures ‡ ^ 3	3
HOTEL-120	Building Operations and Security ^ 3	3
HOTEL-124	Managerial Accounting for the Hospitality Industry ‡ 3	3
HOTEL-127	Fundamentals of Meetings and Special Events ^ 3	3
HOTEL-150	Housekeeping Operations ^ 2	2
CULMGT-117	Hospitality Law and Liability ^ 3	3
GEOSCI-112	Principles of Sustainability 3 (or) BIOSCI-220 Introduction to Nutritional Science	3
HOTEL-133	Supervision in the Hospitality Industry 3	3
MATH-134	Mathematical Reasoning 3 (or) Any 200-level MATH course	3
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
CULMGT-140	Food and Beverage Operations 3	3
ECON-195	Economics 3 (or) Any 200-level ECON course	3
ENG-196	Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	3
HOTEL-130	Internship - Hotel/Meeting Management ‡ 1	1
SOCSCI-172	Introduction to Diversity Studies 3 (or) SOCSCI-200 Introduction to Ethical Issues	3

TOTAL CREDITS: 60

‡ 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Human Resources

ASSOCIATE DEGREE

Program Code: 10-116-1

Downtown Milwaukee Campus



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

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.

COURSES

	Credits
BADM-106 MS Office for Business Applications.....	3
BADM-134 Business Organization and Management.....	3
ENG-195 Written Communication.....	3
(or) ENG-201 English 1 ‡	
HRMGT-193 Human Resource Management.....	3
HRMGT-198 Business Ethics.....	3
BADM-110 Business Communications With Technology.....	3
HRMGT-133 Legal Issues and Employment Law.....	3
HRMGT-196 Recruiting and Selection.....	3
MATH-123 Math With Business Applications ‡.....	3
MATH-134 Mathematical Reasoning.....	3
(or) Any 200-level MATH course	
ACCTG-142 Payroll Accounting.....	2
ENG-197 Technical Reporting.....	3
(or) Any 200-level ENG or SPEECH course	
HRMGT-136 Safety in the Workplace.....	3
HRMGT-169 Diversity and Change Management.....	3
HRMGT-197 Employee Training and Development.....	3
SOCSCI-197 Contemporary American Society.....	3
(or) Any 200-level SOCSCI course	
HRMGT-170 Employee Relations and Labor Relations ..	3
HRMGT-194 Fundamentals of Compensation.....	3
LOGMGT-105 Enterprise Resource Planning.....	3
MGTDEV-190 Leadership Development.....	3
PSYCH-199 Psychology of Human Relations.....	3
(or) Any 200-level PSYCH course	

TOTAL CREDITS: 62

‡ 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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.

COURSES

Credits

AODA-109	Drug Use and Abuse	3
ENG-195	Written Communication..... (or) ENG-201 English 1 ‡	3
HUMSVC-101	Introduction to Human Services ‡	3
HUMSVC-144	Ethics in the Human Service Professions ‡	3
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
GEOSCI-112	Principles of Sustainability.....	3
	(or) Any 200-level BIOSCI, CHEM, GEOSCI or PHYS course	
HUMSVC-102	Interviewing Skills ‡	3
HUMSVC-103	Group Work Skills ‡	3
HUMSVC-113	Documentation and Record Keeping ‡	3
HUMSVC-118	Introduction to Gerontology	3
SOCSCI-197	Contemporary American Society.....	3
	(or) SOCSCI-203 Introduction to Sociology	
ECON-195	Economics	3
	(or) Any 200-level ECON course	
HUMSVC-104	Field Preparation ‡	1
HUMSVC-115	Methods of Social Casework ‡	3
HUMSVC-127	Disabilities and the Helping Profession ...	3
HUMSVC-142	Multicultural Competence in the Human Service Profession.....	3
ELECTIVES	(Three 100-level credits needed)	3
HUMSVC-106	Advanced Field Experience ‡	4
HUMSVC-107	Field Experience Seminar ‡	2
HUMSVC-121	Family Issues and Interventions ‡	3
PSYCH-188	Developmental Psychology.....	3
	(or) PSYCH-238 Lifespan Psychology	
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	

TOTAL CREDITS: 64

‡ 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



matc.edu/course-catalog/community-human-services

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

Individualized Technical Studies

ASSOCIATE DEGREE 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.

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

 **General Education**
MILWAUKEE AREA Technical College
matc.edu/course-catalog/general-education

COURSES	Credits
INDVTS-102 Career Assessment and Portfolio Development.....	3
ECON-195 Economics..... (or) Any 200-level ECON course	3
ENG-195 Written Communication (or) ENG-201 English 1 ‡	3
ENG-196 Oral/Interpersonal Communication..... (or) Any 200-level ENG or SPEECH course	3
MATH-107 College Mathematics ‡ (or) MATH-113 College Technical Mathematics 1A ‡ (or) MATH-123 Math With Business Applications ‡ (or) Any 200-level MATH course	3
PSYCH-199 Psychology of Human Relations (or) Any 200-level PSYCH course	3
OTHER TECHNICAL COURSES	42
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 (Also offered online)



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 Codes that impact the interior environment
- Integrate industry guidelines that impact the interior environment
- Apply interior design business practices
- Apply design process to interior design projects
- Design within the parameters of the built environment
- Apply fundamentals of design

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.

COURSES

	Credits
ECON-195 Economics	3
(or) Any 200-level ECON course	
ENG-195 Written Communication.....	3
(or) ENG-201 English 1 ‡	
INDSGN-100 Introduction to Interior Design.....	3
INDSGN-102 Basic Architectural Drawing.....	3
INDSGN-104 Interior Elements of Building Construction.....	3
INDSGN-106 Materials and Furniture Design	3
ENG-197 Technical Reporting	3
(or) Any 200-level ENG or SPEECH course	
INDSGN-108 Residential Studio ‡.....	3
INDSGN-110 Advanced Architectural Drawing ‡.....	3
INDSGN-113 Textiles: Science, Application and Design	3
INDSGN-114 Color and Light ‡	3
MATH-107 College Mathematics ‡.....	3
(or) Any 200-level MATH course	
INDSGN-116 Kitchen and Bath Design ‡	3
INDSGN-118 Commercial Studio ‡	3
INDSGN-120 Interior Design Internship ‡.....	1
INDSGN-122 Styles of Furniture and Architecture ‡.....	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
ELECTIVES (Three credits needed).....	3
INDSGN-124 Advanced Commercial Studio ‡.....	3
INDSGN-128 Designer/Client Relationships	3
INDSGN-131 Portfolio Development and Application ‡	3
SOCSCI-197 Contemporary American Society.....	3
(or) Any 200-level HIST or SOCSCI course	

TOTAL CREDITS: 64

‡ 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



matc.edu/course-catalog/creative-arts-design-media

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

IT Computer Support Specialist

ASSOCIATE DEGREE

Program Code: 10-154-3

All campuses (Also offered online)

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 - Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

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.

Career Outlook

Computer support specialists are in high demand locally and throughout the United States. Typical job titles include junior help desk technician, junior support specialist, Apple support specialist, mobile device support specialist, desktop support specialist and IT field technician.

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.

‡ Prerequisite required.

^ Counts toward earning the IT Computer Support Technician technical diploma.

† Counts toward earning the IT Help Desk Support Specialist technical diploma.

* Counts toward earning the IT User Support Technician technical diploma.

Start Dates: August and January



matc.edu/course-catalog/stem

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

COURSES

Credits

ENG-195	Written Communication ^ † 3 (or) ENG-201 English 1 ‡	3
ITSUP-101	Computer Information Systems Fundamentals ^ † 3	3
ITSUP-109	Microsoft Office for IT Professionals ^ † 3	3
ITSUP-111	CompTIA A+ Software Support ^ † 3	3
ITSUP-140	Support Center Analyst (HDI-SCA, HDI-DST, ITIL) ^ * † 3	3
ENG-197	Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	3
ITNET-101	Network Communications (Network+) ^ † 3	3
ITSUP-102	CompTIA A+ Essentials ^ † 3	3
ITSUP-177	Intro to IT Projects, Teamwork and Self-Management † 3	3
ITSUP-197	Business Data Analytics 3	3
ITSUP-150	Mobile Device Repair and Support * † 3	3
ITSUP-152	Apple OSX Certified Support Professional (ACSP) * † 3	3
ITSUP-155	IT Career Skills ^ † 3	3
MATH-123	Math With Business Applications ‡ 3 (or) Any 200-level MATH course	3
SOCSCI-197	Contemporary American Society 3 (or) Any 200-level SOCSCI or HIST course	3
ELECTIVES	(Three credits needed) 3	3
ITSEC-124	Network Security (Security+) ^ † 3	3
ITSUP-106	Linux Support 1	1
ITSUP-153	Mobile Device Administration * † 3	3
ITSUP-198	Computer Support Specialist Internship ‡ † 1	1
ITSUP-199	Integrated Project – Computer Support Specialist † 1	1
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3

TOTAL CREDITS: 60

Program curriculum requirements are subject to change.

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

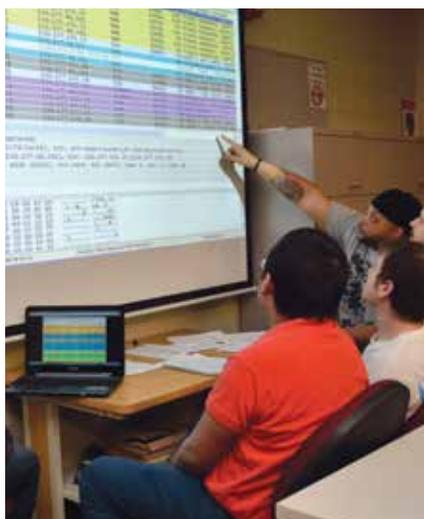
Associate Degrees

IT Information Systems Security Specialist

ASSOCIATE DEGREE

Program Code: 10-151-3

All campuses



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

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.

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
ITNET-110	Managing Windows Desktop (Client) Operating System	3
ITNET-131	Introduction to Networks (Cisco 1)	3
ITSEC-124	Network Security (Security+).....	3
MATH-123	Math With Business Applications ‡	3
	(or) Any 200-level MATH course	
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
ITNET-112	MS Server Administration 1	3
ITNET-132	Routing/Switching Essentials (Cisco 2)	3
ITNET-161	Linux Overview	2
ITSEC-152	Information Security Risk Management	3
ELECTIVES	(Three credits needed)	3
ITNET-111	MS Server Administration 2.....	3
ITSEC-136	Unix/Linux Administration and Security ...	3
ITSEC-145	Perimeter Security.....	3
ITSEC-148	Securing Wireless Devices and Networks ..	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
ITSEC-122	Web/Application Security.....	3
ITSEC-126	Computer Forensics	3
ITSEC-146	Security Measures and Intrusion Detection.....	3
ITSEC-191	Information Systems Security Internship 2 ‡	1
	(or) ITSEC-194 Security Project Implementation	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-level SOCSCI or HIST course	

TOTAL CREDITS: 60

‡ 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



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

IT Mobile Applications Developer

ASSOCIATE DEGREE

Program Code: 10-152-8

All campuses



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

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

- Gather mobile requirements
- Design mobile applications
- Integrate mobile data technologies
- Build mobile applications
- Develop technical documentation for mobile applications
- Implement current platforms 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

		Credits
ENG-195	Written Communication..... 3 (or) ENG-201 English 1 ‡	3
ITDEV-110	Introduction to Object-Oriented Programming ‡	3
ITDEV-117	Logic and Problem-Solving	3
WEBDEV-114	Web Development With HTML/CSS	3
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
ITDEV-115	Intermediate Object-Oriented Programming ‡	3
ITDEV-140	Programming With Java ‡	3
ITDEV-150	Database Management With SQL.....	3
ITDEV-160	Web Programming With Scripts (JavaScript)	3
ITDEV-154	Data Structures and Programming ‡	3
ITDEV-161	Web Programming 1 ‡	3
ITDEV-181	Mobile Application Development ‡	3
MATH-123	Math With Business Applications ‡	3
	(or) Any 200-level MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
ELECTIVES	(Three 100-level credits needed)	3
IT-107	Social Networking and Business Communications	3
ITDEV-177	Systems Analysis and Design ‡	3
ITDEV-182	Hybrid Mobile App Development ‡	3
ITDEV-184	iPhone and iOS Mobile App Development.....	3
SOCSOCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSOCI course	

TOTAL CREDITS: 60

‡ 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 Degrees

Start Dates: August and January



matc.edu/course-catalog/stem

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

IT Network Specialist

ASSOCIATE DEGREE

Program Code: 10-150-2

All campuses

Associate Degrees



IT NETWORK SPECIALIST

matc.edu/academics/pathways

Technical Diploma

- IT Networking and Infrastructure Administration, p. 151

Associate Degree

- IT Network Specialist, p. 80
- IT Network Specialist – Online Accelerated Cohort, p. 81

Through hands-on coursework, you will set up and troubleshoot computer and network operating systems along with working with emerging IT technologies. Certification preparations in this degree include: VMware Certified Professional (VCP-DCV), Cisco Certified Networking Associate (CCNAv7), Microsoft Certifications, Amazon Web Services Cloud Practitioner (AWS-CP), Testout and CompTIA (A+, Network+ and Security+).

Career Outlook

Employment opportunities are strong. This program will prepare you to obtain an entry-level information technology position with possibilities for advancement. You also will be ready to take industry certification exams.

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.

COURSES

Credits

ENG-195	Written Communication 3 (or) ENG-201 English 1 ‡	3
IT-107	Social Networking and Business Communications..... 3	3
ITNET-101	Network Communications (Network+) ^ ... 3	3
ITNET-110	Managing Windows Desktop (Client) Operating System ^ 3	3
ITNET-131	Introduction to Networks (Cisco 1) ^ 3	3
ENG-197	Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	3
ITNET-112	MS Server Administration 1 ^ 3	3
ITNET-132	Routing/Switching Essentials (Cisco 2) ‡ ^.. 3	3
ITSEC-124	Network Security (Security+)..... 3	3
ITSUP-102	CompTIA A+ Essentials..... 3	3
ITNET-111	MS Server Administration 2 ^ 3	3
ITNET-133	Scaling Networks (Cisco 3) ‡ ^ 3	3
ITNET-154	Scripting for Network Administrators ^.... 3	3
ITNET-159	Cloud Infrastructure Services 3	3
MATH-123	Math With Business Applications ‡ ^ 3 (or) Any 200-level MATH course	3
ELECTIVES	(Three 100-level credits needed) 3	3
ITNET-157	Virtualization Technologies ^ 3	3
ITNET-198	Network Specialist Internship ‡..... 1	1
ITNET-199	Integrated Project – Network Specialist ... 2	2
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
SOCSCI-197	Contemporary American Society 3 (or) Any 200-level HIST or SOCSCI course	3

TOTAL CREDITS: 60

‡ 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



matc.edu/course-catalog/stem

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

IT Network Specialist – Online Accelerated Cohort

ASSOCIATE DEGREE

Program Code: 10-150-2

Offered entirely online



IT NETWORK SPECIALIST

matc.edu/academics/pathways

Technical Diploma

- IT Networking and Infrastructure Administration, p. 151

Associate Degree

- IT Network Specialist, p. 80
- IT Network Specialist – Online Accelerated Cohort, p. 81

The Accelerated Online program is an 18- to 20-month, cohort-based program where students take technical courses from the IT Network Specialist associate degree and IT Networking and Infrastructure Administration technical diploma. You work with the same set of students and instructors for the duration of the program, reducing redundancy and using the same learning tools throughout. This is an excellent environment for adult learners, career changers, displaced workers, and students with existing degrees. To complete the associate degree, general education courses are taken outside the structure of the cohort. For certification preparations, see program’s webpage at matc.edu.

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
- Requires interview with instructor; fill out form on program’s webpage

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

Start Date: January



matc.edu/course-catalog/stem

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

COURSES

Credits

ENG-195	Written Communication 3 (or) ENG-201 English 1 ‡	3
IT-107	Social Networking and Business Communications..... 3	3
ITNET-101	Network Communications (Network+) ^ ... 3	3
ITNET-110	Managing Windows Desktop (Client) Operating System ^ 3	3
ITNET-131	Introduction to Networks (Cisco 1) ^ 3	3
ENG-197	Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	3
ITNET-112	MS Server Administration 1 ^ 3	3
ITNET-132	Routing/Switching Essentials (Cisco 2) ‡ ^.. 3	3
ITSEC-124	Network Security (Security+)..... 3	3
ITSUP-102	CompTIA A+ Essentials..... 3	3
ITNET-111	MS Server Administration 2 ^ 3	3
ITNET-133	Scaling Networks (Cisco 3) ‡ ^ 3	3
ITNET-154	Scripting for Network Administrators ^.... 3	3
ITNET-159	Cloud Infrastructure Services 3	3
MATH-123	Math With Business Applications ‡ ^ 3 (or) Any 200-level MATH course	3
ELECTIVES	(Three 100-level credits needed) 3	3
ITNET-157	Virtualization Technologies ^ 3	3
ITNET-198	Network Specialist Internship ‡..... 1	1
ITNET-199	Integrated Project – Network Specialist ... 2	2
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
SOCSCI-197	Contemporary American Society 3 (or) Any 200-level HIST or SOCSCI course	3

TOTAL CREDITS: 60

‡ 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.

Associate Degrees

IT Web and Software Developer

ASSOCIATE DEGREE

Program Code: 10-152-7

All campuses



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

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 web and software applications
- Apply data persistence technologies
- Develop software applications
- Develop web applications
- Develop documentation
- Use infrastructures
- Analyze new technologies

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



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

COURSES	Credits
ENG-195 Written Communication.....	3
(or) ENG-201 English 1 ‡	
ITDEV-110 Introduction to Object-Oriented Programming ‡	3
ITDEV-117 Logic and Problem-Solving	3
WEBDEV-114 Web Development With HTML/CSS	3
ENG-197 Technical Reporting	3
(or) Any 200-level ENG or SPEECH course	
ITDEV-115 Intermediate Object-Oriented Programming ‡	3
ITDEV-140 Programming With Java ‡	3
ITDEV-150 Database Management With SQL.....	3
ITDEV-160 Web Programming With Scripts (JavaScript)	3
MATH-123 Math With Business Applications ‡	3
(or) Any 200-level MATH course	
ITDEV-154 Data Structures and Programming ‡	3
ITDEV-161 Web Programming 1 ‡	3
ITDEV-162 Client/Server and eCommerce Implementation	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
ELECTIVES (Three 100-level credits needed)	3
IT-107 Social Networking and Business Communications	3
ITDEV-164 Web Programming 2 ‡	3
ITDEV-177 Systems Analysis and Design ‡	3
ITDEV-185 Advanced Object-Oriented Programming ‡	3
SOCSCI-197 Contemporary American Society.....	3
(or) Any 200-level SOCSCI course	
TOTAL CREDITS: 60	

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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

Landscape Horticulture

ASSOCIATE DEGREE

Program Code: 10-001-4

Mequon Campus



LANDSCAPE HORTICULTURE

matc.edu/academics/pathways

Technical Diploma

• Landscape Horticulture Technician, p. 153

Associate Degree

• Landscape Horticulture, p. 83

For opportunities that require outdoor work, creativity and plant knowledge, check out horticulture/landscape careers. This program includes coursework in landscape maintenance and arboriculture, and 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.

‡ 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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
HORT-111	Introduction to Horticulture ^	3
HORT-112	Horticulture Soils ^	3
HORT-114	Survey of Woody Ornamental Plants ^	3
HORT-116	Landscape Equipment ^	3
GEOSCI-112	Principles of Sustainability	3
	(or) Any 200-level BIOSCI, CHEM, GEOSCI, PHYS course	
HORT-113	Ornamental Plant Health Care ^	3
HORT-118	Landscape Business Principles ^	3
HORT-122	Landscape Design I ^	3
HORT-126	Landscape Estimating and Bidding ^	3
HORT-159	Survey of Herbaceous Plants ^	2
ELECTIVES	(Three 100-level credits needed)	3
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG course	
HORT-119	Landscape Construction 1	3
HORT-121	Irrigation, Lighting and Ponds	3
	(or) HORT-127 Arboriculture 1: Tree Care Fundamentals	
HORT-123	Landscape Horticulture - Design II ‡	3
	(or) HORT-120 Landscape Construction II	
HORT-125	Landscape Maintenance Applications	3
ELECTIVES	(Two 100-level credits needed)	2
HORT-124	Landscape Design 3 ‡	2
	(or) HORT-171 Exterior Plant Pests	
HORT-132	Communications and Marketing	2
HORT-161	Landscape Plants – Shrubs ‡	2
	(or) HORT-160 Landscape Plants – Trees ‡	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
SOCSCI-197	Contemporary American Society ^	3
	(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 64

Associate Degrees

Legal Studies/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 available online and in blended/accelerated format. At least 9-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. Paralegals may not provide legal services directly to the public, except as permitted by 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

- A high school diploma or GED
- Transfer of legal specialty coursework credit (PLEGAL designated courses) is accepted, subject to review by the Program Coordinator for course compatibility, only from ABA approved paralegal programs or from accredited law schools. Transfer is limited to a maximum of 15 credits.

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

This program is approved by the American Bar Association, 321 North Clark Street, Chicago, IL 60654; 312-988-5616; americanbar.org/groups/paralegals/.

Start Dates: August/January/June



matc.edu/course-catalog/community-human-services

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

COURSES	Credits
BADM-106 MS Office for Business Applications	3
ECON-195 Economics.....	3
(or) Any 200-level ECON course	
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
OFTECH-103 Keyboard and Keypad.....	1
PLEGAL-101 Introduction to Paralegalism.....	3
ACCTG-102 Basic Office Accounting.....	3
BADM-165 Legal Environment of Business.....	3
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
PLEGAL-103 Legal Research ‡	3
PLEGAL-123 Corporate Practice Systems ‡.....	3
PLEGAL-140 Legal Interviewing/Investigation ‡	3
MATH-123 Math With Business Applications ‡	3
(or) Any 200-level MATH course	
PLEGAL-105 Civil Procedure ‡	3
PLEGAL-107 Legal Writing ‡	3
PLEGAL-114 Trusts and Estates – Probate Systems ‡	3
PLEGAL-121 Domestic Relations and Divorce Practice Systems ‡	3
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
GEOSCI-112 Principles of Sustainability	3
(or) Any 200-level BIOSCI, CHEM, GEOSCI or PHYS course	
PLEGAL-111 Litigation Practice Systems ‡.....	3
PLEGAL-116 Real Estate Law and Practice ‡	3
PLEGAL-118 Criminal Practice ‡	3
SOCSCI-197 Contemporary American Society	3
(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 64

‡ 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.

Marketing

ASSOCIATE DEGREE

Program Code: 10-104-3

Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)



MARKETING

matc.edu/academics/pathways

Technical Diploma

- Digital Marketing and Integrated Communications, p. 135
- Sales and Customer Experience, p. 173

Associate Degree

- Marketing, p. 85
- Marketing – Online Accelerated, p. 86

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 Requirement

- A high school diploma or GED

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

COURSES

Credits

BADM-106	MS Office for Business Applications	3
ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
MKTG-102	Marketing Principles *	3
MKTG-104	Selling Principles *	3
ACCTG-110	Financial Accounting	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	
MKTG-125	Advertising: Brands and Campaigns ^	3
MKTG-173	Marketing Research/Analytics ^ *	3
MKTG-198	Visual Media Marketing ^	3
BADM-110	Business Communications With Technology	3
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG course	
MKTG-118	Social Media Marketing ^	3
MKTG-165	Digital Marketing ^	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
BADM-134	Business Organization and Management.....	3
MKTG-106	Retail and Consumer Marketing ‡ *	3
MKTG-107	Customer Experience *	3
MKTG-134	Integrated Marketing Communications ^	3
MKTG-144	Client Services ^ *	3
MKTG-175	Marketing Internship ‡	1
TOTAL CREDITS: 61		

‡ 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Marketing – Online Accelerated

ASSOCIATE DEGREE

Program Code: 10-104-3

Offered entirely online



MARKETING

matc.edu/academics/pathways

Technical Diploma

- Digital Marketing and Integrated Communications, p. 135
- Sales and Customer Experience, p. 173

Associate Degree

- Marketing, p. 85
- Marketing – Online Accelerated, p. 86

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 Requirement

- A high school diploma or GED

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

COURSES

Credits

BADM-106	MS Office for Business Applications	3
ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
MKTG-102	Marketing Principles *	3
MKTG-104	Selling Principles *	3
ACCTG-110	Financial Accounting	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	
MKTG-125	Advertising: Brands and Campaigns ^	3
MKTG-173	Marketing Research/Analytics ^ *	3
MKTG-198	Visual Media Marketing ^	3
BADM-110	Business Communications With Technology	3
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG course	
MKTG-118	Social Media Marketing ^	3
MKTG-165	Digital Marketing ^	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
BADM-134	Business Organization and Management.....	3
MKTG-106	Retail and Consumer Marketing ‡*	3
MKTG-107	Customer Experience *	3
MKTG-134	Integrated Marketing Communications ^... ..	3
MKTG-144	Client Services ^ *	3
MKTG-175	Marketing Internship ‡	1

TOTAL CREDITS: 61

‡ 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.

Start Date: August



matc.edu/course-catalog/business-management

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

Mechanical Design Technology

ASSOCIATE DEGREE

Program Code: 10-606-1

Downtown Milwaukee Campus



MECHANICAL DESIGN TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Mechanical and Computer Drafting, p. 156

Associate Degree

- Mechanical Design Technology, p. 87

Get involved in the engineering design process – design and analyze mechanical components and assemblies; and create 3D solid models and 2D detailed drawings for parts or assemblies of mechanical and electromechanical systems using the latest computer-aided design/drafting (CADD) systems.

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.

COURSES

	Credits
CIVIL-102 Introduction to AutoCAD ^	2
CIVIL-105 Computer Applications ^	2
MATH-115 College Technical Mathematics 1 ‡ ^	5
MCDESG-102 Technical Drafting 1 ‡ ^	3
MCDESG-162 Engineering Materials ^	2
MATH-116 College Technical Mathematics 2 ‡	4
MCDESG-104 Technical Drafting 2 With CAD ‡ ^	3
MCDESG-114 SolidWorks 1 ‡ ^	2
MCDESG-160 Statics ‡	3
SOCSOI-197 Contemporary American Society	3
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
MCDESG-106 Advanced Engineering Graphics ‡ ^	3
MCDESG-118 Kinematics ‡	3
MCDESG-124 SolidWorks 2 ‡ ^	2
MCDESG-130 Strength of Materials ‡	3
MCDESG-163 Machining Processes ‡ ^	2
ELECTIVES (Two credits needed)	2
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
MCDESG-112 Tool Design ‡	3
MCDESG-116 Design Elements ‡	3
MCDESG-125 Design Problems ‡	3
MCDESG-135 PTC Creo (Pro/E) 1 ‡	2
PSYCH-199 Psychology of Human Relations	3

TOTAL CREDITS: 64

‡ Prerequisite required.

^ Counts toward earning the Mechanical and Computer Drafting 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 Date: August



matc.edu/course-catalog/stem

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

Medical Administrative Specialist

ASSOCIATE DEGREE

Program Code: 10-160-4

West Allis Campus



MEDICAL ADMINISTRATIVE PROFESSIONAL

matc.edu/academics/pathways

Technical Diploma

- Medical Billing, p. 158

Associate Degree

- Medical Administrative Specialist, p. 88

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.

COURSES

Credits

BRHLTH-124	Medical Office Terminology 1 ^	3
ENG-195	Written Communication..... (or) ENG-201 English 1 ‡	3
OFTECH-101	Office Technologies 1 ^.....	3
OFTECH-103	Keyboard and Keypad ^.....	1
OFTECH-122	Business English Essentials ^.....	3
SOCSCI-103	Think Critically and Creatively	3
	(or) Any 200-level SOCSCI or HIST course	
ACCTG-102	Basic Office Accounting	3
BRHLTH-125	Medical Office Terminology 2 ‡ ^	3
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
OFTECH-119	Information Management.....	3
OFTECH-133	Business Document Production 1 ‡	3
BIOSCI-189	Basic Anatomy ^	3
	(or) Any 200-level BIOSCI course	
BRHLTH-135	Medical Document Production ‡	3
BRHLTH-140	Electronic Health Records: Administrative Application ‡	3
BRHLTH-142	Administrative Procedures for the Medical Office ‡	3
BRHLTH-170	Medical Insurance Principles and Coding ‡ ^	3
BADM-110	Business Communications With Technology.....	3
BRHLTH-112	Computerized Medical Billing ‡ ^.....	3
BRHLTH-174	Medical Claims Reimbursement ‡ ^	2
BRHLTH-197	Medical Office Career Investigation ‡ ^ ..	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
SOCSCI-172	Introduction to Diversity Studies.....	3

TOTAL CREDITS: 63

‡ 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



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Medical Laboratory Technician

ASSOCIATE DEGREE

Program Code: 10-513-1

Downtown Milwaukee Campus



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

Begin a rewarding healthcare career as a Medical Laboratory Technician (MLT). 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 examination.

Career Outlook

Currently, the job market looks favorable. Opportunities exist in hospitals, clinics, doctors' offices, commercial industries, scientific research and infection control.

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

(For full description, see matc.edu.)

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 for 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; 773-714-8880; naacls.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

		Credits
BIOSCI-177	General Anatomy and Physiology ‡4 (or) BIOSCI-201 Anatomy and Physiology 1 ‡ and BIOSCI-202 Anatomy and Physiology 2 ‡	4
CHEM-186	Introductory Biochemistry ‡4	4
ENG-195	Written Communication3 (or) ENG-201 English 1 ‡	3
BIOSCI-197	Microbiology ‡4	4
CLABT-110	Basic Lab Skills1	1
CLABT-111	Phlebotomy ‡2	2
PSYCH-199	Psychology of Human Relations3 (or) Any 200-level PSYCH course	3
SOCSCI-197	Contemporary American Society3 (or) Any 200-level SOCSCI course	3
CLABT-113	QA Lab Math ‡1	1
CLABT-114	Urinalysis ‡2	2
CLABT-115	Basic Immunology Concepts ‡2	2
CLABT-120	Basic Hematology ‡3	3
CLABT-121	Coagulation ‡1	1
ENG-196	Oral/Interpersonal Communication3 (or) Any 200-level ENG or SPEECH course	3
CLABT-109	Blood Bank ‡4	4
CLABT-116	Clinical Chemistry ‡4	4
CLABT-170	Introduction to Molecular Diagnostics ‡2	2
CLABT-130	Advanced Hematology ‡2	2
CLABT-133	Clinical Microbiology ‡4	4
CLABT-140	Advanced Microbiology ‡2	2
CLABT-151	Clinical Experience 1 ‡3	3
CLABT-143	Seminar ‡1	1
CLABT-152	Clinical Experience 2 ‡4	4

TOTAL CREDITS: 62

‡ 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.

Music Occupations

ASSOCIATE DEGREE

Program Code: 10-805-1

Downtown Milwaukee Campus



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

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 have opportunities to focus on performance or composition courses.

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.

‡ 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



matc.edu/course-catalog/creative-arts-design-media

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

COURSES

	Credits
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
MUSIC-103 Major Instrument 1	1
MUSIC-143 Music Notation 1	1
MUSIC-150 Music Theory 1	4
MUSIC-162 Music Ensemble 1	1
(or) AUDIO-100 Introduction to Audio Software	
MUSIC-173 Music Reading	1
MUSIC-177 Piano Lab 1	1
MUSIC-189 Voice Lab 1	1
MUSIC-190 Choir 1	1
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
MATH-107 College Mathematics ‡	3
(or) Any 200-level MATH course	
MUSIC-101 Music Business	2
MUSIC-104 Major Instrument 2 ‡	1
MUSIC-118 Music Analysis ‡	3
MUSIC-120 Choir 2	1
MUSIC-144 Music Notation 2	1
MUSIC-151 Music Theory 2 ‡	4
MUSIC-163 Music Ensemble 2 ‡	1
(or) AUDIO-125 Advanced MIDI Recording ‡	
MUSIC-178 Piano Lab 2 ‡	1
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
MUSIC-105 Major Instrument 3 ‡	1
(or) MUSIC-108 Film Scoring 1	
MUSIC-141 Music Ensemble 3 ‡	1
(or) MUSIC-107 Songwriting 1	
MUSIC-152 Composition 1 ‡	3
MUSIC-167 Improvisation 1 ‡	1
(or) MUSIC-158 Orchestration 1 ‡	
MUSIC-174 Ear Training 1 ‡	2
MUSIC-181 Conducting ‡	1
MUSIC-191 Performance Techniques 1 ‡	3
(or) MUSIC-182 Composition for Advertising	
ELECTIVES (Three credits needed)	3
MUSIC-106 Major Instrument 4 ‡	1
(or) MUSIC-147 Songwriting 2 ‡	
MUSIC-119 Music Ensemble 4 ‡	1
(or) MUSIC-159 Orchestration 2 ‡	
MUSIC-125 Music Studio Teaching Methods ‡	1
(or) MUSIC-109 Film Scoring 2 ‡	
MUSIC-153 Composition 2 ‡	3
MUSIC-184 Ear Training 2 ‡	2
SOCSCI-197 Contemporary American Society	3
(or) Any 200-level HIST or SOCSCI course	

TOTAL CREDITS: 63

Nutrition and Dietetic Technician

ASSOCIATE DEGREE

Program Code: 10-313-1

West Allis Campus



NUTRITION AND DIETETIC TECHNICIAN

matc.edu/academics/pathways

Certificate

- Dietary Manager, p. 190

Associate Degree

- Nutrition and Dietetic Technician, p. 91

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 Nutrition and Dietetic Technician Registered (NDTR) after successfully 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. See the program's webpage at matc.edu to view all requirements.

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

This program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), 120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995; 800-877-1600 or 312-899-0040; acend@eatright.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

Credits

DIETNT-106	Food Service Sanitation ‡ ^	2
DIETNT-109	Food Science ‡	3
DIETNT-123	Dietetic Technician Orientation ‡	1
DIETNT-151	Nutrition for Dietetics ‡ ^	4
DIETNT-160	Medical Terminology for the Dietetic Technician ‡	1
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
DIETNT-108	Food Service Management 1 ‡ ^	3
DIETNT-118	Food Service Management 1: Coordinated Practice ‡ ^	1
DIETNT-124	Medical Nutrition Therapy 1 ‡	3
DIETNT-134	Medical Nutrition Therapy 1: Coordinated Practice ‡	1
DIETNT-152	Physiology for Dietetics ‡	3
DIETNT-156	Nutrition in the Life Cycle ‡	2
DIETNT-166	Nutrition in the Life Cycle: Coordinated Practice ‡	1
MATH-107	College Mathematics ‡	3
	(or) BIOSCI-220 Introduction to Nutritional Science	
DIETNT-125	Medical Nutrition Therapy 2 ‡	4
DIETNT-135	Medical Nutrition Therapy 2: Coordinated Practice ‡	2
DIETNT-155	Community Nutrition ‡	3
DIETNT-157	Food Service Management 2 ‡	3
DIETNT-167	Food Service Management 2: Coordinated Practice ‡	2
ENG-196	Oral/Interpersonal Communication	3
	(or) SPEECH-201 Elements of Speech	
DIETNT-136	Medical Nutrition Therapy Field Experience ‡	3
DIETNT-146	Food and Nutrition Management Field Experience ‡	3
DIETNT-170	Nutritional Counseling Skills ‡	2
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	
SOCSCI-172	Introduction to Diversity Studies	3
	(or) SOCSCI-203 Introduction to Sociology	

TOTAL CREDITS: 62

‡ 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.

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 clients 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).

Career Outlook

Job outlook is good and placement is usually in hospitals, rehabilitation centers, geriatric centers, schools, homes and community-based settings.

Program Learning Outcomes

- Practice within the distinct role and responsibility of the occupational therapy assistant
- Serve a diverse population in a variety of systems that are consistent with entry-level practice
- Apply occupational therapy principles and intervention tools to achieve expected outcomes

(For full description, see matc.edu.)

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), of the American Occupational Therapy Association (AOTA), 6116 Executive Boulevard, Suite 200, North Bethesda, MD 20852-4929; 301-652-6611; acoteonline.org.

Start Date: August



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology ‡ 4 (or) BIOSCI-201 Anatomy and Physiology 1 ‡ and BIOSCI-202 Anatomy and Physiology 2 ‡	
ENG-195	Written Communication 3 (or) ENG-201 English 1 ‡	
OTASST-171	Introduction to Occupational Therapy ‡ 3	
OTASST-172	Medical and Psychosocial Conditions ‡ #... 3	
OTASST-173	Activity Analysis and Application ‡ 2	
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-level HIST or SOCSCI course	
ENG-197	Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	
OTASST-174	OT Performance Skills ‡ 4	
OTASST-176	OT Theory and Practice ‡ 3	
OTASST-178	Geriatric Practice ‡ 3	
OTASST-179	Community Practice ‡ 2	
OTASST-175	Psychosocial Practice ‡ 3	
OTASST-184	OTA Fieldwork ‡ 2	
OTASST-189	OT Physical Rehabilitation Practice ‡ 4	
OTASST-190	OT Pediatric Practice ‡ 4	
OTASST-185	OT Practice and Management ‡ # 2	
OTASST-186	OTA Fieldwork 2A ‡ * 5	
OTASST-187	OTA Fieldwork 2B ‡ * 5	

TOTAL CREDITS: 64

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.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

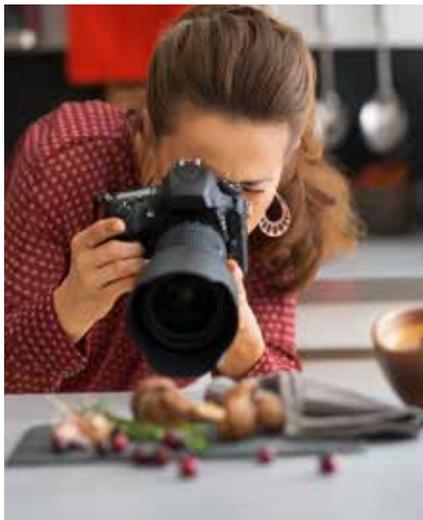
This Associate in Applied Science program will transfer to one or more four-year institutions.

Photography

ASSOCIATE DEGREE

Program Code: 10-203-1

Downtown Milwaukee Campus



PHOTOGRAPHY

matc.edu/academics/pathways

Technical Diploma

- Digital Imaging, p. 134

Associate Degree

- Photography, p. 93

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.

Career Outlook

Photographers work in advertising, photojournalism, and industrial and portrait photography. Employment opportunities also include equipment sales.

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

(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.

COURSES

Credits

ENG-195	Written Communication ^.....	3
	(or) ENG-201 English 1 ‡	
PHOTO-100	Introduction to Digital Photography ^.....	1
PHOTO-101	Digital Fundamental Photography ^.....	3
PHOTO-107	Photographic Trends ^.....	1
PHOTO-141	Photoshop for Photographers 1 ^.....	3
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
MATH-123	Math With Business Applications ‡ ^.....	3
	(or) Any 200-level MATH course	
PHOTO-108	Photographic Lighting ‡ ^.....	3
PHOTO-130	Photographic Composition ^.....	3
PHOTO-139	Measurement Techniques ‡ ^.....	3
PHOTO-142	Photoshop for Photographers 2 ‡ ^.....	3
ENG-197	Technical Reporting.....	3
	(or) Any 200-level ENG or SPEECH course	
PHOTO-103	Digital Photography ‡.....	3
PHOTO-106	View Camera Techniques ‡.....	3
PHOTO-121	Commercial Photography ‡.....	3
PHOTO-124	Portraiture ‡.....	3
SOCSCI-103	Think Critically and Creatively.....	3
	(or) Any 200-level SOCSCI or HIST course	
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
PHOTO-114	Photographic Portfolio ‡.....	3
PHOTO-166	Photographic Management ‡.....	1
PHOTO-173	Photojournalism ‡.....	3
PHOTO-180	DSLR Video ‡.....	3
PHOTO-190	Photography Internship ‡.....	1

TOTAL CREDITS: 61

‡ 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.

Start Dates: August and January



Creative Arts, Design & Media
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/creative-arts-design-media

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

Physical Therapist Assistant

ASSOCIATE DEGREE

Program Code: 10-524-1

Mequon 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.

Career Outlook

Employment is projected to grow due to increases in the geriatric population and the increased need for support personnel in this field.

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

(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; 800-999-2782 or 703-684-2782; capteonline.org.

Start Date: January



Healthcare
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology ‡4 (or) BIOSCI-201 Anatomy and Physiology 1 ‡	
ENG-195	Written Communication 3 (or) ENG-201 English 1 ‡	
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	
PTASST-139	PTA Patient Interventions ‡ 4	
PTASST-140	PTA Professional Issues 1 ‡ 2	
PTASST-156	PTA Applied Kinesiology 1 ‡ 4	
ENG-196	Oral/Interpersonal Communication3 (or) Any 200-level ENG course	
PTASST-142	PTA Therapeutic Exercise ‡ 3	
PTASST-143	PTA Therapeutic Modalities ‡ 4	
PTASST-145	PTA Principles of Musculoskeletal Rehabilitation ‡ 4	
PTASST-157	PTA Applied Kinesiology 2 ‡ 3	
PTASST-144	PTA Principles of Neuromuscular Rehabilitation ‡ 4	
PTASST-146	PTA Management of Cardiopulmonary and Integumentary Conditions ‡ 3	
PTASST-147	PTA Clinical Practice 1 ‡ 2	
PTASST-148	PTA Clinical Practice 2 ‡ 3	
SOCSCI-172	Introduction to Diversity Studies 3 (or) Any 200-level HIST or SOCSCI course	
MATH-107	College Mathematics ‡ 3 (or) Any 200-level MATH course	
PTASST-149	PTA Rehabilitation Across the Lifespan ‡ ... 2	
PTASST-150	PTA Professional Issues 2 ‡ 2	
PTASST-151	PTA Clinical Practice 3 ‡ 5	

TOTAL CREDITS: 64

‡ 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

Must have 2,000 hours work experience within the last five years as an LPN in a healthcare setting with direct patient care responsibilities. Must hold a current Wisconsin Practical Nurse License. This program admits students through a petition selection process. See program's webpage at matc.edu to view details.

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), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326; 404-975-5000; acenursing.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

	Credits
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
PSYCH-199 Psychology of Human Relations	3
(or) PSYCH-238 Lifespan Psychology	
SOCSCI-172 Introduction to Diversity Studies	3
(or) SOCSCI-203 Introduction to Sociology (or) Any 200-level SOCSCI or HIST course	
BIOSCI-177 General Anatomy and Physiology ‡	4
(or) BIOSCI-201 Anatomy and Physiology 1 ‡	
BIOSCI-197 Microbiology ‡	4
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
BIOSCI-179 Advanced Anatomy and Physiology ‡	4
(or) BIOSCI-202 Anatomy and Physiology 2 ‡	
CHEM-186 Introductory Biochemistry ‡	4
NRSAD-109 Nursing Complex Health Alterations 1 ‡ ...	3
NRSAD-110 Nursing Mental Health Community Concepts ‡	2
NRSAD-191 Nursing Clinical Skill Development ‡	2
NRSAD-111 Nursing Intermediate Clinical Practice ‡	3
NRSAD-112 Nursing Advanced Skills ‡	1
NRSAD-113 Nursing Complex Health Alterations 2 ‡	3
NRSAD-114 Nursing Management Concepts ‡	2
NRSAD-115 Nursing Advanced Clinical Practice ‡	3
NRSAD-116 Nursing Clinical Transition ‡	2

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.

Associate Degrees

Quality Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-623-9

Downtown Milwaukee Campus



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

Students prepare to become technicians who ensure that products, components, materials and processes meet quality and safety standards in a wide range of industries. This program emphasizes quality methods that reduce waste and improve business/manufacturing processes.

Career Outlook

With the growing focus on quality standards across all facets of business, the need for well-trained quality assurance personnel has increased.

Program Learning Outcomes

- Apply Lean and Six Sigma Methodologies
- Apply statistical tools to drive process improvement and to characterize process performance and product and service quality
- Apply the tools of continuous improvement, problem solving, root cause analysis and corrective action
- Demonstrate quality audit principles
- Demonstrate measurement and inspection skills

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

Credits

ENG-195	Written Communication..... 3 (or) ENG-201 English 1 ‡	3
MATH-115	College Technical Mathematics 1 ‡ 5 (or) MATH-201 College Algebra ‡	5
MCDESG-114	SolidWorks 1 2 (or) MCDESG-133 Inventor 1 (or) MCDESG-135 PTC Creo (Pro/E) 1	2
QETECH-116	Engineering Economic Analysis ‡ 3	3
SOCSCI-197	Contemporary American Society..... 3 (or) Any 200-level HIST or SOCSCI course	3
BADM-104	Business Statistics ‡ 3	3
ENG-196	Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	3
MATH-116	College Technical Mathematics 2 ‡ 4 (or) MATH-202 Trigonometry ‡	4
MTRLS-105	Statistical Process Analysis..... 2	2
QETECH-138	Introduction to Quality Engineering ‡..... 3	3
ECON-195	Economics 3 (or) Any 200-level ECON course	3
ELECTIVES	(Three credits needed) 3	3
MGTDEV-188	Project Management..... 3	3
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
QETECH-118	Lean Principles 3	3
QETECH-132	Six Sigma Green Belt 1 ‡..... 3	3
LOGMGT-146	Operations Management 3	3
MGTDEV-192	Managing for Quality 3	3
QETECH-134	Six Sigma Green Belt 2 ‡..... 3	3
QETECH-142	Six Sigma Green Belt Project ‡ 3	3
QETECH-144	Supplier Quality Assurance ‡..... 3	3

TOTAL CREDITS: 64

‡ Prerequisite required.

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

Start Dates: August and January



matc.edu/course-catalog/stem

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

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.

Become 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

Career areas include diagnostic radiology, bedside and trauma procedures, pediatric radiography and special procedures.

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; 312-704-5300; jrcert.org.

Start Date: August



matc.edu/course-catalog/healthcare

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

COURSES

	Credits
BIOSCI-177 General Anatomy and Physiology ‡.....	4
(or) BIOSCI-201 Anatomy and Physiology 1 ‡ and BIOSCI-202 Anatomy and Physiology 2 ‡	
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
RADT-149 Radiographic Procedures 1 ‡.....	5
RADT-158 Introduction to Radiography ‡.....	3
RADT-159 Radiographic Imaging ‡.....	3
RADT-168 Radiography Clinical 1 ‡.....	2
ENG-197 Technical Reporting	3
(or) Any 200-level ENG or SPEECH course	
RADT-191 Radiographic Procedures 2 ‡.....	5
RADT-192 Radiography Clinical 2 ‡.....	3
RADT-230 Advanced Radiographic Imaging	2
PSYCH-199 Psychology of Human Relations.....	3
(or) Any 200-level PSYCH course	
RADT-189 Radiographic Pathology ‡.....	1
RADT-193 Radiography Clinical 3 ‡.....	3
RADT-194 Imaging Equipment Operation	3
RADT-199 Radiography Clinical 4 ‡.....	3
RADT-231 Imaging Modalities ‡.....	2
RADT-174 ARRT Certification Seminar ‡	2
RADT-190 Radiography Clinical 5 ‡.....	2
RADT-195 Radiographic Quality Analysis.....	2
RADT-197 Radiation Protection and Biology ‡	3
RADT-198 Radiography Clinical 6 ‡.....	2
SOCSCI-103 Think Critically and Creatively.....	3
(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 62

‡ Prerequisite required.

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



REAL ESTATE

matc.edu/academics/pathways

Certificate

- Property Management, p. 198
- Real Estate Salesperson, p. 199

Technical Diploma

- Real Estate Broker Associate, p. 170

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.

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.

This program is approved by the State of Wisconsin Department of Safety and Professional Services, 4822 Madison Yards Way, Madison, WI 53705; 608-266-2112.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

COURSES

Credits

BADM-106	MS Office for Business Applications.....	3
ENG-195	Written Communication..... (or) ENG-201 English 1 ‡	3
RLEST-180	Principles of Real Estate ^ * +	3
RLEST-182	Real Estate Law ^ +	3
RLEST-189	Introduction to Home Inspection	3
MATH-123	Math With Business Applications ‡	3
	(or) Any 200-level MATH course	
RLEST-181	Principles of Commercial Real Estate.....	3
RLEST-188	Listing, Selling and Sales Tools	3
RLEST-190	Introduction to Property Management * ..	3
BADM-110	Business Communications With Technology	3
ECON-195	Economics.....	3
	(or) Any 200-level ECON course	
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
RLEST-184	Real Estate Mortgage Processing	3
RLEST-185	Real Estate Investment Principles	3
ACCTG-110	Financial Accounting	3
BADM-134	Business Organization and Management ..	3
MKTG-102	Marketing Principles.....	3
RLEST-183	Real Estate Broker Preparation ^	3
RLEST-187	Broker Management ^	3

TOTAL CREDITS: 60

‡ 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.

Registered Nursing

ASSOCIATE DEGREE

Program Code: 10-543-1

Downtown Milwaukee, Mequon campuses



The Practical Nursing technical diploma ladders into this associate degree, followed by many choices for RN-BSN programs. Contact an MATC advisor for information.

Prepare for a registered nursing (RN) 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 details.

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), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326; 404-975-5000; acenursing.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

	Credits
BIOSCI-177 General Anatomy and Physiology †..... 4 (or) BIOSCI-201 Anatomy and Physiology 1 †	4
ENG-195 Written Communication 3 (or) ENG-201 English 1 †	3
PSYCH-199 Psychology of Human Relations 3 (or) PSYCH-238 Lifespan Psychology	3
SOCSCI-172 Introduction to Diversity Studies 3 (or) SOCSCI-203 Introduction to Sociology (or) Any 200-level SOCSCI or HIST course	3
BIOSCI-179 Advanced Anatomy and Physiology †..... 4 (or) BIOSCI-202 Anatomy and Physiology 2 †	4
BIOSCI-197 Microbiology † 4	4
CHEM-186 Introductory Biochemistry † 4	4
ENG-196 Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	3
NRSAD-101 Nursing Fundamentals † 2	2
NRSAD-102 Nursing Skills † 3	3
NRSAD-103 Nursing Pharmacology † 2	2
NRSAD-104 Nursing: Introduction to Nursing Practice † 2	2
NRSAD-105 Nursing Health Alterations † 3	3
NRSAD-106 Nursing Health Promotion † 3	3
NRSAD-107 Nursing: Clinical Care Across the Lifespan † 2	2
NRSAD-108 Nursing: Introduction to Clinical Management † 2	2
NRSAD-109 Nursing Complex Health Alterations 1 † 3	3
NRSAD-110 Nursing Mental Health Community Concepts † 2	2
NRSAD-111 Nursing Intermediate Clinical Practice † 3	3
NRSAD-112 Nursing Advanced Skills † 1	1
NRSAD-113 Nursing Complex Health Alterations 2 † 3	3
NRSAD-114 Nursing Management Concepts † 2	2
NRSAD-115 Nursing Advanced Clinical Practice † 3	3
NRSAD-116 Nursing Clinical Transition † 2	2

TOTAL CREDITS: 66

† 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: Nursing Associate Degree.

Respiratory Therapist

ASSOCIATE DEGREE

Program Code: 10-515-1

Downtown Milwaukee Campus



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

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.

This program is fully accredited by the Commission on Accreditation for Respiratory Care (CoARC), 264 Precision Boulevard, Telford, TN 37690; 817-283-2835; coarc.com. Accreditation is based on recommendation of the Commission on Accreditation for Respiratory Care.

Start Date: August



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology ‡.....	4
	(or) BIOSCI-201 Anatomy and Physiology 1 ‡	
	and BIOSCI-202 Anatomy and Physiology 2 ‡	
ELECTIVES	(Two 100-level credits needed)	2
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-level PSYCH course	
RESPC-111	Respiratory Survey ‡	3
RESPC-171	Respiratory Therapeutics 1 ‡	3
BIOSCI-197	Microbiology ‡	4
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	
RESPC-112	Respiratory Airway Management ‡	2
RESPC-172	Respiratory Therapeutics 2 ‡	3
RESPC-173	Respiratory Pharmacology ‡	3
RESPC-174	Respiratory Cardiac Physiology ‡	3
SOCSCI-172	Introduction to Diversity Studies	3
	(or) Any 200-level SOCSCI course	
RESPC-175	Respiratory Clinical 1 ‡.....	2
RESPC-113	Respiratory Life Support ‡	3
RESPC-176	Respiratory Disease ‡	3
RESPC-178	Respiratory Clinical 2 ‡.....	3
RESPC-179	Respiratory Clinical 3 ‡.....	3
RESPC-180	Respiratory Neonatal and Pediatric Care ‡	2
RESPC-181	Respiratory/Cardio Diagnostics ‡	3
RESPC-182	Respiratory Clinical 4 ‡.....	3
RESPC-183	Respiratory Clinical 5 ‡.....	3

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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

Supply Chain Management

ASSOCIATE DEGREE

Program Code: 10-182-1

Oak Creek Campus



SUPPLY CHAIN MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Supply Management, p. 175
- Transportation – Logistics, p. 178

Associate Degree

- Supply Chain Management, p. 101

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% online and 50% 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

- Implement supply management practices in a global environment
- Demonstrate operations management techniques across product and service industries
- Analyze logistic interfaces and activities in a supply chain
- Evaluate demand management techniques and customer service policies

Admission Requirement

- A high school diploma or GED

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

COURSES	Credits
BADM-106 MS Office for Business Applications ^ *	3
ENG-195 Written Communication..... (or) ENG-201 English 1 ‡	3
INDVTS-102 Career Assessment/Portfolio Development ^ *	3
LOGMGT-146 Operations Management ^ *	3
LOGMGT-164 Supply Chain Management ^ *	3
ECON-195 Economics	3
(or) Any 200-level ECON course	
ENG-197 Technical Reporting	3
(or) Any 200-level ENG or SPEECH course	
LOGMGT-170 Procurement ^	3
LOGMGT-190 Logistics *	3
MKTG-107 Customer Experience.....	3
LOGMGT-105 Enterprise Resource Planning.....	3
LOGMGT-144 Production Planning and Inventory Control ^	3
LOGMGT-184 International Logistics – Transportation/Documentation *	3
MATH-123 Math With Business Applications ‡	3
(or) Any 200-level MATH course	
MKTG-144 Client Services	3
ELECTIVES (Three credits needed)	3
LOGMGT-106 eCommerce Logistics.....	3
LOGMGT-191 Integrated Supply Chain Management ‡	3
MKTG-102 Principles of Marketing	3
(or) ACCTG-125 Cost Accounting ‡	
(or) BADM-104 Business Statistics ‡	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-level PSYCH course	
TOTAL CREDITS: 60	

‡ 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Surgical Technology

ASSOCIATE DEGREE

Program Code: 10-512-1

Downtown Milwaukee Campus

Associate Degrees



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

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.

Career Outlook

Entry-level positions are available in operating rooms and ambulatory surgery facilities.

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

(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 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), 9355 - 113th Street N, #7709, Seminole, FL 33775; 727-210-2350; caahep.org/Students/Program-Info/Surgical-Technology.aspx.

Accreditation is based on recommendation of the Accreditation Review Committee on Education in Surgical Technology.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology ‡ *	4
BIOSCI-179	Advanced Anatomy and Physiology ‡	4
	(or) BIOSCI-201 Anatomy and Physiology 1 ‡	
	and BIOSCI-202 Anatomy and Physiology 2 ‡	
BIOSCI-197	Microbiology ‡	4
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
SOCSCI-172	Introduction to Diversity Studies	3
	(or) Any 200-level SOCSCI course	
HEALTH-101	Medical Terminology	3
SURGT-125	Introduction to Surgical Technology ‡	4
SURGT-126	Surgical Technology Fundamentals 1 ‡	4
SURGT-127	Exploring Surgical Issues ‡	2
SURGT-129	Surgical Pharmacology ‡	2
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
SURGT-128	Surgical Technology Fundamentals 2 ‡	4
SURGT-130	Surgical Skills Application ‡	2
SURGT-137	Surgical Tech Clinical Practice 1 ‡	4
SURGT-140	Surgical Interventions 1A ‡	2
SURGT-138	Surgical Tech Clinical Practice 2 ‡	4
SURGT-139	Surgical Tech Clinical Practice 3 ‡	4
SURGT-141	Surgical Interventions 1B ‡	2
SURGT-142	Surgical Interventions II ‡	4

TOTAL CREDITS: 65

* Taken prior to first-semester courses.

‡ 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: Apprentice

ASSOCIATE DEGREE

Program Code: 10-499-5

All campuses



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, 39 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.

COURSES	Credits
INDVTS-102 Career Assessment and Portfolio Development.....	3
ELECTIVES (Three credits needed)	3
ECON-195 Economics	3
(or) Any 200-level ECON course	
ENG-195 Written Communication.....	3
(or) ENG-201 English 1#	
ENG-196 Oral/Interpersonal Communication	3
(or) Any 200-level ENG or SPEECH course	
MATH-107 College Mathematics ‡	3
(or) MATH-113 College Technical Mathematics 1A ‡ (or)	
MATH-123 Math With Business Applications ‡	
(or) Any 200-level MATH course	
PSYCH-199 Psychology of Human Relations.....	3
(or) Any 200-level PSYCH course	
APPRENTICESHIP	39

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.

TOTAL CREDITS: 60

‡ Prerequisite required.

Curriculum requirements are subject to change.

A minimum of 25% of total program requirements must be earned at MATC.

Official Wisconsin Technical College System program title: *Technical Studies: Journey Worker*

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

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Television & Video Production

ASSOCIATE DEGREE

Program Code: 10-701-1

Downtown Milwaukee Campus



TELEVISION & VIDEO PRODUCTION

matc.edu/academics/pathways

Technical Diploma

- TV/Video Studio Production Assistant, p. 181

Associate Degree

- Television & Video Production, p. 104

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.

Start Date: August



matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

ENG-195	Written Communication ^	3
	(or) ENG-201 English 1 ‡	
EPROD-150	Introduction to eProduction ^	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	
TV-101	TV/Video Studio Production Techniques ‡ ^	4
TV-104	TV Studio/Field Set Design ‡ ^	2
	(or) TV-108 TV Studio Lighting Techniques	
TV-181	Video in Society ^	1
ENG-197	Technical Reporting	3
	(or) Any 200-level ENG or SPEECH course	
TV-105	TV/Video Field Production Techniques ‡	4
TV-107	Script Writing for Visual Media ^	3
TV-112	Storytelling Via Post-Production ‡	3
TV-121	TV and Video Production Workshop 1 ‡ ^	3
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-level MATH course	
TV-109	Techniques for Field Audio Acquisition ‡	2
TV-110	Advanced Production Techniques ‡	4
TV-119	Operational Broadcast Engineering ‡ ^	3
TV-142	Non-Linear Video Editing and Authoring ‡	3
EPROD-151	Data Content Management/ Implementation ^	3
TV-106	Lighting, Gaffing and Gripping ‡	2
TV-115	Advanced Broadcast Program Production ‡	4
TV-123	TV and Video Production Co-Op 1 ‡ ^	3
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-level SOCSCI or HIST course	

TOTAL CREDITS: 62

‡ 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.

Web & Digital Media Design

ASSOCIATE DEGREE

Program Code: 10-201-3

Downtown Milwaukee Campus (Also offered online)



WEB & DIGITAL MEDIA DESIGN

matc.edu/academics/pathways

Technical Diploma

- Front-End Web Developer, p. 146

Associate Degree

- Web & Digital Media Design, p. 105

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

- Design websites to meet client expectations
- Produce site(s) using content management systems (CMS)
- Manage a project using user experience (UX) principles
- Communicate rationale
- Develop project documents
- Develop website(s)

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.

COURSES

		Credits
ENG-195	Written Communication ^	3
ITDEV-117	Logic and Problem-Solving ^	3
WEBDEV-102	Introduction to Digital Media ^.....	3
WEBDEV-114	Web Development With HTML/CSS ^... 3	
WEBDEV-119	Web Design Overview ‡ ^	3
MATH-123	Math With Business Applications ‡.....	3
WEBDEV-120	Audio and Video Production for the Web	3
WEBDEV-123	Interactive Design ‡ ^	3
WEBDEV-124	Database Web Design With PHP and MySQL ‡ ^	3
WEBDEV-143	User Experience - UE 2.0	3
ENG-197	Technical Reporting	3
WEBDEV-132	Rich Media for the Web ‡.....	3
WEBDEV-133	Content Management Systems ‡ ^	3
WEBDEV-134	Responsive Web Design ‡ ^.....	3
WEBDEV-135	User Experience for the Web	3
MKTG-165	Digital Marketing ^	3
PSYCH-199	Psychology of Human Relations.....	3
SOCSOCI-197	Contemporary American Society	3
WEBDEV-140	Web Development With JavaScript and jQuery ‡ ^	3
WEBDEV-198	Internship ‡.....	1
WEBDEV-199	Portfolio ‡.....	3

TOTAL CREDITS: 61

‡ 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.

Start Dates: August and January



matc.edu/course-catalog/creative-arts-design-media

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

Welding Technology

ASSOCIATE DEGREE

Program Code: 10-621-1

West Allis Campus



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

Bilingual (Spanish) mode also is offered.

This 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.

Career Outlook

Demand is high for welders with current skills. Graduates typically find employment as welding technicians, robotic welding technicians, quality assurance inspectors, technical sales reps and weld test conductors.

Program Learning Outcomes

- Demonstrate industry-recognized safety practices
- Interpret welding drawings
- Produce welds to current AWS specifications
- Manufacture products to specifications
- Inspect products
- Operate robotic welding equipment
- Troubleshoot robotic arc welding cell problems
- Produce finished product to specification

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



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

	Credits
ENG-195 Written Communication..... 3 (or) ENG-201 English 1 ‡	3
MATH-115 College Technical Mathematics 1 ‡ 5 (or) MATH-113 College Technical Mathematics 1A‡ and MATH-114 College Technical Mathematics 1B ‡	5
WELDTC-101 Welding Theory 1 2	2
WELDTC-107 Fabrication Graphics..... 3	3
WELDTC-111 Welding Practice 1 4	4
WELDTC-181 Welding Technology Orientation..... 1	1
ENG-197 Technical Reporting 3 (or) Any 200-level ENG or SPEECH course	3
MATH-116 College Technical Mathematics 2 ‡ 4	4
WELDTC-102 Welding Theory 2..... 3	3
WELDTC-105 Weldability of Materials ‡ 3	3
WELDTC-112 Welding Practice 2 ‡..... 4	4
MATRLS-102 Material Testing 3	3
SOCSOCI-103 Think Critically and Creatively 3 (or) Any 200-level HIST or SOCSOCI course	3
WELDTC-113 Welding Techniques 1 ‡ 3	3
WELDTC-140 Manufacturing Applications for Robots .. 4	4
MATRLS-151 Metallurgy and Materials Science 3	3
PSYCH-199 Psychology of Human Relations 3 (or) Any 200-level PSYCH course	3
WELDTC-114 Welding Techniques 2 ‡ 3	3
WELDTC-135 Automated Welding Processes ‡ 4	4

TOTAL CREDITS: 61

‡ 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 some are two-year full-time programs.

- Accounting Assistant, p. 108
 - Aesthetician, p. 109
 - Appliance Technician, p. 110
 - Architectural Woodworking/
Cabinetmaking, p. 111
 - Audio Engineer, p. 112
 - Auto Collision Repair and Finish
Technician, p. 113
 - Automated Building Systems, p. 114
 - Automotive Maintenance Technician, p. 115
 - Automotive Technology Maintenance
Light Repair, p. 116
 - Aviation Technician – Airframe, p. 117
 - Aviation Technician – Powerplant, p. 118
 - Baking Production, p. 119
 - Barber, p. 120
 - Bilingual Office Assistant/
for bilingual students, p. 121
 - Bricklaying, p. 122
 - Business Management, p. 123
 - Carpentry, p. 124
 - Central Service Technician, p. 125
 - Chemical Processing Technician, p. 126
 - Child Care Services/
bilingual mode available, p. 127
 - Computer Numerical Control (CNC)
Technician, p. 128
 - Cosmetology, p. 129
 - Culinary Assistant/
bilingual mode available, p. 130
 - Dental Assistant/
bilingual mode available, p. 131
 - Dental Technician, p. 132
 - Diesel and Powertrain Servicing, p. 133
 - Digital Imaging, p. 134
 - Digital Marketing and Integrated
Communications, p. 135
 - Electrical Power Distribution/
Line Mechanic, p. 136
 - Electricity, p. 137
 - Electronics Technician Fundamentals, p. 138
 - Emergency Medical Technician, p. 139
 - Emergency Medical Technician –
Advanced, p. 140
 - Emergency Medical Technician –
Paramedic, p. 141
 - Entrepreneurship, p. 142
 - Financial Services, p. 143
 - Food Service Assistant, p. 144
 - Foundations of Lodging and Hospitality
Management, p. 145
 - Front-End Web Developer, p. 146
 - Health Unit Coordinator, p. 147
 - IT Computer Support Technician, p. 148
 - IT Digital Forensics Analyst, p. 149
 - IT Help Desk Support Specialist, p. 150
 - IT Networking and Infrastructure
Administration, p. 151
 - IT User Support Technician, p. 152
 - Landscape Horticulture Technician, p. 153
 - Machine Tool Operations, p. 154
 - Manufacturing Maintenance, p. 155
 - Mechanical and Computer Drafting, p. 156
 - Medical Assistant, p. 157
 - Medical Billing, p. 158
 - Medical Coding Specialist, p. 159
 - Medical Interpreter/
for bilingual students, p. 160
 - Nursing Assistant/
bilingual mode available, p. 161
 - Office Technology Assistant, p. 162
 - Pharmacy Technician, p. 163
 - Phlebotomy, p. 164
 - Post-Baccalaureate Legal Studies/
Paralegal, p. 165
 - Power Engineering and Boiler Operator, p. 166
 - Practical Nursing, p. 167
 - Preparatory Plumbing, p. 168
 - Production Artist, p. 169
 - Real Estate Broker Associate, p. 170
 - Refrigeration, Air Conditioning and Heating
Service Technician, p. 171
 - Renal Dialysis Technician, p. 172
 - Sales and Customer Experience, p. 173
 - Special Event Management, p. 174
 - Supply Management, p. 175
 - Surveying and Mapping, p. 176
 - Tool and Die Making, p. 177
 - Transportation – Logistics, p. 178
 - Truck Driving, p. 179
 - TV/Video Field Production Assistant, p. 180
 - TV/Video Studio Production Assistant, p. 181
 - Unity Developer, p. 182
 - Welding, p. 183
- Coming soon:
The following technical diploma programs are being developed. When finalized, program information will be posted at matc.edu.
- Enhanced Yoga Instructor
 - Gas Utility Construction and Service
 - Nail Technician

Accounting Assistant

TECHNICAL DIPLOMA

Program Code: 31-101-1

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



ACCOUNTING

matc.edu/academics/pathways

Certificate

- Accounting Bookkeeper Trainee, p. 185

Technical Diploma

- Accounting Assistant, p. 108

Associate Degree

- Accounting, p. 30

COURSES

Credits

ACCTG-111	Accounting 1 ^.....	4
ACCTG-122	Accounting Software Applications ^.....	3
BADM-165	Legal Environment of Business.....	3
MATH-107	College Mathematics ‡ (or) Any 200-level MATH course	3
ACCTG-113	Accounting 2 ‡.....	4
ACCTG-121	Income Taxation	4
ACCTG-130	Computerized Accounting ‡ ^.....	3
ACCTG-142	Payroll Accounting.....	2
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	

TOTAL CREDITS: 29

‡ Prerequisite required.

^ Counts toward earning the Accounting Bookkeeper Trainee certificate.

Program curriculum requirements are subject to change.

Prepare for entry-level positions in the accounting field. You will develop competence in financial, managerial, tax and payroll accounting.

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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Aesthetician

TECHNICAL DIPLOMA

Program Code: 30-502-3

Mequon Campus



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

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 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 in compliance with the State of Wisconsin Department of Safety and Professional Services, 4822 Madison Yards Way, Madison, WI 53705; 608-266-2112; dps.wi.gov/Pages/Professions/Aesthetician/Default.aspx.

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

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

COURSES

Credits

BARCOS-101	Introduction to Guest Services: Professional Practices ‡.....	2
BARCOS-108	Facial Treatments ‡	3
BARCOS-109	Hair Removal Treatments ‡	1
BARCOS-317	Barber/Cosmetology Theory	1
BARCOS-330	Business Management Skills for Barbers/Cosmetologists	2
BARCOS-355	Spa Sciences ‡	3
BARCOS-102	Guest Services 2: Spa Operations ‡.....	3
BARCOS-104	Spa Treatments ‡	3
BARCOS-106	Advanced Makeup Techniques ‡	1
BARCOS-107	Advanced Spa Treatments ‡	1
BARCOS-110	Aesthetician Board Prep ‡.....	2
ENG-340	Workplace Communication	2

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

For information about the program, contact:

Amy Poshepny, Aesthetician Program Coordinator,
poshepna@matc.edu.

Appliance Technician

TECHNICAL DIPLOMA

Program Code: 31-445-1

MATC Education Center at Walker's Square



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

COURSES

Credits

APPSVC-308	Electricity for Appliance Servicing ‡	4
APPSVC-310	Laundry Equipment ‡	5
APPSVC-316	Kitchen Equipment 1 ‡	4
APPSVC-329	Related Business for Appliance Servicing ‡	1
CONSTR-302	OSHA Safety/CPR for the Trades ‡	1
CONSTR-380	Mathematics for Construction Trades	1
APPSVC-324	Refrigeration 1 (Theory and Techniques) ‡	4
APPSVC-340	Kitchen Equipment 2 ‡	4
APPSVC-342	Refrigeration 2 (Servicing) ‡	5
ENG-340	Workplace Communication	2

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

As household electrical appliances become more complex, a greater degree of knowledge is required to service them. This 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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Architectural Woodworking/Cabinetmaking

TECHNICAL DIPLOMA

Program Code: 31-409-1

Oak Creek Campus



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

Attain the skills needed to work in cabinet shops, millwork shops, furniture factories, display shops and maintenance shops. 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.

Start Date: August



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

		Credits
CABMIL-300	Machine Maintenance/ Jigs and Fixtures.....	2
CABMIL-303	Woodworking 1.....	5
CABMIL-304	Woodworking Fundamentals.....	3
CABMIL-355	Materials and Construction	1
CABMIL-385	Cabinet Detailing ‡.....	2
CIVIL-108	Construction Computer Applications.....	1
CONSTR-380	Mathematics for Construction Trades.....	1
ENG-340	Workplace Communication	2
CABMIL-305	Woodworking 2.....	5
CABMIL-306	Advanced Woodworking	3
CABMIL-383	Quantity Survey 1.....	2
CABMIL-386	Cabinet Layout	2
MCDESG-120	Basic AutoCAD	1
PAINT-353	Wood Finishing	1

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Audio Engineer

TECHNICAL DIPLOMA

Program Code: 30-701-1

Downtown Milwaukee Campus



AUDIO PRODUCTION

matc.edu/academics/pathways

Technical Diploma

• Audio Engineer, p. 112

Associate Degree

• Audio Production, p. 45

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 program prepares you for entry-level positions in the audio engineering field.

Career Outlook

Positions for audio engineers exist in live applications, commercial recording studios and home-recording production suites.

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.

Start Dates: August and January



Creative Arts, Design & Media
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

AUDIO-100	Introduction to Audio Software.....	1
AUDIO-102	Techniques of Sound Recording ‡.....	3
AUDIO-117	Sound Reinforcement.....	3
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
MUSIC-148	Music Fundamentals 1.....	2
MUSIC-189	Voice Lab 1.....	1
AUDIO-103	Recording Live Concerts ‡.....	3
AUDIO-111	Advanced Audio Software ‡.....	1
AUDIO-116	Advanced Techniques of Sound Recording ‡.....	3
AUDIO-126	Electronics for Audio Engineers ‡.....	2
MUSIC-177	Piano Lab 1.....	1

TOTAL CREDITS: 23

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Auto Collision Repair and Finish Technician

TECHNICAL DIPLOMA

Program Code: 31-405-1

Oak Creek Campus



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

Get started in an auto repair career. This 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.

COURSES

		Credits
AUTOBY-300	Introduction to Auto Body Fundamentals	3
AUTOBY-301	Plastic and Composites Repair.....	1
AUTOBY-302	Estimating and Removal/Installation Bolt-On Panels	2
AUTOBY-303	Masking, Prep and Detailing	1
AUTOBY-304	Basic Auto Mechanical Systems.....	1
AUTOBY-305	Auto Body 1 ‡	5
ENG-340	Workplace Communication	2
WELD-340	Welding for Auto Body Technicians	2
AUTOBY-310	Automobile Body Fundamentals ‡	4
AUTOBY-311	Automobile Frame Straightening ‡	3
AUTOBY-312	Electrical Servicing for Auto Body Repairing.....	1
AUTOBY-313	Surface Preparation/Color Matching ‡	1
AUTOBY-314	Front-End Alignment	1
AUTOBY-315	Auto Body 2 ‡	5

TOTAL CREDITS: 32

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

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 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

Credits

ABS-140	Building Systems 1.....	3
ABS-141	Building Systems 2.....	2
ABS-142	Measurement and Verification for ABS.....	1
ABS-143	Electrical Concepts/Control Theory 1 for ABS....	2
ABS-144	Control Theory 2 for ABS ‡.....	2
ABS-150	Energy Auditing for ABS.....	2
ABS-145	Control Theory 3 for ABS ‡.....	2
ABS-148	Automated Building Control Systems ‡.....	4
ABS-149	Networking Automated Building Systems	4
ABS-151	Commissioning Automated Building Systems..	2
ABS-153	ABS Capstone Project Course ‡.....	1

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Automotive Maintenance Technician

TECHNICAL DIPLOMA

Program Code: 31-404-3

Oak Creek Campus



AUTOMOTIVE MAINTENANCE TECHNICIAN

matc.edu/academics/pathways

Certificate

- Automotive Express Lube Technician, p. 186

Technical Diploma

- Automotive Maintenance Technician, p. 115

Expand your employment options by gaining skills to service and repair the drive train, and electrical and mechanical systems of automobiles through this program. Co-op credit may be an option.

Career Outlook

Job duties may include new car pre-delivery inspection; wheel alignment and balancing; electrical systems, engine and transmission repair.

Program Learning Outcomes

- Demonstrate professionalism appropriate for the auto service industry
- Perform maintenance and light repair of automotive steering and suspension systems
- Perform maintenance and light repair of automotive brake systems
- Perform maintenance and light repair of automotive electrical and electronic systems

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; aseeducationfoundation.org.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

AUTO1-300	Express Service ^	2
AUTO1-302	Powertrain Maintenance and Light Repair Fundamentals	2
AUTO1-304	Powertrain Maintenance and Light Repair Lab ‡.....	4
AUTO1-306	Heating and Air Conditioning Fundamentals.....	2
AUTO1-308	Brakes, Steering, Suspension Fundamentals ^.....	2
AUTO1-310	Brakes, Steering, Suspension Lab 1 ‡ ^.....	4
AUTO1-312	Brakes, Steering, Suspension Lab 2 ‡ ^.....	2
AUTO1-314	Electrical and Electronics Fundamentals.....	2
AUTO1-316	Electrical and Electronics Lab ‡	4
AUTO1-318	Auto Instrumentation and Accessories ‡ ...	2
AUTO1-322	Engine Control Systems 1 Fundamentals ‡.....	2
AUTO1-324	Engine Control Systems 1 Lab ‡.....	4
AUTO1-326	Engine Control Systems 2 Fundamentals/Lab ‡.....	2
ENG-340	Workplace Communication	2

TOTAL CREDITS: 36

‡ Prerequisite required.

^ Counts toward earning the Automotive Express Lube Technician certificate.

Program curriculum requirements are subject to change.

Automotive Technology Maintenance Light Repair

TECHNICAL DIPLOMA

Program Code: 30-602-4

Mequon Campus



AUTOMOTIVE TECHNOLOGY – COMPREHENSIVE
matc.edu/academics/pathways

Technical Diploma

- Automotive Technology Maintenance Light Repair, p. 116

Associate Degree

- Automotive Technology – Comprehensive, p. 46

COURSES

Credits

AUTO2-150	Automotive Fundamentals.....	2
AUTO2-151	Electrical Systems 1 ‡	4
AUTO2-161	Express Service ‡	3
ECON-195	Economics.....	3
	(or) ECON-219 Personal Finance and Consumer Economics	
AUTO2-147	Electrical Systems 2 ‡	2
AUTO2-152	Automotive Climate Control ‡	2
AUTO2-153	Alignment, Suspension and Steering ‡	3
AUTO2-154	Fuel Management 1 ‡	2
AUTO2-159	Automotive Brakes ‡	4

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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.

Start Dates: August and January



matc.edu/course-catalog/manufacturing-construction-transportation

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

Aviation Technician – Airframe

TECHNICAL DIPLOMA

Program Code: 31-486-1

FAA Certified - MATC Aviation Center/Oak Creek Campus



AVIATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Aviation Maintenance Technician – General, p. 187

Technical Diploma

- Aviation Technician – Airframe, p. 117
- Aviation Technician – Powerplant, p. 118

Get qualified to maintain aircraft electrical, instrument and power control systems. Program is certified by the Federal Aviation Administration. (A companion program in powerplant maintenance also is offered.) MATC's Aviation Center is at 422 East College Avenue, east of the Oak Creek Campus.

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.

This program is certified by the Federal Aviation Administration Headquarters, 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: January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

GENERAL COMPONENT: AVIATION TECHNICIAN

AVITEC-323	Aircraft Ground Operation and Servicing ^	3
AVITEC-380	Basic Physics ^	1
AVITEC-381	Basic Electricity ^	3
AVITEC-382	Aircraft Materials and Their Inspection ^ ..	3
AVITEC-383	Aircraft Maintenance Publications, Records and Mechanics Regulations ^	1
AVITEC-393	Mathematics for Aviation Technicians ^ ..	2
ENG-340	Workplace Communication ^	2

TOTAL CREDITS: 15

AVIATION TECHNICIAN – AIRFRAME

AVITEC-320	Aircraft Electrical Systems	4
AVITEC-340	Aircraft Welding	1
AVITEC-367	Composite Structures	3
AVITEC-368	Aircraft Structures	3
AVITEC-370	Aircraft Instrument, Control, and Warning Systems 1	5
AVITEC-371	Aircraft Instrument, Control, and Warning Systems 2 ‡	1
AVITEC-372	Hydraulic and Pneumatic Power Systems	4
AVITEC-376	Airframe Maintenance	4

TOTAL CREDITS: 25

‡ Prerequisite required.

^ Counts toward earning the Aviation Maintenance Technician – General certificate.

Program curriculum requirements are subject to change.

Student must maintain a 2.0 grade-point average in the General Component to be eligible for the Airframe program.

Aviation Technician – Powerplant

TECHNICAL DIPLOMA

Program Code: 31-486-2

FAA Certified - MATC Aviation Center/Oak Creek Campus



AVIATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Aviation Maintenance Technician – General, p. 187

Technical Diploma

- Aviation Technician – Airframe, p. 117
- Aviation Technician – Powerplant, p. 118

This specialized, high-demand training program concentrates on aircraft engine and propeller systems. Program is certified by the Federal Aviation Administration. (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 Headquarters, 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: October



matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

GENERAL COMPONENT: AVIATION TECHNICIAN

AVITEC-323	Aircraft Ground Operation and Servicing ^	3
AVITEC-380	Basic Physics ^	1
AVITEC-381	Basic Electricity ^	3
AVITEC-382	Aircraft Materials and Their Inspection ^	3
AVITEC-383	Aircraft Maintenance Publications, Records and Mechanics Regulations ^	1
AVITEC-393	Mathematics for Aviation Technicians ^ ...	2
ENG-340	Workplace Communication ^	2

TOTAL CREDITS: 15

AVIATION TECHNICIAN – POWERPLANT

AVITEC-302	Engine Fuel Metering Systems	2
AVITEC-303	Powerplant Electrical and Instrument Systems	5
AVITEC-304	Aircraft Induction and Supercharging Systems	1
AVITEC-306	Engine Lubricating Systems	2
AVITEC-315	Aircraft Reciprocating Engines 1	2
AVITEC-316	Aircraft Reciprocating Engines 2 ‡	4
AVITEC-318	Aircraft Gas Turbine Engines 1	2
AVITEC-319	Aircraft Gas Turbine Engines 2 ‡	5
AVITEC-360	Propeller Systems	2

TOTAL CREDITS: 25

‡ Prerequisite required.

^ Counts toward earning the Aviation Maintenance Technician – General certificate.

Program curriculum requirements are subject to change.

Students must maintain a 2.0 grade-point average in the General Component to be eligible for the Powerplant program.

Baking Production

TECHNICAL DIPLOMA

Program Code: 31-314-2

Downtown Milwaukee Campus



BAKING AND PASTRY ARTS

matc.edu/academics/pathways

Technical Diploma

• Baking Production, p. 119

Associate Degree

• Baking and Pastry Arts, p. 47

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

Graduates typically find employment in retail or commercial bakeries. 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



Creative Arts, Design & Media
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

BAKING-120	Basic Baking Techniques ‡.....	3
BAKING-122	Baking Principles and Ingredient Functions.....	3
CULART-117	Nutrition for Culinary Arts	1
CULMGT-112	Food Service Sanitation.....	2
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
MATH-134	Mathematical Reasoning	3
	(or) Any 200-level MATH course	
BAKING-101	Specialty Baking and Pastry Techniques 1 ‡.....	3
BAKING-125	Artisan Breads ‡	3
BAKING-129	Healthy and Natural Baking ‡	2
BAKING-130	Field Experience in Baking and Pastry Arts ‡.....	1
CULMGT-105	Culinary Math and Cost Control.....	3
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Barber

TECHNICAL DIPLOMA

Program Code: 31-502-5

Downtown Milwaukee Campus



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

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. Graduates of this program 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 haircutting 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, 4822 Madison Yards Way, Madison, WI 53705; 608-266-2112.

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/community-human-services

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

COURSES

Credits

BARCOS-300	Shampoo and Scalp Treatments ‡	2
BARCOS-324	Business Skills for Barbers/Cosmetologists	1
BARCOS-336	Barber Theory 1	1
BARCOS-337	Barber Haircut 1	2
BARCOS-338	Barber Chemical Services 1	1
BARCOS-341	Shaving/Facials	2
BARCOS-344	Barber Theory 2 ‡	1
BARCOS-345	Barber Haircut 2 ‡	2
BARCOS-346	Barber Chemical Services 2 ‡	1
BARCOS-347	Barber Hairstyling 1	1
BARCOS-348	Introduction to Client Services ‡	2
BARCOS-318	Barber Theory 3 ‡	1
BARCOS-319	Natural Hair Care and Braiding ‡	1
BARCOS-320	Client Services 1 ‡	1
BARCOS-323	Client Services 2 ‡	1
BARCOS-330	Business Management Skills for Barbers/Cosmetologists	2
BARCOS-349	Barber Haircut 3 ‡	1
BARCOS-350	Barber Chemical Services 3 ‡	2
BARCOS-351	Barber Hairstyling 2 ‡	1
BARCOS-352	Barber State Board Review ‡	2
BARCOS-353	Barber Haircut 4 ‡	2

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Bilingual Office Assistant

TECHNICAL DIPLOMA

Program Code: 31-106-6

West Allis Campus



This technical diploma ladders into the Administrative Professional associate degree. Contact an MATC advisor for details.

This is a program for bilingual students.

Students fluent in English and a second language will be prepared for bilingual office positions after completing this program. You will use Microsoft software to produce documents in both languages; and will use videoconferencing, the internet and other technologies. All courses, except foreign language instruction, are taught in English.

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.

Start Dates: August, January and March



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

COURSES

		Credits
ENG-195	Written Communication Skills.....	3
	(or) ENG-201 English 1 ‡	
OFTECH-101	Office Technologies 1	3
OFTECH-103	Keyboard and Keypad	1
OFTECH-119	Information Management.....	3
OFTECH-183	Bilingual Customer Service Skills.....	3
FLANG-123	Intermediate Spanish ‡ *	3
	(or) FLANG-218 Spanish 5: Conversation, Grammar and Current Topics ‡	
OFTECH-104	Budgeting Basics for Support Personnel .	3
OFTECH-122	Business English Essentials.....	3
OFTECH-133	Business Document Production 1 ‡	3
OFTECH-136	Keyboarding Skill Development 1 ‡.....	1
OFTECH-165	Administrative Office Procedures ‡	3
OFTECH-184	MS Office: Word, Excel, Access and PowerPoint ‡.....	3
OFTECH-190	Bilingual Office Assistant Internship ‡	1

TOTAL CREDITS: 33

‡ Prerequisite required.

Program curriculum requirements are subject to change.

* 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.

Bricklaying

TECHNICAL DIPLOMA

Program Code: 30-408-2

MATC Education Center at Walker's Square



Designed to prepare you to enter the masonry trade, this program teaches the fundamentals of laying block and brick. The program was developed with the assistance of local tradespeople and contractors. Graduates enter the field as a starting bricklayer. Classes are held 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.

COURSES

	Credits
CIVIL-308 Computer Applications for the Trades	1
CONSTR-302 OSHA Safety/CPR for the Trades ‡.....	1
CONSTR-380 Mathematics for Construction Trades.....	1
ENG-340 Workplace Communication	2
MASON-190 Current Topics in Masonry	1
MASON-300 Fundamental Bricklaying ‡	5
MASON-303 Advanced Bricklaying ‡	5
MASON-308 Job Safety and Layout ‡	1
MASON-356 Methods 1 - Fundamentals ‡.....	2

TOTAL CREDITS: 19

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

Business Management

TECHNICAL DIPLOMA

Program Code: 31-102-3

All campuses (Also offered online)



BUSINESS MANAGEMENT

matc.edu/academics/pathways

Certificate

- Business Management Trainee, p. 189

Technical Diploma

- Business Management, p. 123

Associate Degree

- Business Management, p. 51

Move forward toward your career goals with a strong foundation of business knowledge including management, business communications, office technologies, accounting and risk management.

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

Credits

ACCTG-110	Financial Accounting ^	3
	(or) ACCTG-111 Accounting 1	
BADM-106	MS Office for Business Applications ^	3
BADM-134	Business Organization and Management ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
BADM-110	Business Communications With Technology	3
	(or) ENG-208 Technical Communications ‡	
	(or) ENG-202 English 2 ‡	
BADM-120	Business Analysis ‡	3
BADM-145	Small Business Management ‡	3
	(or) LOGMGT-146 Operations Management	
BADM-192	Risk Management and Insurance ^	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	

TOTAL CREDITS: 27

‡ Prerequisite required.

^ Counts toward earning the Business Management Trainee certificate.

Program curriculum requirements are subject to change.

Start Dates: August and January



matc.edu/course-catalog/business-management

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

Carpentry

TECHNICAL DIPLOMA

Program Code: 31-410-1

Oak Creek Campus and the MATC Education Center at Walker's Square



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

This program prepares you for working on residential and commercial structures. You 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.

COURSES

Credits

CABMIL-340	Millwork for Carpenters ‡.....	2
CARP-301	House Framing ‡	5
CARP-304	House Framing Fundamentals ‡.....	3
CARP-351	Building Materials ‡	1
CARP-385	Blueprint Reading 1 ‡.....	2
CONSTR-302	OSHA Safety/CPR for the Trades ‡.....	1
CONSTR-380	Mathematics for Construction Trades	1
ENG-340	Workplace Communication	2
CABMIL-341	Millwork Techniques ‡.....	2
CARP-303	Roof Framing.....	5
CARP-306	Exterior and Interior Finishing ‡.....	5
CARP-315	Energy Efficiency in Residential Construction.....	1
CARP-383	Quantity Survey ‡.....	2
CARP-387	Commercial Blueprint Reading ‡.....	1

TOTAL CREDITS: 33

‡ Prerequisite required.

Program curriculum requirements are subject to change.

MATC Education Center at Walker's Square is located at 816 West National Avenue, Milwaukee.

Start Date: August



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Central Service Technician

TECHNICAL DIPLOMA

Program Code: 30-534-1

Downtown Milwaukee Campus



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. See program's webpage at matc.edu to view all requirements.

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

Start Dates: August and January

 **Healthcare**
MILWAUKEE AREA *Technical College*
matc.edu/course-catalog/healthcare

COURSES

	Credits
CSTECH-302 Central Service Fundamentals.....	3
CSTECH-303 Central Service Clinical Practice.....	2
HEALTH-101 Medical Terminology.....	3
HEALTH-107 Digital Literacy for Healthcare.....	2

TOTAL CREDITS: 10

Program curriculum requirements are subject to change.

Chemical Processing Technician

TECHNICAL DIPLOMA

Program Code: 31-603-1

Downtown Milwaukee Campus



CHEMICAL TECHNICIAN

matc.edu/academics/pathways

Technical Diploma

- Chemical Processing Technician, p. 126

Associate Degree

- Chemical Technician, p. 54

COURSES

	Credits
ENG-195	Written Communication 3
CHEMT-101	Chemical Laboratory/Process Safety ‡ 2
CHEMT-103	Introduction to Chemical Technology 2
CHEMT-111	General Chemistry 1 ‡ 5
ENG-197	Technical Reporting 3
CHEMT-105	Introduction to Instrumental Methods 3
CHEMT-112	General Chemistry 2 ‡ 5
PHYS-139	Survey of Physics 3

TOTAL CREDITS: 26

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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.

Start Dates: August and January



STEM

MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/stem

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

Child Care Services

TECHNICAL DIPLOMA

Program Code: 31-307-1

Downtown Milwaukee, West Allis campuses



EARLY CHILDHOOD EDUCATION

matc.edu/academics/pathways

Certificate

- Preschool, p. 197

Technical Diploma

- Child Care Services, p. 127

Associate Degree

- Early Childhood Education, p. 61

COURSES

Credits

CHILDD-108	ECE: Early Language and Literacy ^	3
CHILDD-148	ECE: Foundations of Early Childhood Education ^	3
CHILDD-151	ECE: Infant and Toddler Development	3
CHILDD-167	ECE: Health, Safety and Nutrition ^	3
CHILDD-195	ECE: Family and Community Relations.....	3
CHILDD-174	ECE: Introductory Practicum ^	3
CHILDD-179	ECE: Child Development ^	3
CHILDD-188	ECE: Guiding Child Behavior ^	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	

TOTAL CREDITS: 27

‡ Prerequisite required.

^ Counts toward earning the Preschool certificate.

Program curriculum requirements are subject to change.

Bilingual (Spanish) mode is offered at the West Allis Campus

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.

Career Outlook

Trends indicate a steady growth in the child care field.

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



Community & Human Services
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/community-human-services

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

Computer Numerical Control (CNC) Technician

TECHNICAL DIPLOMA

Program Code: 32-444-1

Downtown Milwaukee Campus (year one only), Oak Creek Campus



CNC PROGRAMMING

matc.edu/academics/pathways

Technical Diploma

- Machine Tool Operations, p. 154
- CNC Technician, p. 128

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 advanced machine tool equipment set-up and operation
- Perform advanced 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 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 machine setup and operation).

* 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; nims-skills.org.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

YEAR 1, SEMESTER 1

Credits

MACHTL-360	Metrology ^ *	1
MACHTL-367	Machine Tool Technology ^ *	1
MACHTL-384	Machine Trades Mathematics 1 ^ *	1
MDRAFT-385	Machine Blueprint Reading 1 ^ *	1
MACHTL-300	Engine Lathe 1 ^	3
	(or) MACHTL-347 Single-Spindle Auto Screw Machine 1 *	
MACHTL-301	Engine Lathe 2 ‡ ^	3
	(or) MACHTL-348 Single-Spindle Auto Screw Machine 2 ‡ *	
MACHTL-309	Manual Vertical Milling Machine 1 ^	3
	(or) MACHTL-361 Multiple-Spindle Auto Screw Machine 1 ‡ *	
MACHTL-310	Manual Vertical Milling Machine 2 ‡ ^	3
	(or) MACHTL-362 Multiple-Spindle Auto Screw Machine 2 ‡ *	

YEAR 1, SEMESTER 2

ENG-340	Workplace Communication ^ *	2
MACHTL-304	Introduction to CNC Programming ‡ ^ *	1
MACHTL-385	Machine Trades Mathematics 2 ‡ ^ *	1
MACHTL-391	Quality Control ‡ ^ *	1
MDRAFT-386	Machine Blueprint Reading 2 ‡ ^ *	1
MACHTL-320	Introduction to CNC Turning Centers ‡ ^	4
	(or) MACHTL-371 CNC Swiss Turning Center 1 *	
MACHTL-322	Introduction to CNC Vertical Machining Centers ‡ ^	4
	(or) MACHTL-372 CNC Swiss Turning Center 2 ‡ *	
MACHTL-325	Surface Grinding ^	4
	(or) MACHTL-373 CNC Swiss Turning Center 3 ‡ *	

YEAR 2

Select one group of programming courses per semester:

CNC Machining Center Programming:

CNC-324	CNC Machine Programming/Proveout 1 ‡ ..3
CNC-325	CNC Machine Programming/Proveout 2 ‡ ..3
CNC-326	Machining Center CAD/CAM Programming 1 ‡ ..3
CNC-327	Machining Center CAD/CAM Programming 2 ‡ ..3

CNC Turning Center Programming:

CNC-332	CNC Turning Programming/Proveout 1 ‡3
CNC-333	CNC Turning Programming/Proveout 2 ‡3
CNC-334	Turning Center CAD/CAM Programming 1 ‡ ..3
CNC-335	Turning Center CAD/CAM Programming 2 ‡ ..3

Additional Required Courses:

CNC-302	Computer Application/CNC.....1
CNC-320	Tooling and Fixturing.....1
CNC-321	CNC Machine Technology.....1
MACHTL-386	Machine Trades Mathematics 3 ‡1
MDRAFT-320	Coordinate Blueprint Reading ‡1
MTLGY-321	Metallurgy 1.....1

TOTAL CREDITS: 64

Cosmetology

TECHNICAL DIPLOMA

Program Code: 31-502-1

Downtown Milwaukee Campus



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

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.

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, 4822 Madison Yards Way, Madison, WI 53705; 608-266-2112; dsps.wi.gov/Pages/Professions/Cosmetologist/Default.aspx.

Start Dates: August and January



matc.edu/course-catalog/community-human-services

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

COURSES

Credits

BARCOS-300	Shampoo and Scalp Treatments ‡	2
BARCOS-301	Men's Haircut 1 ‡	2
BARCOS-302	Women's Haircut 1 ‡	2
BARCOS-304	Permanent Wave ‡	2
BARCOS-306	Esthetics 1 ‡	2
BARCOS-307	Esthetics 2 ‡	1
BARCOS-309	Chemical Relaxing ‡	2
BARCOS-310	Hair Tinting ‡	2
BARCOS-314	Hairstyle 1 ‡	2
BARCOS-315	Hairstyle 2 ‡	2
MATH-304	Math Principles 1	1
BARCOS-303	Men's Haircut 2 ‡	2
BARCOS-305	Women's Haircut 2 ‡	2
BARCOS-308	Nail Services ‡	2
BARCOS-312	Advanced Color ‡	1
BARCOS-313	Hair Color Correction ‡	1
BARCOS-317	Barber/Cosmetology Theory ‡	1
BARCOS-319	Natural Haircare and Braiding ‡	1
BARCOS-320	Client Services 1 ‡	1
BARCOS-323	Client Services 2 ‡	1
BARCOS-324	Business Skills for Barbers/ Cosmetologists	1
BARCOS-326	Client Services 3 ‡	1
BARCOS-330	Business Management Skills for Barbers/Cosmetologists ‡	2
ENG-340	Workplace Communication	2
BARCOS-316	Advanced Style ‡	1
BARCOS-321	Hair Extensions ‡	1
BARCOS-327	Client Services 4 ‡	1
BARCOS-328	Client Services 5 ‡	1
BARCOS-329	Basic Artificial Nail Concepts ‡	1
BARCOS-335	State Board Review ‡	3

TOTAL CREDITS: 46

‡ 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

Technical Diplomas



CULINARY ASSISTANT
matc.edu/academics/pathways

Technical Diploma

- Food Service Assistant, p. 144
- Culinary Assistant, p. 130

Bilingual (Spanish) mode also is offered.

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 typically are employed 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.

COURSES

Credits

CULART-100	Introduction to Food Service/ Hospitality Industry ‡ ^	1
CULART-116	Mise en Place/Culinary Fundamentals ‡ ^	2
CULART-117	Nutrition for Culinary Arts^	1
CULART-118	Sustainable Food Communities^	1
CULMGT-112	Food Service Sanitation ^	2
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
MATH-134	Mathematical Reasoning	3
	(or) Any 200-level MATH course	
CULART-107	Field Experience in Food Service/ Hospitality Industry ‡	1
CULART-114	Business/Industry Food Service/ Catering 1 ‡	4
CULART-115	Culinary Arts Practicum ‡	1
CULART-122	Stocks, Soups and Sauces ‡	1
CULART-124	Meat Identification and Fabrications ‡	1
CULART-126	Seafood/Shellfish Cookery ‡	1
CULART-128	Vegetables, Starches and Grains ‡	1
CULMGT-101	Menu Planning and Design	2
CULMGT-105	Culinary Math and Cost Control	3

TOTAL CREDITS: 28

‡ Prerequisite required.

^ Counts toward earning the Food Service Assistant technical diploma.

Program curriculum requirements are subject to change.

Start Dates: August and January



Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

Dental Assistant

TECHNICAL DIPLOMA

Program Code: 30-508-2

Downtown Milwaukee Campus



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

COURSES

Credits

DENAST-302	Dental Chairside	5
DENAST-304	Dental and General Anatomy	2
DENAST-305	Applied Dental Radiography	2
	(or) DENHYG-103 Dental Radiography	
DENAST-306	Dental Assistant – Clinical.....	3
DENAST-307	Dental Assistant Professionalism	1
DENHYG-101	Dental Health Safety	1
DENHYG-113	Dental Materials	2

TOTAL CREDITS: 16

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, adausa.org.

Technical Diplomas

Bilingual (Spanish) program also is offered*

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.

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.

*Bilingual program start date is August only and is an open enrollment program.

Start Dates: August and January



Healthcare

MILWAUKEE AREA **Technical College**

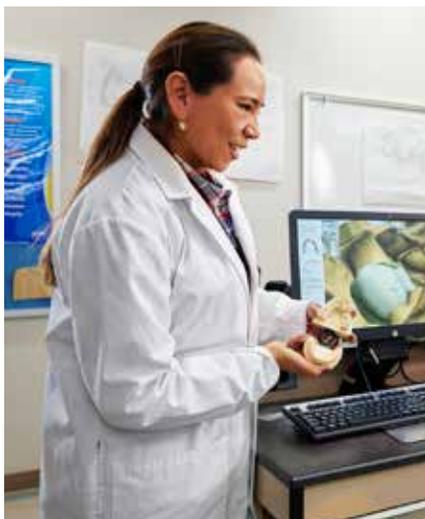
matc.edu/course-catalog/healthcare

Dental Technician

TECHNICAL DIPLOMA

Program Code: 30-507-1

Downtown Milwaukee Campus



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

COURSES

Credits

DLABT-102	Dental Anatomy ‡.....	5
DLABT-111	Introduction to Complete Dentures ‡	5
DLABT-121	Introduction to Crown and Bridge ‡	5
DLABT-128	All Ceramic Techniques ‡	4
ENG-196	Oral/Interpersonal Communication	3
	(or) Any 200-level ENG or SPEECH course	

TOTAL CREDITS: 22

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Gain the knowledge and skills needed to manufacture 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.

Career Outlook

An increasing demand for aesthetic dentistry, the aging population and an aging workforce contribute to employment opportunities.

Program Learning Outcomes

- Relate concepts of oral anatomy, morphology and occlusion to dental laboratory procedures
- Manufacture dental restorations and prostheses such as dentures, crowns, bridges and all ceramics using analog and computer-aided design methods
- 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

High school juniors and seniors are eligible to apply.

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

Start Date: August



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

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 program prepares you for servicing equipment powered by diesel or natural gas fueled 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; aseeducationfoundation.org.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

	Credits
DIESEL-301 Diesel Fuel Systems ‡.....	2
DIESEL-306 Engine Construction and Installation ‡.....	5
DIESEL-307 Electrical/Electronics Shop ‡	5
DIESEL-308 CNG Engine Operations for Heavy-Duty Applications ‡	1
DIESEL-338 Emission Control Systems ‡	2
DIESEL-319 Driveline Components ‡	5
DIESEL-333 Heavy Truck HVAC Systems ‡	2
DIESEL-341 Front-End, Brake and Suspension Systems ‡.....	5
DIESEL-345 Preventive Maintenance ‡	2
ENG-340 Workplace Communication	2
WELD-305 Fundamentals of Oxyfuel Welding	1

TOTAL CREDITS: 32

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Digital Imaging

TECHNICAL DIPLOMA

Program Code: 30-203-1

Downtown Milwaukee Campus



PHOTOGRAPHY

matc.edu/academics/pathways

Technical Diploma

• Digital Imaging, p. 134

Associate Degree

• Photography, p. 93

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.

Career Outlook

As the industry continues to evolve, new job opportunities exist in professional-level still and video photography.

Program Learning Outcomes

- Apply pre-planning skill in proper conceptual development, photo equipment choices, and lighting design before executing the 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.

Start Dates: August and January



Creative Arts, Design & Media

MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
PHOTO-100	Introduction to Digital Photography	1
PHOTO-101	Digital Fundamental Photography	3
PHOTO-107	Photographic Trends.....	1
PHOTO-141	Photoshop for Photographers 1.....	3
MATH-123	Math With Business Applications ‡	3
	(or) Any 200-level MATH course	
PHOTO-108	Photographic Lighting ‡	3
PHOTO-130	Photographic Composition	3
PHOTO-139	Measurement Techniques ‡	3
PHOTO-142	Photoshop for Photographers 2 ‡	3

TOTAL CREDITS: 26

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Digital Marketing and Integrated Communications

TECHNICAL DIPLOMA

Program Code: 31-104-9

Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)



MARKETING

matc.edu/academics/pathways

Technical Diploma

- Digital Marketing and Integrated Communications, p. 135
- Sales and Customer Experience, p. 173

Associate Degree

- Marketing – Online Accelerated, p. 86
- Marketing, p. 85

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
MKTG-102	Marketing Principles.....	3
MKTG-118	Social Media Marketing	3
MKTG-165	Digital Marketing	3
MKTG-173	Marketing Research/Analytics	3
MKTG-125	Advertising: Brands and Campaigns	3
MKTG-134	Integrated Marketing Communications.....	3
MKTG-144	Client Services	3
MKTG-198	Visual Media Marketing	3

TOTAL CREDITS: 27

‡ Prerequisite required.

All the Digital Marketing and Integrated Communications courses count toward the Marketing associate degree.

Program curriculum requirements are subject to change.

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
- Utilize 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Electrical Power Distribution/Line Mechanic

TECHNICAL DIPLOMA

Program Code: 31-413-2

Mequon Campus



This 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 electrical line worker and electrician 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



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

COURSES

Credits

ELECTY-318	Electrical Power Distribution 1A ‡	5
ELECTY-319	Electrical Power Distribution 1B ‡.....	4
ELECTY-320	Electrical Principles and Applied Math 1 ‡ ...	4
ELECTY-321	Line Mechanic Rescue and Safety ‡	2
ELECTY-322	Electrical Power Distribution 2A ‡	5
ELECTY-323	Electrical Power Distribution 2B ‡	4
ELECTY-324	Electrical Principles and Applied Math 2 ‡ ...	4
ENG-340	Workplace Communication	2

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Electricity

TECHNICAL DIPLOMA

Program Code: 31-413-1

Downtown Milwaukee Campus



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

COURSES	Credits
ELECTY-308 Basic Skills for Electrical Wiring ‡	2
ELECTY-310 Cable Wiring ‡	2
ELECTY-312 Electrical Raceway Installation ‡	2
ELECTY-340 Electrical Code Fundamentals 1 ‡	2
ELECTY-378 Construction Blueprint Reading ‡	1
ELECTY-392 Principles of Electricity	5
(or) ELECTY-390 Principles of Electricity 1 and ELECTY-391 Principles of Electricity 2	
ELECTY-314 Electrical Service Installation ‡	1
ELECTY-328 Electric Motor Control Wiring ‡	2
ELECTY-341 Electrical Code Fundamentals 2 ‡	1
ELECTY-382 Electrical Equipment Circuit Analysis ‡	1
ELECTY-384 Electrical Design and Estimating ‡	1
ELECTY-386 Solid State Devices ‡	2
ELECTY-394 Electrical Apparatus ‡	4
ENG-340 Workplace Communication	2
TOTAL CREDITS: 28	

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Learn skills needed for entry-level electrician positions in industry and the building trades. This 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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Electronics Technician Fundamentals

TECHNICAL DIPLOMA

Program Code: 30-605-1

Downtown Milwaukee Campus



ELECTRONIC TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Electronics Technician Fundamentals, p. 138

Associate Degree

- Biomedical Electronics Technology, p. 49
- Computer Electronics Technology, p. 56
- Electronic Engineering Technology, p. 62
- Electronic Technology – Automation, p. 63

COURSES

Credits

ELCTEC-110	DC/AC Electronics 1 ‡.....	4
ELCTEC-130	Digital Electronics ‡.....	3
MATH-115	College Technical Mathematics 1 ‡.....	5
ELCTEC-111	DC/AC Electronics 2 ‡.....	3
ELCTEC-120	Electronic Devices ‡.....	4
ELCTEC-140	Microprocessors ‡.....	3

TOTAL CREDITS: 22

‡ 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.

Career Outlook

Electronics is a rapidly changing field, with jobs in many sectors of industry.

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.

Start Dates: August and January

 **STEM**
MILWAUKEE AREA *Technical College*
matc.edu/course-catalog/stem

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

Emergency Medical Technician

TECHNICAL DIPLOMA

Program Code: 30-531-3

Mequon and Oak Creek campuses



FIRE PROTECTION TECHNICIAN

matc.edu/academics/pathways

Technical Diploma

- Emergency Medical Technician, p. 139

Associate Degree

- Fire Protection Technician, p. 67

COURSE

Credits

EMS-192 EMT 5

TOTAL CREDITS: 5

Program curriculum requirements are subject to change.

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.

Career Outlook

Employment opportunities exist in both the private and public sectors.

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

(For full description, see matc.edu.)

Admission Requirements

- Must be at least 18 years old when applying for the state EMT-Basic license
- Background check

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

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

Emergency Medical Technician – Advanced

TECHNICAL DIPLOMA

Program Code: 30-531-6

Mequon and Oak Creek campuses



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.

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.

Career Outlook

Employment opportunities exist in both the private and public sectors.

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

(For full description, see matc.edu.)

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.

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

Emergency Medical Technician – Paramedic

TECHNICAL DIPLOMA

Program Code: 31-531-1

Downtown Milwaukee Campus



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

COURSES

Credits

EMS-911	EMS Fundamentals ‡	2
EMS-912	Paramedic Medical Principles ‡	4
EMS-913	Advanced Patient Assessment Principles ‡	3
EMS-914	Advanced Prehospital Pharmacology ‡	3
EMS-915	Paramedic Respiratory Management ‡	2
EMS-916	Paramedic Cardiology ‡	4
EMS-917	Paramedic Clinical/Field 1 ‡	3
EMS-918	Advanced Emergency Resuscitation ‡	1
EMS-919	Paramedic Medical Emergencies ‡	4
EMS-920	Paramedic Trauma ‡	3
EMS-921	Special Patient Populations ‡	3
EMS-922	EMS Operations ‡	1
EMS-923	Paramedic Capstone Assessment ‡	1
EMS-924	Paramedic Clinical/Field 2 ‡	4
SOCSCI-172	Introduction to Diversity Studies	3

TOTAL CREDITS: 41

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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; 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.

This program is accredited by the 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; coaemsp.org.

Start Dates: August and January



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

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

Entrepreneurship

TECHNICAL DIPLOMA

Program Code: 31-145-2

Downtown Milwaukee Campus (Also offered online)

Technical Diplomas



ENTREPRENEURSHIP

matc.edu/academics/pathways

Certificate

- Entrepreneurship, p. 192

Technical Diploma

- Entrepreneurship, p. 142

COURSES

Credits

ECON-195	Economics	3
	(or) ECON-219 Personal Finance and Consumer Economics	
ENG-195	Written Communication.....	3
	(or) ENG-201 English 1 ‡	
ENTREP-101	Introduction to Entrepreneurship ^	3
ENTREP-102	New Product Development	3
ENTREP-104	Business Plan ^.....	3
ACCTG-102	Basic Office Accounting	3
ENTREP-103	Strategic Business Communication 1	3
ENTREP-105	Strategic Business Communication 2 ‡	3
MKTG-102	Marketing Principles	3
SOCSCI-197	Contemporary American Society.....	3

TOTAL CREDITS: 30

‡ Prerequisite required.

^ Counts toward earning the Entrepreneurship certificate.

Program curriculum requirements are subject to change.

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.

Start Dates: August/January/June



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Financial Services

TECHNICAL DIPLOMA

Program Code: 31-114-3

Downtown Milwaukee, West Allis campuses (Also offered online)



BANKING AND FINANCIAL SERVICES

matc.edu/academics/pathways

Certificate

- Financial Services Trainee, p. 193

Technical Diploma

- Financial Services, p. 143

Associate Degree

- Banking and Financial Services, p. 48

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

		Credits
ACCTG-111	Accounting 1 ^.....	4
BADM-106	MS Office for Business Applications ^	3
FIN-110	Principles of Banking.....	3
RBUS-102	Mathematics of Business.....	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
FIN-120	Introduction to Money, Banking and Financial Markets ^.....	3
FIN-122	Investment Principles ‡.....	3
FIN-170	Credit Management.....	3
MKTG-104	Selling Principles ^	3

TOTAL CREDITS: 28

‡ Prerequisite required.

^ Counts toward earning the Financial Services Trainee certificate.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Food Service Assistant

TECHNICAL DIPLOMA

Program Code: 30-316-1

Downtown Milwaukee Campus

Technical Diplomas



CULINARY ASSISTANT

matc.edu/academics/pathways

Technical Diploma

• Food Service Assistant, p. 144

Technical Diploma

• Culinary Assistant, p. 130

CULINARY ARTS

matc.edu/academics/pathways

Technical Diploma

• Food Service Assistant, p. 144

Associate Degree

• Culinary Arts, p. 59

COURSES

Credits

CULART-100	Introduction to Food Service/ Hospitality Industry ‡	1
CULART-116	Mise en Place/Culinary Fundamentals ‡	2
CULART-117	Nutrition for Culinary Arts.....	1
CULART-118	Sustainable Food Communities.....	1
CULMGT-112	Food Service Sanitation.....	2

TOTAL CREDITS: 7

‡ Prerequisite required.

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 customers, 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.

Start Dates: August and January



Creative Arts, Design & Media

MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

Foundations of Lodging and Hospitality Management

TECHNICAL DIPLOMA

Program Code: 31-109-5

Downtown Milwaukee Campus



HOSPITALITY MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Foundations of Lodging and Hospitality Management, p. 145

Associate Degree

- Hospitality Management, p. 72

Enter the hospitality industry and prepare for a career managing hotels and other facilities that offer accommodations.

Career Outlook

Employment opportunities in this diverse industry can be 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

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
HOTEL-110	Front Office Procedures and Management	3
HOTEL-122	Basic Hospitality Accounting	3
HOTEL-135	Hospitality Professional Service and Development	3
MEET-151	Introduction to Hospitality/Tourism	3
CULMGT-117	Hospitality Law and Liability	3
HOTEL-105	Hospitality Marketing, Sales and Revenue Strategy	3
HOTEL-112	Front Office Computerized Procedures ‡ ...	3
HOTEL-120	Building Operations and Security	3
HOTEL-127	Fundamentals of Meetings and Special Events	3
HOTEL-150	Housekeeping Operations	2

TOTAL CREDITS: 32

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Front-End Web Developer

TECHNICAL DIPLOMA

Program Code: 31-206-1

Downtown Milwaukee Campus (Also offered online)



WEB & DIGITAL MEDIA DESIGN

matc.edu/academics/pathways

Technical Diploma

• Front-End Web Developer, p. 146

Associate Degree

• Web & Digital Media Design, p. 105

COURSES

Credits

ENG-195	Written Communication..... 3 (or) ENG-201 English 1 ‡	3
ITDEV-117	Logic and Problem-Solving	3
MKTG-165	Digital Marketing	3
WEBDEV-102	Introduction to Digital Media.....	3
WEBDEV-114	Web Development With HTML/CSS.....	3
WEBDEV-119	Web Design Overview ‡.....	3
WEBDEV-123	Interactive Design ‡	3
WEBDEV-124	Database Web Design With PHP and MySQL ‡.....	3
WEBDEV-133	Content Management Systems ‡..... 3 (or) WEBDEV-132 Rich Media for the Web ‡	3
WEBDEV-134	Responsive Web Design ‡.....	3
WEBDEV-140	Web Development With JavaScript and jQuery ‡.....	3

TOTAL CREDITS: 33

‡ 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.

Start Dates: August and January



Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

Health Unit Coordinator

TECHNICAL DIPLOMA

Program Code: 30-510-2

Mequon Campus (Also offered online)



HEALTHCARE SERVICES MANAGEMENT

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Health Unit Coordinator, p. 147
- Phlebotomy, p. 164

Associate Degree

- Healthcare Services Management, p. 71

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) and online instructional formats.

Career Outlook

Positions are available in hospitals, long-term care facilities and clinics. The Wisconsin Technical College System in October 2019 identified this profession as the No. 1 in-demand area of the Top 50 jobs.

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.

Start Dates: August/January/June



COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
HEALTH-101	Medical Terminology * ^	3
HEALTH-104	Culture of Healthcare * ^	2
HEALTH-107	Digital Literacy for Healthcare * ^	2
HSM-130	Health Services Coordination 1 ‡	3
HSM-131	Health Services Coordination 2 ‡	3
HSM-132	Health Services Applications ‡	3

TOTAL CREDITS: 19

‡ 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.

IT Computer Support Technician

TECHNICAL DIPLOMA Program Code: 31-154-6 All campuses

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 - Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

Coursework in this 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

Computer support technicians are in demand locally and nationally.

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.

COURSES

	Credits
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
ITSUP-101 Computer Information Systems Fundamentals ^ *	3
ITSUP-109 Microsoft Office for IT Professionals * †	3
ITSUP-111 CompTIA A+ Software Support †	3
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL) ^ * †	3
ITNET-101 Network Communications (Network+)	3
ITSEC-124 Network Security (Security+)	3
ITSUP-102 CompTIA A+ Essentials ^	3
ITSUP-155 IT Career Skills	3

TOTAL CREDITS: 27

‡ Prerequisite required.

* Counts toward earning the Level 2 - Service Center Technician certificate.

† Counts toward earning the Microsoft Enterprise Desktop Support Specialist certificate.

^ Counts toward earning the Service Center Technician certificate.

Program curriculum requirements are subject to change.

Start Dates: August and January



matc.edu/course-catalog/stem

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

IT Digital Forensics Analyst

TECHNICAL DIPLOMA

Program Code: 31-150-1

All campuses



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.

Career Outlook

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



STEM

MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/stem

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

COURSES

Credits

ITNET-131	Introduction to Networks (Cisco 1)	3
ITNET-132	Routing/Switching Essentials (Cisco 2) †.....	3
ITSEC-114	Information Security Principles	3
ITSEC-124	Network Security (Security+).....	3
ITNET-161	Linux Overview	2
ITSEC-126	Computer Forensics	3
ITSEC-151	IT – Auditing.....	3
ITSEC-152	Information Security Risk Management	3
ITSEC-156	Mobile Devices Forensics	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 †	
ITSEC-166	Advanced Forensics.....	3
ITSEC-176	Malware Forensics	3
ITSEC-146	Security Measures and Intrusion Detection....	3

TOTAL CREDITS: 38

† Prerequisite required.

Program curriculum requirements are subject to change.

IT Help Desk Support Specialist

TECHNICAL DIPLOMA **Program Code: 31-154-7** All campuses

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 - Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

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 about 23% in Wisconsin, and 19% nationally, between 2014 and 2024.

Program Learning Outcomes

- Manage information technology hardware
- Manage software
- 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

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
ITSUP-101	Computer Information Systems Fundamentals ^ *	3
ITSUP-109	Microsoft Office for IT Professionals * †	3
ITSUP-111	CompTIA A+ Software Support †	3
ITSUP-140	Support Center Analyst (HDI-SCA, HDI-DST, ITIL) ^ * †	3
ITNET-101	Network Communications (Network+)	3
ITSUP-102	CompTIA A+ Essentials ^	3
ITSUP-177	Intro to IT Projects, Teamwork and Self-Management.....	3
ITSUP-150	Mobile Device Repair and Support.....	3
ITSUP-152	Apple OSX Certified Support Professional (ACSP).....	3
ITSUP-155	IT Career Skills.....	3
ITSEC-124	Network Security (Security+).....	3
ITSUP-153	Mobile Device Administration	3
ITSUP-198	Computer Support Specialist Internship ‡ ...	1
ITSUP-199	Integrated Project – Computer Support Specialist.....	1

TOTAL CREDITS: 41

‡ Prerequisite required.

^ Counts toward earning the Service Center Technician certificate.

* Counts toward earning the Level 2 - Service Center Technician certificate.

† Counts toward earning the Microsoft Enterprise Desktop Support Specialist certificate.

Program curriculum requirements are subject to change.

Start Dates: August and January



matc.edu/course-catalog/stem

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

IT Networking and Infrastructure Administration

TECHNICAL DIPLOMA

Program Code: 31-150-2

All campuses



IT NETWORK SPECIALIST

matc.edu/academics/pathways

Technical Diploma

- IT Networking and Infrastructure Administration, p. 151

Associate Degree

- IT Network Specialist – Online Accelerated Cohort, p. 81
- IT Network Specialist, p. 80

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+).

Career Outlook

Opportunities are strong, including positions for network administrators, specialists and technicians.

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.

COURSES

Credits

ITNET-101	Network Communications (Network+).....	3
ITNET-110	Managing Windows Desktop (Client) Operating System	3
ITNET-131	Introduction to Networks (Cisco 1)	3
ITNET-112	MS Server Administration 1	3
ITNET-132	Routing/Switching Essentials (Cisco 2) ‡.....	3
ITNET-157	Virtualization Technologies ‡.....	3
MATH-123	Math With Business Applications ‡..... (or) Any 200-level MATH course	3
ITNET-111	MS Server Administration 2	3
ITNET-133	Scaling Networks (Cisco 3) ‡	3
ITNET-154	Scripting for Network Administrators.....	3

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



matc.edu/course-catalog/stem

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

IT User Support Technician

TECHNICAL DIPLOMA **Program Code: 30-154-6** All campuses

Technical Diplomas

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 - Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

Receive Apple support training, along with instruction in 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

Support technicians are in demand locally and nationally.

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.

COURSES

Credits

ITSUP-140	Support Center Analyst (HDI-SCA, HDI-DST, ITIL).....	3
ITSUP-150	Mobile Device Repair and Support.....	3
ITSUP-152	Apple OSX Certified Support Professional (ACSP).....	3
ITSUP-153	Mobile Device Administration.....	3

TOTAL CREDITS: 12

Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Landscape Horticulture Technician

TECHNICAL DIPLOMA

Program Code: 31-001-5

Mequon Campus



LANDSCAPE HORTICULTURE

matc.edu/academics/pathways

Technical Diploma

- Landscape Horticulture Technician, p. 153

Associate Degree

- Landscape Horticulture, p. 83

COURSES

Credits

HORT-111	Introduction to Horticulture	3
HORT-112	Horticulture Soils.....	3
HORT-114	Survey of Woody Ornamental Plants	3
HORT-116	Landscape Equipment	3
HORT-113	Ornamental Plant Health Care.....	3
HORT-118	Landscape Business Principles.....	3
HORT-122	Landscape Design I.....	3
HORT-126	Landscape Estimating and Bidding	3
HORT-159	Survey of Herbaceous Plants	2
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-level SOCSCI course	

TOTAL CREDITS: 29

Program curriculum requirements are subject to change.

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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/manufacturing-construction-transportation

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

Machine Tool Operations

TECHNICAL DIPLOMA

Program Code: 31-420-1

Downtown Milwaukee Campus



CNC PROGRAMMING

matc.edu/academics/pathways

Technical Diploma

- CNC Technician, p. 128
- Machine Tool Operations, p. 154

Learn in-demand skills for machine tool operations. Students will choose one of two groups of courses to focus on – either 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

Credits

MACHTL-360	Metrology	1
MACHTL-367	Machine Tool Technology	1
MACHTL-384	Machine Trades Mathematics 1	1
MDRAFT-385	Machine Blueprint Reading 1	1
MACHTL-300	Engine Lathe 1	3
	(or) MACHTL-347 Single-Spindle Auto Screw Machine 1	
MACHTL-301	Engine Lathe 2 ‡	3
	(or) MACHTL-348 Single-Spindle Auto Screw Machine 2 ‡	
MACHTL-309	Manual Vertical Milling Machine 1	3
	(or) MACHTL-361 Multiple-Spindle Auto Screw Machine 1 ‡	
MACHTL-310	Manual Vertical Milling Machine 2 ‡	3
	(or) MACHTL-362 Multiple-Spindle Auto Screw Machine 2 ‡	
ENG-340	Workplace Communication	2
MACHTL-304	Introduction to CNC Programming ‡	1
MACHTL-385	Machine Trades Mathematics 2 ‡	1
MACHTL-391	Quality Control ‡	1
MDRAFT-386	Machine Blueprint Reading 2 ‡	1
MACHTL-320	Introduction to CNC Turning Centers ‡	4
	(or) MACHTL-371 CNC Swiss Turning Center 1	
MACHTL-322	Introduction to CNC Vertical Machining Centers ‡	4
	(or) MACHTL-372 CNC Swiss Turning Center 2 ‡	
MACHTL-325	Surface Grinding	4
	(or) MACHTL-373 CNC Swiss Turning Center 3 ‡	

TOTAL CREDITS: 34

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Manufacturing Maintenance

TECHNICAL DIPLOMA

Program Code: 32-462-1

Downtown Milwaukee Campus



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.

COURSES

	Credits
CONSTR-302 OSHA Safety/CPR for the Trades ‡	1
ELECTY-308 Basic Skills for Electrical Wiring ‡	2
ELECTY-390 Principles of Electricity 1	3
ENG-340 Workplace Communication	2
HVAC1-300 Basic Refrigeration/System Operation	4
HVAC1-325 Oil Furnace Service and Maintenance	3
MACHTL-360 Metrology	1
QLTYIN-103 MSSC Safety	1
QLTYIN-104 MSSC Quality	1
ELECTY-328 Electric Motor Control Wiring ‡	2
ELECTY-391 Principles of Electricity 2 ‡	2
HVAC1-301 Introduction to Refrigeration Service/ Applications ‡	4
HVAC1-326 Gas Furnace Servicing and Maintenance ‡	3
MATH-113 College Technical Mathematics 1A ‡	3
MDRAFT-385 Machine Blueprint Reading 1	1
QLTYIN-105 MSSC Process	1
QLTYIN-106 MSSC Maintenance	1
HYDPNU-330 Basic Hydraulics/Pneumatics	5
HYDPNU-338 Mechanical Systems	4
MFGMNT-352 Mechanical Drives 1	2
WELD-300 Fundamentals of Arc Welding	1
WELD-301 General Arc Welding ‡	2
HYDPNU-336 Fluid Power Circuits	4
MACHTL-346 Machine Shop for Related Trades	2
MFGMNT-332 Rigging and Lifting	2
MFGMNT-353 Mechanical Drives 2 ‡	2
MFGMNT-359 Mechanical Fabrication	2
WELD-305 Fundamentals of Oxyfuel Welding	1

TOTAL CREDITS: 62

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Mechanical and Computer Drafting

TECHNICAL DIPLOMA

Program Code: 31-421-2

Downtown Milwaukee Campus



MECHANICAL DESIGN TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Mechanical and Computer Drafting, p. 156

Associate Degree

- Mechanical Design Technology, p. 87

COURSES

	Credits
CIVIL-102 Introduction to AutoCAD	2
CIVIL-105 Computer Applications.....	2
MCDESG-102 Technical Drafting 1 ‡.....	3
MCDESG-162 Engineering Materials	2
MATH-115 College Technical Mathematics 1 ‡	5
(or) MATH-201 College Algebra ‡	
MCDESG-104 Technical Drafting 2 With CAD ‡.....	3
MCDESG-114 SolidWorks 1 ‡.....	2
MCDESG-106 Advanced Engineering Graphics ‡.....	3
MCDESG-124 SolidWorks 2 ‡.....	2
MCDESG-163 Machining Processes ‡	2

TOTAL CREDITS: 26

‡ Prerequisite required.

Program curriculum 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.

Start Date: August



matc.edu/course-catalog/stem

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

Medical Assistant

TECHNICAL DIPLOMA

Program Code: 31-509-1

Downtown Milwaukee Campus



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

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).

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.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 9355 - 113th Street N, #7709, Seminole, FL 33775; 727-210-2350; caahep.org/Accreditation/CAAHEP-Accreditation-Process.aspx. Accreditation is based upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (CRB-AAMAE).

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

		Credits
HEALTH-101	Medical Terminology *	3
HEALTH-107	Digital Literacy for Healthcare *	2
MEDAST-301	Medical Assistant Administrative Procedures †	2
MEDAST-302	Human Body in Health and Disease †	3
MEDAST-303	Medical Assistant Lab Procedures 1 †	2
MEDAST-304	Medical Assistant Clinical Procedures 1 †	4
MEDAST-309	Medical Law, Ethics and Professionalism	2
ENG-195	Written Communication (or) ENG-201 English 1 †	3
HEALTH-308	Pharmacology for Allied Health †	2
MEDAST-305	Medical Assistant Laboratory Procedures 2 †	2
MEDAST-306	Medical Assistant Clinical Procedures 2 † **	3
MEDAST-307	Medical Office Insurance and Finance †	2
MEDAST-310	Medical Assistant Practicum † **	3

TOTAL CREDITS: 33

† 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.

For 2018, MATC's Medical Assistant program had an average job placement rate of 82% with employers.

Medical Billing

TECHNICAL DIPLOMA

Program Code: 31-160-5

West Allis Campus



MEDICAL ADMINISTRATIVE PROFESSIONAL

matc.edu/academics/pathways

Technical Diploma

- Medical Billing, p. 158

Associate Degree

- Medical Administrative Specialist, p. 88

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

Credits

BRHLTH-124	Medical Office Terminology 1	3
OFTECH-101	Office Technologies 1	3
OFTECH-103	Keyboard and Keypad	1
OFTECH-122	Business English Essentials.....	3
BIOSCI-189	Basic Anatomy.....	3
BRHLTH-112	Computerized Medical Billing ‡.....	3
BRHLTH-125	Medical Office Terminology 2 ‡.....	3
BRHLTH-170	Medical Insurance Principles and Coding ‡	3
BRHLTH-174	Medical Claims Reimbursement ‡.....	2
BRHLTH-197	Medical Office Career Investigation ‡.....	3

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

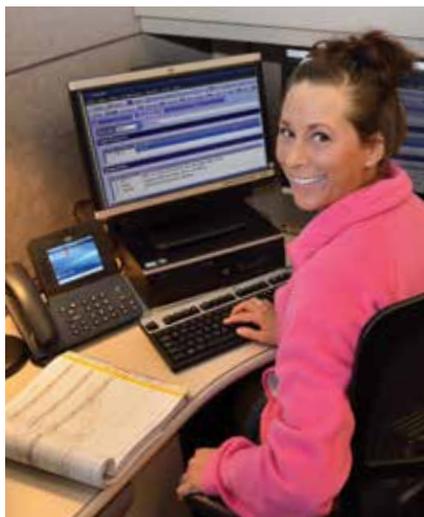
To apply for financial aid, visit fafsa.gov. School Code: 003866

Medical Coding Specialist

TECHNICAL DIPLOMA

Program Code: 31-530-2

Mequon Campus



HEALTH INFORMATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Medical Coding Specialist, p. 159

Associate Degree

- Health Information Technology, p. 70

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.

Career Outlook

Employment opportunities exist in hospitals, clinics and physicians' offices.

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.

COURSES

Credits

BIOSCI-189	Basic Anatomy	3
	(or) BIOSCI-177 General Anatomy and Physiology ‡ (or) BIOSCI-201 Anatomy and Physiology 1 ‡ and BIOSCI-202 Anatomy and Physiology 2 ‡	
ENG-195	Written Communication	3
HEALTH-101	Medical Terminology ^	3
HEALTH-107	Digital Literacy for Healthcare ^	2
HIT-182	Human Disease for the Health Professions ‡	3
HIT-197	ICD Diagnosis Coding ‡	3
HIT-199	ICD Procedure Coding ‡	2
HEALTH-104	Culture of Healthcare ^	2
HIT-162	Foundations of HIM ‡	3
HIT-165	Intermediate Coding ‡	3
HIT-184	CPT Coding ‡	3

TOTAL CREDITS: 30

^ Counts toward earning the Healthcare Customer Service certificate.

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

Medical Interpreter

TECHNICAL DIPLOMA

Program Code: 31-538-1

Downtown Milwaukee Campus



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

This is a program for bilingual students.

Interpreters form a vital link in providing better healthcare. This program prepares you for employment to facilitate the communication between patients with limited English proficiency and medical personnel.

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.

Start Date: August



matc.edu/course-catalog/healthcare

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

COURSES

Credits

MEDINT-102	Spanish Regionalisms and English Variants	3
MEDINT-103	Introduction to Medical Interpretation ‡.....	3
MEDINT-104	Applied Medical Interpretation 1	3
MEDINT-107	Bilingual Medical Terminology.....	5
MEDINT-112	Dual Language Enhancement for Healthcare Providers ‡	3
MEDINT-101	Cultural Awareness	3
MEDINT-106	Introduction to Medical Translation	3
MEDINT-108	Ethics and Standards for Medical Interpreters	3
MEDINT-110	Applied Medical Interpretation 2 ‡	3
MEDINT-111	Applied Medical Interpretation 3 ‡	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-level PSYCH course	

TOTAL CREDITS: 35

‡ 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.

Nursing Assistant

TECHNICAL DIPLOMA

Program Code: 30-543-1

All campuses



This technical diploma ladders into both the Practical Nursing technical diploma and the Registered Nursing associate degree. Contact an MATC advisor for details.

COURSE

Credits

NRSNA-300 Nursing Assistant ‡ 3

TOTAL CREDITS: 3

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Bilingual (Spanish) mode also is offered.

To become an entry-level bedside caregiver, you will learn basic nursing skills and procedures to assist others with their activities of daily living 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.

Program Learning Outcomes

- Communicate effectively with clients, family and co-workers
- Protect rights of clients
- Demonstrate ethical and legal responsibilities
- Work cooperatively in a team environment
- Provide holistic, safe care to diverse populations
- Demonstrate reporting and documentation

(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.

Start Dates: Offered year-round

 **Healthcare**
MILWAUKEE AREA *Technical College*
matc.edu/course-catalog/healthcare

Office Technology Assistant

TECHNICAL DIPLOMA

Program Code: 31-106-1

West Allis Campus



ADMINISTRATIVE PROFESSIONAL

matc.edu/academics/pathways

Technical Diploma

- Office Technology Assistant, p. 162

Associate Degree

- Administrative Professional, p. 31

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.

Start Dates: August and January



matc.edu/course-catalog/business-management

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

COURSES

	Credits
OFTECH-101 Office Technologies 1	3
OFTECH-103 Keyboard and Keypad	1
OFTECH-119 Information Management.....	3
OFTECH-122 Business English Essentials.....	3
OFTECH-182 Customer Service Skills.....	3
OFTECH-104 Budgeting Basics for Support Personnel ...	3
OFTECH-133 Business Document Production 1 ‡	3
OFTECH-165 Administrative Office Procedures 1 ‡	3
OFTECH-184 MS Office: Word, Excel, Access and PowerPoint ‡	3
OFTECH-196 Administrative Professional Internship ‡	1

TOTAL CREDITS: 26

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Pharmacy Technician

TECHNICAL DIPLOMA

Program Code: 31-536-1

Downtown Milwaukee Campus



PHARMACY TECHNICIAN

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Pharmacy Technician, p. 163

COURSES

Credits

ENG-195	Written Communication..... 3 (or) ENG-201 English 1 ‡	3
HEALTH-101	Medical Terminology ^..... 3	3
HEALTH-104	Culture of Healthcare ^..... 2	2
HEALTH-107	Digital Literacy for Healthcare ^..... 2	2
PHARMT-300	Orientation to Pharmacy Operations ‡..... 1	1
PHARMT-302	Pharmaceutical Calculations ‡..... 2	2
PHARMT-303	Introduction to Drug Classification ‡..... 2	2
PHARMT-307	Community Pharmacy Lab ‡..... 1	1
PHARMT-395	Federal Laws, Ethics and Customer Service ‡..... 1	1
PHARMT-306	Pharmacy Clinical Experience 1 ‡..... 2	2
PHARMT-310	Institutional Pharmacy Practice ‡..... 1	1
PHARMT-311	Orientation to Sterile Solutions ‡..... 2	2
PHARMT-312	Pharmacy Operations Laboratory ‡..... 3	3
PHARMT-314	Pharmacy Clinical Experience 2 ‡..... 2	2
PSYCH-199	Psychology of Human Relations..... 3 (or) PSYCH-231 Introductory Psychology	3

TOTAL CREDITS: 30

‡ Prerequisite required.

^ Counts toward earning the Healthcare Customer Service certificate.

Program curriculum requirements are subject to change.

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.

Career Outlook

Due to the evolving role of the pharmacy technician and the aging population, there is a need for trained pharmacy technicians.

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

(For full description, see matc.edu.)

Admission Requirements

High school diploma or GED required. See program's webpage at matc.edu to view all requirements.

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

This program is accredited by the ASHP/ACPE Pharmacy Technician Accreditation Commission, 4500 East-West Highway, Suite 900, Bethesda, MD 20814; 301-664-8835 or 301-657-3000; ashp.org.

Start Dates: August and January



Healthcare
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/healthcare

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

Phlebotomy

TECHNICAL DIPLOMA

Program Code: 30-513-1

Downtown Milwaukee Campus



HEALTHCARE SERVICES MANAGEMENT

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Health Unit Coordinator, p. 147
- Phlebotomy, p. 164

Associate Degree

- Healthcare Services Management, p. 71

COURSES

	Credits
CLABT-110 Basic Lab Skills ‡.....	1
CLABT-111 Phlebotomy ‡.....	2
ENG-195 Written Communication *.....	3
(or) ENG-201 English 1 ‡	
HEALTH-101 Medical Terminology * ^.....	3
HEALTH-104 Culture of Healthcare ^.....	2
HEALTH-107 Digital Literacy for Healthcare * ^.....	2
MLABT-161 Computer Applications for the Medical Laboratory ‡.....	1
MLABT-166 Phlebotomy Clinical Experience ‡.....	3

TOTAL CREDITS: 17

‡ 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; 773-714-8880; naacsls.org.

Start Dates: August and January

 **Healthcare**
MILWAUKEE AREA *Technical College*
matc.edu/course-catalog/healthcare

Post-Baccalaureate Legal Studies/Paralegal

TECHNICAL DIPLOMA

Program Code: 30-110-2

Downtown Milwaukee Campus



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 available online and in blended/accelerated format. At least 9-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. Paralegals may not provide legal services directly to the public, except as permitted by 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; submit official college transcript to Downtown Milwaukee Campus Admissions Office. Transfer of legal specialty coursework credit (PLEGAL designated courses) is accepted, subject to review by Program Coordinator for course compatibility, only from ABA approved paralegal programs or accredited law schools. Transfer is limited to maximum of 9 credits.

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

Start Dates: August/January/June



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

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

COURSES

	Credits
ENG-195* Written Communication	3
(or) ENG-201 English 1 ‡	
PLEGAL-101 Introduction to Paralegalism	3
PLEGAL-103 Legal Research ‡	3
PLEGAL-105 Civil Procedure ‡	3
PLEGAL-107 Legal Writing ‡	3
PLEGAL-111 Litigation Practice Systems ‡	3
PLEGAL-114 Trusts and Estates – Probate Systems ‡	3

TOTAL CREDITS: 21

* Students admitted to the technical diploma program should request that undergraduate credit be awarded for ENG-195.

‡ 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 Self-Service 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 9 credits of legal specialty courses at MATC must be completed.

Program curriculum requirements are subject to change.

This program is approved by the American Bar Association, 321 North Clark Street, Chicago, IL 60654; 312-988-5616; americanbar.org/groups/paralegals/.

Power Engineering and Boiler Operator

TECHNICAL DIPLOMA

Program Code: 30-428-1

Oak Creek Campus

Technical Diplomas



POWER ENGINEERING AND BOILER OPERATOR

matc.edu/academics/pathways

Certificate

- Boiler Operator, p. 188

Technical Diploma

- Power Engineering and Boiler Operator, p. 166

COURSES

Credits

POWENG-330	Low-Pressure Boilers ^.....	1
POWENG-331	High-Pressure Boilers ^.....	2
POWENG-332	Boiler Operation ^.....	1
POWENG-334	Blueprint Reading for Power Engineering.....	1
POWENG-335	Instrumentation and Controls.....	3
POWENG-395	Electricity for Power Engineering.....	3
ABS-143	Electrical Concepts/Control Theory 1.....	2
ENG-340	Workplace Communication.....	2
POWENG-333	Plant Maintenance and HVAC Basics.....	3
POWENG-336	Math for Power Engineers.....	1

TOTAL CREDITS: 19

^ 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.

Learn how 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.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA Technical College

matc.edu/course-catalog/manufacturing-construction-transportation

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

Practical Nursing

TECHNICAL DIPLOMA

Program Code: 31-543-1

Downtown Milwaukee Campus



This technical diploma ladders into the Registered Nursing associate degree. Contact an MATC advisor for more details.

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

- 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.)

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 to view details.

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), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326; 404-975-5000; acenursing.org.

Start Dates: August and January



matc.edu/course-catalog/healthcare

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

COURSES

Credits

BIOSCI-177	General Anatomy and Physiology † 4 (or) BIOSCI-201 Anatomy and Physiology 1 † and BIOSCI-202 Anatomy and Physiology 2 †	
ENG-195	Written Communication 3 (or) ENG-201 English 1 †	
NRSPN-301	Nursing Fundamentals 2	
NRSPN-302	Nursing Skills † 3	
NRSPN-303	Nursing: Pharmacology 2	
NRSPN-304	Nursing: Introduction to Clinical Practice † 2	
ENG-196	Oral/Interpersonal Communication 3 (or) Any 200-level ENG or SPEECH course	
NRSPN-305	Nursing: Health Alterations † 3	
NRSPN-306	Nursing: Health Promotion † 3	
NRSPN-307	Nursing: Clinical Care Across the Lifespan † 2	
NRSPN-308	Nursing: Introduction to Clinical Management † 2	
PSYCH-199	Psychology of Human Relations 3 (or) PSYCH-238 Lifespan Psychology	
TOTAL CREDITS: 32		

† Prerequisite required.

Program curriculum requirements are subject to change.

Preparatory Plumbing

TECHNICAL DIPLOMA

Program Code: 31-427-1

MATC Education Center at Walker's Square



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

COURSES

Credits

MATH-308	Math for Industrial Applications 1 ‡	2
PLUMB-300	Plumbing Theory 1	3
PLUMB-301	Applied Drawing for Plumbers 1	2
PLUMB-302	Plumbing and Piping Shop 1	3
PLUMB-308	Plumbing and Pipe Joining Process 1	2
PLUMB-312	Computer Applications/Plumbing	1
ENG-340	Workplace Communication	2
MCDESG-120	Basic AutoCAD	1
PLUMB-304	Plumbing Theory 2 ‡	3
PLUMB-305	Plumbing and Pipe Joining Process 2 ‡ ...	2
PLUMB-306	Plumbing and Piping Shop 2 ‡	3
PLUMB-309	Applied Drawing for Plumbers 2 ‡	2
PLUMB-310	First Aid/Safety in Plumbing	1

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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 off set dimensions
- 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.

Start Date: August



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Production Artist

TECHNICAL DIPLOMA

Program Code: 31-201-2

Downtown Milwaukee Campus (Also offered online)



GRAPHIC DESIGN
matc.edu/academics/pathways

Technical Diploma
• Production Artist, p. 169

Associate Degree
• Graphic Design, p. 69

COURSES	Credits
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
GRDS-103 Design Elements and Principles	3
GRDS-107 Digital Imaging: Adobe Photoshop	3
GRDS-115 Typographic Fundamentals.....	3
GRDS-122 Vector Graphics: Adobe Illustrator	3
GRDS-104 Researching and Concepting ‡.....	3
GRDS-110 Layout and Publishing: InDesign ‡.....	3
GRDS-111 Advertising Design ‡	3
GRDS-117 Packaging Design ‡	3
GRDS-128 Portfolio Pathway ‡	1
TOTAL CREDITS: 28	

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Gain the skills in industry-recognized software required for entering the graphic design field. You will learn to prepare designs, layouts and make modifications according to production standards.

Career Outlook

Production artists use their technical skills to ensure that the finished design work meets the client’s expectations. They are typically the last people to work on a project before it is published. 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.

Start Dates: August and January

 **Creative Arts, Design & Media**
MILWAUKEE AREA **Technical College**
matc.edu/course-catalog/creative-arts-design-media
To apply for financial aid, visit fafsa.gov. School Code: 003866

Real Estate Broker Associate

TECHNICAL DIPLOMA

Program Code: 30-194-1

West Allis Campus

Technical Diplomas



REAL ESTATE

matc.edu/academics/pathways

Certificate

- Property Management, p. 198
- Real Estate Salesperson, p. 199

Technical Diploma

- Real Estate Broker Associate, p. 170

Associate Degree

- Real Estate, p. 98

COURSES

Credits

RLEST-180	Principles of Real Estate ^.....	3
RLEST-182	Real Estate Law ^	3
RLEST-183	Real Estate Broker Preparation	3
RLEST-187	Broker Management.....	3

TOTAL CREDITS: 12

^ Counts toward earning the Real Estate Salesperson certificate.

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% 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Refrigeration, Air Conditioning and Heating Service Technician

TECHNICAL DIPLOMA

Program Code: 31-401-1

Oak Creek Campus



This technical diploma ladders into the Air Conditioning and Refrigeration Technology associate degree. Contact an MATC advisor for details.

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 in the installing, troubleshooting and repair of HVAC/R units.

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.

COURSES

	Credits
ELECTY-398 Electrical Circuits and Controls for HVAC/R...	3
ENG-195 Written Communication	3
HVAC1-300 Basic Refrigeration and System Operations	4
HVAC1-325 Oil Furnace Service and Maintenance	3
HVAC1-332 Math for HVAC Service Technicians	2
HVAC1-350 Air Conditioning Principles	2
ELECTY-396 HVAC/R Electrical Systems ‡	2
ELECTY-397 Electrical Wiring Methods for Air Conditioning and Refrigeration.....	1
HVAC1-301 Introduction to Refrigeration Servicing and Application ‡	4
HVAC1-326 Gas Furnace Servicing and Maintenance ‡	3
HVAC2-148 Heat Pumps ‡	3

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Renal Dialysis Technician

TECHNICAL DIPLOMA

Program Code: 31-517-1

Downtown Milwaukee Campus



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

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. See the program's webpage at matc.edu to view all requirements.

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

COURSES

	Credits
ENG-195 Written Communication *	3
(or) ENG-201 English 1 ‡	
HEALTH-101 Medical Terminology *	3
PSYCH-199 Psychology of Human Relations *	3
(or) PSYCH-231 Introductory Psychology	
RDIAT-302 Renal Failure and Support Therapies ‡	3
RDIAT-304 Hemodialysis Laboratory Procedures ‡	1
RDIAT-320 Introduction to Renal Dialysis ‡	3
RDIAT-321 Principles of Renal Dialysis 1 ‡	4
RDIAT-322 Principles of Renal Dialysis 2 ‡	3
RDIAT-323 Clinical Practicum 1 ‡	2
RDIAT-324 Clinical Practicum 2 ‡	3

TOTAL CREDITS: 28

‡ Prerequisite required.

* It is strongly recommended that these courses be completed prior to entering the program.

Program curriculum requirements are subject to change.

Start Date: August



matc.edu/course-catalog/healthcare

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

Sales and Customer Experience

TECHNICAL DIPLOMA

Program Code: 30-104-10

Downtown Milwaukee, Mequon, Oak Creek campuses (Also offered online)



MARKETING

matc.edu/academics/pathways

Technical Diploma

- Digital Marketing and Integrated Communications, p. 135
- Sales and Customer Experience, p. 173

Associate Degree

- Marketing – Online Accelerated, p. 86
- Marketing, p. 85

COURSES

Credits

MKTG-102	Marketing Principles.....	3
MKTG-104	Selling Principles	3
MKTG-106	Retail and Consumer Marketing ‡.....	3
MKTG-107	Customer Experience	3
MKTG-144	Client Services.....	3
MKTG-173	Marketing Research/Analytics	3

TOTAL CREDITS: 18

‡ Prerequisite required.

All the Sales and Customer Experience courses count toward the Marketing associate degree.

Program curriculum requirements are subject to change.

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 professionals 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 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Special Event Management

TECHNICAL DIPLOMA

Program Code: 31-109-2

Downtown Milwaukee Campus

Technical Diplomas



EVENT MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

• Special Event Management, p. 174

Associate Degree

• Event Management, p. 66

COURSES

Credits

BADM-106	MS Office for Business Applications	3
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
HOTEL-122	Basic Hospitality Accounting	3
MEET-151	Introduction to Hospitality/Tourism	3
HOTEL-105	Hospitality Marketing, Sales and Revenue Strategy	3
HOTEL-127	Fundamentals of Meetings and Special Events	3
MATH-134	Mathematical Reasoning	3
	(or) Any 200-level MATH course	
MEET-116	Fundamentals of Green Meetings	2
MEET-180	Registration and Housing Logistics ‡	3
MEET-181	Exposition and Special Event Management ‡	3

TOTAL CREDITS: 29

‡ 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

Associations and corporations hire people to arrange, plan and conduct special events in a wide range of venues. In this field there are opportunities 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



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Supply Management

TECHNICAL DIPLOMA

Program Code: 30-182-1

Oak Creek Campus (Also offered online)



SUPPLY CHAIN MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Supply Management, p. 175
- Transportation – Logistics, p. 178

Associate Degree

- Supply Chain Management, p. 101

COURSES

Credits

BADM-106	MS Office for Business Applications.....	3
INDVTS-102	Career Assessment/Portfolio Development.....	3
LOGMGT-164	Supply Chain Management	3
LOGMGT-144	Production Planning and Inventory Control	3
LOGMGT-146	Operations Management	3
LOGMGT-170	Procurement	3

TOTAL CREDITS: 18

Program curriculum requirements are subject to change.

Technical Diplomas

Begin a career in supply chain management, purchasing or materials management through this 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% online and 50% classroom at the Oak Creek Campus.

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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

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

Surveying and Mapping

TECHNICAL DIPLOMA

Program Code: 30-607-1

Downtown Milwaukee Campus



CIVIL ENGINEERING TECHNOLOGY

matc.edu/academics/pathways

Technical Diploma

- Surveying and Mapping, p. 176

Associate Degree

- Civil Engineering Technology, p. 55

COURSES

Credits

CIVIL-101	Civil Engineering Drawing	2
CIVIL-102	Introduction to AutoCAD.....	2
CIVIL-105	Computer Applications	2
CIVIL-155	Surveying 1	2
MATH-115	College Technical Mathematics 1 ‡	5
	(or) MATH-201 College Algebra ‡	
CIVIL-106	Intermediate AutoCAD ‡	2
CIVIL-156	Surveying 2 ‡	2
ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
CIVIL-110	Introduction to Civil 3D	2
CIVIL-157	Route and Highway Surveying ‡	3

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

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 through the Land Surveyor Section of the Wisconsin Examining Board of Architects, Landscape Architects, Professional Engineers, Designers and Professional Land Surveyors, A-E Examining Board, Department of Safety and Professional Services, P.O. Box 8366, Madison, WI 53708-8366; 608-266-2112; dps.wi.gov/pages/BoardsCouncils/AE/Default.aspx.

Start Dates: August and January



STEM

MILWAUKEE AREA Technical College

matc.edu/course-catalog/stem

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

Tool and Die Making

TECHNICAL DIPLOMA

Program Code: 32-439-1

Downtown Milwaukee Campus (year one only), Oak Creek Campus



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

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 advanced safety practices in the machine shop
- Interpret advanced industrial/engineering drawings
- Apply precision measuring methods to part inspection
- Perform advanced machine tool equipment set-up and operation
- Perform advanced 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.

COURSES

Credits

MACHTL-300	Engine Lathe 1	3
MACHTL-301	Engine Lathe 2 ‡	3
MACHTL-309	Manual Vertical Milling Machining 1	3
MACHTL-310	Manual Vertical Milling Machining 2 ‡	3
MACHTL-360	Metrology	1
MACHTL-367	Machine Tool Technology	1
MACHTL-384	Machine Trades Mathematics 1	1
MDRAFT-385	Machine Blueprint Reading 1	1
ENG-340	Workplace Communication	2
MACHTL-304	Introduction to CNC Programming ‡	1
MACHTL-320	Introduction to CNC Turning Centers ‡ ...	4
MACHTL-322	Introduction to CNC Vertical Machining Centers ‡	4
MACHTL-325	Surface Grinding ‡	4
MACHTL-385	Machine Trades Mathematics 2 ‡	1
MACHTL-391	Quality Control ‡	1
MDRAFT-386	Machine Blueprint Reading 2 ‡	1
MACHTL-386	Machine Trades Mathematics 3 ‡	1
MTLGY-301	Basic Heat Treatment of Metals	1
TDMKG-360	Basic Die Making Technology	1
TDMKG-366	CNC Programming 2 ‡	1
TDMKG-371	Stamping Die Making 1 ‡	4
TDMKG-372	Stamping Die Making 2 ‡	4
TDMKG-373	Stamping Die Making 3 ‡	4
MACHTL-387	Machine Trades Mathematics 4 ‡	1
TDMKG-361	Advanced Die Making Technology ‡	1
TDMKG-362	Cavity Die Technology	1
TDMKG-367	Basic CAD/CAM ‡	1
TDMKG-381	Moldmaking 1 ‡	4
TDMKG-382	Moldmaking 2 ‡	4
TDMKG-383	Moldmaking 3 ‡	4

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

Transportation – Logistics

TECHNICAL DIPLOMA

Program Code: 30-182-2

Oak Creek Campus

Technical Diplomas



SUPPLY CHAIN MANAGEMENT

matc.edu/academics/pathways

Technical Diploma

- Supply Management, p. 175
- Transportation – Logistics, p. 178

Associate Degree

- Supply Chain Management, p. 101

COURSES

Credits

BADM-106	MS Office for Business Applications.....	3
INDVTS-102	Career Assessment/Portfolio Development.....	3
LOGMGT-164	Supply Chain Management.....	3
LOGMGT-146	Operations Management.....	3
LOGMGT-184	International Logistics – Transportation/Documentation.....	3
LOGMGT-190	Logistics.....	3

TOTAL CREDITS: 18

Program curriculum requirements are subject to change.

Prepare for success in the growing transportation and logistics industry, which is involved with managing the movement of products and supplies. This program's blended format is 50% online and 50% 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.

Start Dates: August and January



Business & Management
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/business-management

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

Truck Driving

TECHNICAL DIPLOMA

Program Code: 30-458-1

Oak Creek Campus



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 basic truck driving operations
- Adhere to safe truck driving operating procedures
- Explain advanced operating practices
- Explain vehicle systems and reporting malfunctions

(For full description, see matc.edu.)

Admission Requirements

- High school diploma or GED recommended
- Age 18 years or older
- Valid Wisconsin driver's license 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 wisconsin.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



Manufacturing, Construction & Transportation
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/manufacturing-construction-transportation

COURSES

	Credits
TRCKDR-341 Truck Driver 1 ‡.....	3
TRCKDR-342 Truck Driver 2 ‡.....	4
TRCKDR-343 Truck Driver 3 ‡.....	3

TOTAL CREDITS: 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

TV/Video Field Production Assistant

TECHNICAL DIPLOMA

Program Code: 31-701-1

Downtown Milwaukee Campus



ePRODUCTION
matc.edu/academics/pathways

Technical Diploma
• TV/Video Field Production Assistant, p. 180

Associate Degree
• eProduction, p. 65

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.

Start Dates: August and January



matc.edu/course-catalog/creative-arts-design-media

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

COURSES	Credits
ENG-195 Written Communication 3 (or) ENG-201 English 1 ‡	3
EPROD-150 Introduction to eProduction 3	3
TV-101 TV/Video Studio Production Techniques ‡ 4	4
TV-112 Storytelling Via Post-Production ‡ 3	3
TV-181 Video in Society 1	1
EPROD-151 Data Content Management/ Implementation 3	3
EPROD-153 eProduction Practicum 1 ‡ 3	3
TV-105 TV/Video Field Production Techniques ‡ ... 4	4
TV-142 Non-Linear Video Editing and Authoring ‡ 3	3
TOTAL CREDITS: 27	

‡ Prerequisite required.

Program curriculum requirements are subject to change.

TV/Video Studio Production Assistant

TECHNICAL DIPLOMA

Program Code: 31-701-2

Downtown Milwaukee Campus



TELEVISION & VIDEO PRODUCTION

matc.edu/academics/pathways

Technical Diploma

- TV/Video Studio Production Assistant, p. 181

Associate Degree

- Television & Video Production, p. 104

Spotlight your future in the broadcasting industry with the skills attained through this 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

COURSES

Credits

ENG-195	Written Communication	3
	(or) ENG-201 English 1 ‡	
EPROD-150	Introduction to eProduction	3
TV-101	TV/Video Studio Production Techniques ‡	4
TV-104	TV Studio/Field Set Design ‡.....	2
TV-181	Video in Society	1
EPROD-151	Data Content Management/ Implementation	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-level MATH course	
TV-107	Script Writing for Visual Media	3
TV-119	Operational Broadcast Engineering ‡	3
TV-121	TV and Video Production Workshop 1 ‡	3
TV-123	TV and Video Production Co-op 1 ‡	3

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

Unity Developer

TECHNICAL DIPLOMA

Program Code: 31-153-1

Downtown Milwaukee Campus (Also offered online)

Technical Diplomas



COMPUTER SIMULATION AND GAMING

matc.edu/academics/pathways

Technical Diploma

- Unity Developer, p. 182

Associate Degree

- Computer Simulation and Gaming, p. 57

COURSES

Credits

CSG-110	Introduction to Computer Simulation and Gaming	3
CSG-114	Introduction to Game Development/ Programming	3
CSG-115	CSG Production	3
CSG-117	Game Logic and Problem-Solving	3
MATH-107	College Mathematics ‡..... (or) Any 200-level MATH course	3
CSG-118	Game Engine Scripting ‡.....	3
CSG-119	Designing Interactive Displays ‡	3
CSG-120	Interactive Display Production 1	1
CSG-128	Intermediate Game Development Programmer ‡.....	3
CSG-179	CSG API Programming ‡.....	4

TOTAL CREDITS: 29

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Make MATC your first choice for learning about 3D software. Through this 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



Creative Arts, Design & Media
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/creative-arts-design-media

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

Welding

TECHNICAL DIPLOMA

Program Code: 31-442-1

Mequon, Oak Creek and West Allis campuses



WELDING

matc.edu/academics/pathways

Certificate

• Welding Fundamentals, p. 202

Technical Diploma

• Welding, p. 183

Gain the skills 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 gas metal arc welds (GMAW)
- Produce shielded metal arc welds (SMAW)
- Produce flux cored 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.

COURSES

COURSES	Credits
WELD-313 Shielded Metal Arc Welding ^	5
WELD-314 Gas Tungsten Arc Welding ^	5
WELD-350 GTAW Processes ^	1
WELD-351 Shielded Metal Arc Welding Processes ^ ..	1
WELD-360 Blueprint Reading for Welders ^	2
WELD-380 Welding Trades Mathematics ^	1
ENG-340 Workplace Communication ^	2
WELD-315 Gas Metal Arc Welding Practices.....	5
WELD-316 Layout and Setup Practices.....	5
WELD-352 Gas-Shielded Arc Welding Processes	1
WELD-354 Layout and Print Reading Practices ‡	2

TOTAL CREDITS: 30

‡ Prerequisite required.

^ Counts toward earning the Welding Fundamentals certificate.

Program curriculum requirements are subject to change.

Technical Diplomas

Start Dates: August and January



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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

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; contact MATC 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. 185
Automotive Express Lube Technician, p. 186
Aviation Maintenance Technician –
General, p. 187
Boiler Operator, p. 188
Business Management Trainee, p. 189
Dietary Manager/
bilingual mode available, p. 190

EKG Technician, p. 191
Entrepreneurship, p. 192
Financial Services Trainee, p. 193
Healthcare Customer Service, p. 194
Level 2 – Service Center Technician, p. 195
Microsoft Enterprise Desktop Support
Specialist, p. 196
Preschool/bilingual mode available, p. 197

Property Management, p. 198
Real Estate Salesperson, p. 199
Service Center Technician, p. 200
Water Technician, p. 201
Welding Fundamentals, p. 202

Accounting Bookkeeper Trainee

CERTIFICATE

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



ACCOUNTING

matc.edu/academics/pathways

Certificate

- Accounting Bookkeeper Trainee, p. 185

Technical Diploma

- Accounting Assistant, p. 108

Associate Degree

- Accounting, p. 30

COURSES

	Credits
ACCTG-111 Accounting 1.....	4
ACCTG-122 Accounting Software Applications	3
ACCTG-130 Computerized Accounting ‡	3

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; contact MATC 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Automotive Express Lube Technician

CERTIFICATE

Oak Creek Campus



AUTOMOTIVE MAINTENANCE TECHNICIAN

matc.edu/academics/pathways

Certificate

- Automotive Express Lube Technician, p. 186

Technical Diploma

- Automotive Maintenance Technician, p. 115

COURSES

Credits

AUTO1-300	Express Service	2
AUTO1-308	Brakes, Steering, Suspension Fundamentals.....	2
AUTO1-310	Brakes, Steering, Suspension Lab 1 ‡.....	4
AUTO1-312	Brakes, Steering, Suspension Lab 2 ‡.....	2

TOTAL CREDITS: 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Certificates

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; contact MATC 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



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

Aviation Maintenance Technician – General

CERTIFICATE

FAA-Certified - MATC Aviation Center/Oak Creek Campus



AVIATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Aviation Maintenance Technician – General, p. 187

Technical Diploma

- Aviation Technician – Airframe, p. 117
- Aviation Technician – Powerplant, p. 118

COURSES

	Credits
AVITEC-323 Aircraft Ground Operation and Servicing...	3
AVITEC-380 Basic Physics	1
AVITEC-381 Basic Electricity.....	3
AVITEC-382 Aircraft Materials and Their Inspection	3
AVITEC-383 Aircraft Maintenance Publications, Records and Mechanics Regulations.....	1
AVITEC-393 Mathematics for Aviation Technicians	2
ENG-340 Workplace Communication	2

TOTAL CREDITS: 15

Program curriculum requirements are subject to change.

Complete this certificate certified by the Federal Aviation Administration 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; contact MATC 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.

The Aviation Maintenance Technician - General Cert. (AMT-G) is certified by the Federal Aviation Administration Headquarters, 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



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

Boiler Operator

CERTIFICATE

Oak Creek Campus



POWER ENGINEERING AND BOILER OPERATOR

matc.edu/academics/pathways

Certificate

- Boiler Operator, p. 188

Technical Diploma

- Power Engineering and Boiler Operator, p. 166

COURSES

	Credits
POWENG-330 Low-Pressure Boilers	1
POWENG-331 High-Pressure Boilers	2
POWENG-332 Boiler Operation.....	1

TOTAL CREDITS: 4

Program curriculum requirements are subject to change.

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; contact MATC 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



Manufacturing, Construction & Transportation
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/manufacturing-construction-transportation

Business Management Trainee

CERTIFICATE All campuses (Also offered online)



BUSINESS MANAGEMENT

matc.edu/academics/pathways

Certificate

- Business Management Trainee, p. 189

Technical Diploma

- Business Management, p. 123

Associate Degree

- Business Management, p. 51

COURSES

Credits

ACCTG-110	Financial Accounting	3
BADM-106	MS Office for Business Applications.....	3
BADM-134	Business Organization and Management.....	3
BADM-192	Risk Management and Insurance.....	3

TOTAL CREDITS: 12

Program curriculum requirements are subject to change.

Get a strong start to enter the job market with knowledge of key components of business, including the fundamentals of accounting, management and insurance concepts.

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; contact MATC 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Dietary Manager

CERTIFICATE

West Allis Campus



NUTRITION AND DIETETIC TECHNICIAN

matc.edu/academics/pathways

Certificate

- Dietary Manager, p. 190

Associate Degree

- Nutrition and Dietetic Technician, p. 91

COURSES

Credits

DIETNT-106	Food Service Sanitation ‡	2
	(or) CULMGT-112 Food Service Sanitation	
DIETNT-108	Food Service Management 1 ‡	3
DIETNT-118	Food Service Management 1: Coordinated Practice ‡	1
DIETNT-151	Nutrition for Dietetics ‡	4

TOTAL CREDITS: 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Certificates

Bilingual (Spanish) mode also is offered.

Students enrolled in the Nutrition and Dietetic Technician associate degree program will complete all of this certificate's required courses as part of their program. Students are eligible for ANFP Pre-Professional membership and upon successful completion of the program, graduates are eligible for the Certified Dietary Manager (CDM) credentialing exam and ANFP professional membership. A Registered Dietitian Nutritionist directly supervises a minimum of 25 of the 27 nutrition-related field experience hours and coordinates the entire 150 hours: 150 hours of precepted field experience overseen by a Registered Dietitian.

This certificate consists of both classroom coursework and 150 hours of precepted field experience. Students have the opportunity to learn about safe food handling, meal planning, menu management and supervision. Upon completion of this certificate, students are eligible to take the nationally recognized CDM Credentialing Exam offered by the Certifying Board for Dietary Managers. These professionals work in a variety of healthcare and institutional food settings.

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; contact MATC 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 approved by the Association of Nutrition & Foodservice Professionals (ANFP), 406 Surrey Woods Drive, St. Charles, IL 60174; 800-323-1908; anfponline.org.

Start Dates: August and January

 **Healthcare**
MILWAUKEE AREA **Technical College**
matc.edu/course-catalog/healthcare

EKG Technician

CERTIFICATE

Downtown Milwaukee Campus



CARDIOVASCULAR TECHNOLOGIST

matc.edu/academics/pathways

Certificate

- EKG Technician, p. 191

Associate Degree

- Cardiovascular Technology – Echocardiography, p. 52
- Cardiovascular Technology – Invasive, p. 53

COURSES

Credits

BIOSCI-197	Microbiology *.....	4
CVTECH-102	Introduction to CVT ‡.....	2
CVTECH-110	EKG Analysis ‡.....	2
CVTECH-115	Essentials of Cardiac Care 1 ‡.....	4

TOTAL CREDITS: 12

‡ Prerequisite required.

* Cardiovascular Technology/EKG Technician students are not required to take BIOSCI-177/179 or 201/202 as prerequisites to BIOSCI-197; go to Selfservice.matc.edu and submit a waiver indicating you are a CVT/EKG Technician student.

Program curriculum requirements are subject to change.

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). See the program's webpage at matc.edu to view 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; contact MATC 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 Date: January



Healthcare
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/healthcare

Entrepreneurship

CERTIFICATE

Downtown Milwaukee Campus (Also offered online)



ENTREPRENEURSHIP

matc.edu/academics/pathways

Certificate

- Entrepreneurship, p. 192

Technical Diploma

- Entrepreneurship, p. 142

COURSES

	Credits
ENTREP-101 Introduction to Entrepreneurship	3
ENTREP-104 Business Plan.....	3

TOTAL CREDITS: 6

Program curriculum requirements are subject to change.

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; contact MATC 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Financial Services Trainee

CERTIFICATE

Downtown Milwaukee and West Allis campuses (Also offered online)



BANKING AND FINANCIAL SERVICES

matc.edu/academics/pathways

Certificate

- Financial Services Trainee, p. 193

Technical Diploma

- Financial Services, p. 143

Associate Degree

- Banking and Financial Services, p. 48

COURSES

	Credits
ACCTG-111 Accounting 1.....	4
BADM-106 MS Office for Business Applications.....	3
FIN-120 Introduction to Money, Banking and Financial Markets.....	3
MKTG-104 Selling Principles.....	3

TOTAL CREDITS: 13

Program curriculum requirements are subject to change.

Attain the solid foundation in banking and finance concepts needed to enter the financial services 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; contact MATC 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Healthcare Customer Service

CERTIFICATE

All campuses (Also offered online)

ANESTHESIA TECHNOLOGIST

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Associate Degree

- Anesthesia Technology, p. 33

HEALTH INFORMATION TECHNICIAN

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Medical Coding Specialist, p. 159

Associate Degree

- Health Information Technology, p. 70

HEALTHCARE SERVICES MANAGEMENT

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Health Unit Coordinator, p. 147
- Phlebotomy, p. 164

Associate Degree

- Healthcare Services Management, p. 71

PHARMACY TECHNICIAN

matc.edu/academics/pathways

Certificate

- Healthcare Customer Service, p. 194

Technical Diploma

- Pharmacy Technician p. 163

COURSES

Credits

HEALTH-101 Medical Terminology..... 3

HEALTH-104 Culture of Healthcare 2

HEALTH-107 Digital Literacy for Healthcare..... 2

TOTAL CREDITS: 7

Program curriculum requirements are subject to change.

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; contact MATC 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



Healthcare

MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/healthcare

Level 2 – Service Center Technician

CERTIFICATE All campuses

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 – Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

COURSES

	Credits
ITSUP-101 Computer Information Systems Fundamentals.....	3
ITSUP-109 Microsoft Office for IT Professionals.....	3
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL).....	3

TOTAL CREDITS: 9

Program curriculum requirements are subject to change.

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; contact MATC 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



Microsoft Enterprise Desktop Support Specialist

CERTIFICATE

All campuses

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 – Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

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; contact MATC 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



COURSES

	Credits
ITSUP-109 Microsoft Office for IT Professionals.....	3
ITSUP-111 CompTIA A+ Software Support	3
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL).....	3

TOTAL CREDITS: 9

Program curriculum requirements are subject to change.

Preschool

CERTIFICATE

Downtown Milwaukee, West Allis campuses



EARLY CHILDHOOD EDUCATION

matc.edu/academics/pathways

Certificate

- Preschool, p. 197

Technical Diploma

- Child Care Services, p. 127

Associate Degree

- Early Childhood Education, p. 61

COURSES

	Credits
CHILDD-148 ECE: Foundations of Early Childhood Education	3
CHILDD-167 ECE: Health, Safety and Nutrition	3
CHILDD-188 ECE: Guiding Child Behavior	3
CHILDD-108 ECE: Early Language and Literacy	3
CHILDD-174 ECE: Introductory Practicum.....	3
CHILDD-179 ECE: Child Development	3

TOTAL CREDITS: 18

Program curriculum requirements are subject to change.

Bilingual (Spanish) mode is offered at the West Allis Campus

Take this step to further develop your options in a child care career. After completing this certificate's coursework and an additional required course (CHILDD-175), you become eligible for The Registry Preschool credential.

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; contact MATC 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



Community & Human Services
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/community-human-services

Property Management

CERTIFICATE

West Allis Campus



REAL ESTATE

matc.edu/academics/pathways

Certificate

- Property Management, p. 198
- Real Estate Salesperson, p. 199

Technical Diploma

- Real Estate Broker Associate, p. 170

Associate Degree

- Real Estate, p. 98

COURSES

Credits

RLEST-180	Principles of Real Estate.....	3
RLEST-190	Introduction to Property Management	3

TOTAL CREDITS: 6

Program curriculum requirements are subject to change.

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; contact MATC 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



Business & Management
MILWAUKEE AREA *Technical College*

matc.edu/course-catalog/business-management

Real Estate Salesperson

CERTIFICATE

West Allis Campus



REAL ESTATE

matc.edu/academics/pathways

Certificate

- Property Management, p. 198
- Real Estate Salesperson, p. 199

Technical Diploma

- Real Estate Broker Associate, p. 170

Associate Degree

- Real Estate, p. 98

COURSES

Credits

RLEST-180 Principles of Real Estate.....3

RLEST-182 Real Estate Law.....3

TOTAL CREDITS: 6

Program curriculum requirements are subject to change.

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; contact MATC 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



matc.edu/course-catalog/business-management

Certificates

Service Center Technician

CERTIFICATE All campuses

IT COMPUTER SUPPORT SPECIALIST

matc.edu/academics/pathways

Certificate

- Level 2 - Service Center Technician, p. 195
- Microsoft Enterprise Desktop Support Specialist, p. 196
- Service Center Technician, p. 200

Technical Diploma

- IT Computer Support Technician, p. 148
- IT Help Desk Support Specialist, p. 150
- IT User Support Technician, p. 152

Associate Degree

- IT Computer Support Specialist, p. 77

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; contact MATC 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



COURSES Credits

ITSUP-101	Computer Information Systems Fundamentals.....	3
ITSUP-102	CompTIA A+ Essentials	3
ITSUP-140	Support Center Analyst (HDI-SCA, HDI-DST, ITIL).....	3

TOTAL CREDITS: 9

Program curriculum requirements are subject to change.

Water Technician

CERTIFICATE

Mequon Campus



ENVIRONMENTAL HEALTH AND WATER QUALITY TECHNOLOGY

matc.edu/academics/pathways

Certificate

- Water Technician, p. 201

Associate Degree

- Environmental Health and Water Quality Technology, p. 64

COURSES

	Credits
ENVHEL-101 Introduction to Environmental Health/Water Quality	3
ENVHEL-109 Applied Environmental Chemistry.....	4
MATH-107 College Mathematics ‡	3
(or) Any 200-level MATH course	
ENG-195 Written Communication	3
(or) ENG-201 English 1 ‡	
ENVHEL-142 Principles of Water Resources.....	3

TOTAL CREDITS: 16

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Gain the core skills recognized by the water industry for an entry-level position by performing basic hands-on work. This certificate is a pathway designed 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; contact MATC 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



Community & Human Services
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/community-human-services

Welding Fundamentals

CERTIFICATE

Mequon, Oak Creek and West Allis campuses



WELDING

matc.edu/academics/pathways

Certificate

- Welding Fundamentals, p. 202

Technical Diploma

- Welding, p. 183

COURSES

Credits

ENG-340	Workplace Communication.....	2
WELD-313	Shielded Metal Arc Welding.....	5
WELD-314	Gas Tungsten Arc Welding	5
WELD-350	GTAW Processes	1
WELD-351	Shielded Metal Arc Welding Processes.....	1
WELD-360	Blueprint Reading for Welders.....	2
WELD-380	Welding Trades Mathematics.....	1

TOTAL CREDITS: 17

Program curriculum requirements are subject to change.

Certificates

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; contact MATC 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



Manufacturing, Construction & Transportation
MILWAUKEE AREA **Technical College**

matc.edu/course-catalog/manufacturing-construction-transportation

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 **CARP-301**, the letters **CARP** form the alphabetic code that identifies the subject in which the course is taught – the subject is Carpentry for this example.

Below you will find a list of the subjects and their alphabetic codes and department numbers. The listing of courses in this Course Descriptions section is by alphabetic codes.

LIST OF SUBJECTS FOLLOWED BY DEPARTMENT NUMBERS IN PARENTHESES

ABS	Automated Building Systems (481)	ELCTEC	Electronics Technology (605)	MEET	Meeting and Event Planning (109)
ACCTG	Accounting (101)	ELECTY	Electricity (413)	MFGMNT	Manufacturing Maintenance (462)
ADVMFG	Advanced Manufacturing (664)	EMS	Emergency Medical Services (531)	MGTDEV	Management Development (196)
ANIM	Animation (207)	ENG	English (801)	MKTG	Marketing (104)
ANTECH	Anesthesia (541)	ENTREP	Entrepreneurship (145)	MLABT	Medical Laboratory Technology (513)
AODA	Alcohol and Other Drug Abuse Services (550)	ENVHEL	Environmental Health (506)	MTLFAB	Metal Fabrication (457)
APPSVC	Appliance Servicing (445)	EPROD	eProduction (701)	MTLGY	Metallurgy (422)
ARCHT	Architectural Technology (614)	FIN	Financial (114)	MUSIC	Music (805)
ART	Art (815)	FIRE	Fire Protection Technician (503)	NRSAD	Associate Degree Nursing (543)
AUDIO	Audio Production (701)	FLANG	Foreign Language (802)	NRSNA	Nursing Assistant (543)
AUTO1	Automobile - Mechanical (404)	FUNERL	Funeral Service (528)	NRSPN	Practical Nursing (543)
AUTO2	Automotive Technology (602)	GENST	General Studies (890)	NURSAD	Associate Degree Nursing (510)
AUTOBY	Auto Collision Repair/Refinish (405)	GEOSCI	Geological Science (806)	OFTECH	Office Technology (106)
AVITEC	Airframe and Aircraft Technology (486)	GLOBAL	Global Studies (140)	OTASST	Occupational Therapy Assistant (514)
BADM	Business Administration (102)	GRDS	Graphic Design (201)	PAINT	Painting and Decorating (424)
BAKING	Baking (314)	HEALTH	Health (501)	PHARMT	Pharmacy Technician (536)
BARCOS	Barbering/Cosmetology (502)	HIST	History (803)	PHOTO	Photography (203)
BIOSCI	Biological Science (806)	HIT	Health Information Technology (530)	PHYED	Physical Education (807)
BNLST	Business Analyst (102)	HORT	Horticulture (001)	PHYS	Physics (806)
BRHLTH	Business-Related Health (160)	HOTEL	Hospitality Management (109)	PLEGAL	Paralegal (110)
CABMIL	Cabinetmaking and Millwork (409)	HRMGT	Human Resources Management (116)	PLUMB	Plumbing (427)
CARP	Carpentry (410)	HSM	Healthcare Services Management (530)	POLICE	Police Science (504)
CAS	Creative Advertising Strategist (201)	HUMSVC	Human Services (520)	POWENG	Power Engineering (428)
CHEM	Chemistry (806)	HVAC1	Air Conditioning, Refrigeration, Heating (401)	PSYCH	Psychology (809)
CHEMT	Chemical Technology (603)	HVAC2	Air Conditioning/Refrigeration Technology (601)	PTASST	Physical Therapy Assistant (524)
CHILDD	Child Development (307)	HYDPNU	Hydraulics Pneumatics (419)	QETECH	Quality Engineering Technology (623)
CIVIL	Civil Engineering Technology (607)	INDSGN	Interior Design (304)	QLTYIN	Quality Interdisciplinary (625)
CLABT	Clinical Laboratory Technology (513)	INDVTS	Individualized Technical Studies (825)	RADT	Radiology Technology (526)
CNC	Computer Numeric Control (444)	INTP	Interpreter Technician (533)	RBUS	Related Business (105)
COMPSW	Computer Software (103)	IT	Information Technology (107)	RDIAT	Renal Dialysis (517)
CONSTR	Construction Trades General (476)	ITDEV	IT Development/Programming (152)	RESPEC	Respiratory Therapy (515)
CSG	Computer Simulation and Gaming (153)	ITNET	IT Networking (150)	RLEST	Real Estate (194)
CSTECH	Central Service Technician (534)	ITSEC	IT Information Security Systems (150)	SOCSCI	Social Science (809)
CULART	Culinary Arts (316)	ITSUP	IT Support (154)	SPEECH	Speech (810)
CULMGT	Culinary Management (317)	LOGMGT	Logistics Transportation/Materials Management (182)	SURGT	Surgical Technology (512)
CVTECH	Cardiovascular Technology (521)	MACHTL	Machine Tool (420)	SUSTN	Sustainability (481)
DENAST	Dental Assistant (508)	MASON	Bricklaying and Masonry (408)	TDMKG	Tool and Die Making (439)
DENHYG	Dental Hygiene (508)	MATH	Mathematics (804)	TRCKDR	Truck Driving (458)
DIESEL	Diesel/Powertrain Servicing (412)	MATRLS	Materials Technology (613)	TV	Telecasting (701)
DIETNT	Nutrition Dietetic Technician (313)	MCDESG	Mechanical Design Technology (606)	VICOM	Visual Communication (206)
DLABT	Dental Laboratory Technician (507)	MDRAFT	Mechanical and Computer Drafting (421)	WEBDEV	Web Development/Commercial Art (201)
EBUS	eBusiness (135)	MEDAST	Medical Assistant (509)	WELD	Welding (442)
ECON	Economics (809)	MEDINT	Medical Interpreter (538)	WELDTC	Welding Technology (621)
EDF	Educational Foundations (809)				

COURSE DESCRIPTION INFORMATION SUBJECT TO CHANGE. FOR INFORMATION ONLINE, VISIT [SELFERVICE.MATC.EDU](http://selfservice.matc.edu).

ABS – Automated Building Systems (Department: 481)

ABS-105 Credits: 3

The LEED Rating System

This course explores the LEED rating system, how it is being used to drive sustainable buildings, and helps prepare students for taking the LEED Accredited Professional exam.

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 shall apply HVAC systems to controlling building environments. Learners will gain knowledge and skills of systems and controls that 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 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): Complete 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): Complete ABS-143 and ABS-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): Complete ABS-140, ABS-141, ABS-142, ABS-143, ABS-144 and ABS-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 LON 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): Complete ABS-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 practice set provides practical experience using accounting theory.

ACCTG-113 Credits: 4

Accounting 2

A continuation of Accounting 1, focusing on long-term assets, long-term liabilities, and accounting for partnerships and corporations. Financial statement analysis and the statement of cash flows are introduced. Students perform comprehensive financial analysis on a corporation. Prerequisite(s): Complete ACCTG-111 with minimum grade of C.

ACCTG – ADVMFG DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

ACCTG-116 Credits: 4

Intermediate Accounting

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): Complete ACCTG-113 with minimum grade of C.

ACCTG-117 Credits: 3

Intermediate Accounting 2

A continuation of Intermediate Accounting, completing the study of advanced accounting practices and procedures. Prerequisite(s): Complete ACCTG-116 with minimum grade of C.

ACCTG-121 Credits: 4

Income Taxation

The determination of individual income taxes including income, deductions, tax calculations, credits and payments is studied. Students are introduced to income tax laws as they apply to business entities such as partnerships, S-corporations, C-corporations and fiduciary tax entities. Also covered are estate and gift taxes (transfer taxes). Students will prepare individual and business tax forms related to these topics both manually and using tax software.

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): Complete 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): Complete ACCTG-111, ACCTG-102 or ACCTG-110.

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, also are studied. Prerequisite(s): Complete 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 and tax 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): Complete 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): Complete ACCTG-116, ACCTG-130 and ACCTG-142 or ACCTG-143.

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): Complete ACCTG-121 or ACCTG-123 with minimum grade of B.

ADVMFG – Advanced Manufacturing (Department: 664)

ADVMFG-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.

ADVMFG-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): Complete ADVMFG-100.

ADVMFG-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): Complete ADVMFG-110.

ADVMFG-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): Complete ADVMFG-102.

ADVMFG-112 Credits: 3

Fundamentals of Machining Processes

In this course, learners investigate computer numerical control (CNC) concepts and skills including 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): Complete 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): Complete 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): Complete 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): Complete 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): Complete ADVMFG-105.

ADVMFG-120 Credits: 2

Introduction to Industrial Internet of Things (IIoT)

In this course, learners are introduced to 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): Complete 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 object 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): Complete 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): Complete 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): Complete ADVMFG-121.

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): Complete 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): Complete 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): Complete 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): Complete 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): Complete ANIM-101.

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): Complete 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): Complete 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): Complete ANIM-138.

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, multi-plane camera techniques, placement of characters/elements into a scene. Prerequisite(s): Complete ANIM-114.

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, multi-part object correctly constructed, linked and boned for advanced animation techniques. Prerequisite(s): Complete 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.

ANIM-131 Credits: 3

Advanced 2D Animation

Course will be an exploratory approach to more advanced animation skills. Introducing better acting with their characters to support

the story of the short film they are creating. Prerequisite(s): Complete 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): Complete ANIM-114.

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): Complete 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): Complete ANIM-101 and ANIM-104.

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): Complete ANIM-101 and 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): Complete ANIM-110 and 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): Complete 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.

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.

ANIM-160 Credits: 2

Animation Portfolio

Each student finalizes a series of 30-second to three-minute animated shorts demonstrating his/her 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): Complete ANIM-124 or CSG-181.

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 analysis 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): Complete ANIM-145 or ANIM-121

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): Complete ANIM-101.

ANTECH – Anesthesia (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 scheduled. Prerequisite(s): Must be admitted 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): Complete ANTECH-102 and BIOSCI-177 or BIOSCI-201. Must be admitted to the Anesthesia Technology (10-541-1) program.

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 is taught. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Complete ANTECH-102. Must be admitted 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): Complete ANTECH-117 and ANTECH-118. Must be admitted to the Anesthesia Technology (10-541-1) program.

ANTECH – APPSVC DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

ANTECH-133 Credits: 3

Anesthetics

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): Complete ANTECH-120.

ANTECH-137 Credits: 3

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 anesthesia technologist varies in each. Patient transport, monitoring and positioning will be stressed. Prerequisite(s): Complete ANTECH-120.

ANTECH-138 Credits: 3

AT Instrumentation 2

The 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): Complete ANTECH-120.

ANTECH-139 Credits: 3

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 anesthesia technologist. Prerequisite(s): Complete ANTECH-120.

ANTECH-185 Credits: 2

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. Résumé-writing and interview skills will be covered. Prerequisite(s): Complete ANTECH-139.

ANTECH-186 Credits: 4

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 Credits: 4

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.

AODA – Alcohol and Other Drug Abuse Services (Department: 550)

AODA-109 Credits: 3

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 Credits: 3

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 Credits: 3

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 also is a practice-oriented course and students will participate in a variety of screening, assessment and treatment planning situations. Prerequisite(s): Complete HUMSVC-102, HUMSVC-103 and HUMSVC-113.

AODA-152 Credits: 3

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): Complete AODA-109.

AODA-154 Credits: 3

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): Complete HUMSVC-102, HUMSVC-103 and HUMSVC-113.

AODA-160 Credits: 1

Ethical Dilemmas

This course provides an opportunity for 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 Credits: 1

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 Credits: 1

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 Credits: 4

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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC-310 Credits: 5

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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC – ARCHT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

APPSVC-316 Credits: 4

Kitchen Equipment 1

Operation of the dishwasher, compactor, 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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC-324 Credits: 4

Refrigeration 1 (Theory and Techniques)

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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC-329 Credits: 1

Related Business for Appliance Service

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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC-340 Credits: 4

Kitchen Equipment 2

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): Must be admitted to the Appliance Technician (31-445-1) program.

APPSVC-342 Credits: 5

Refrigeration 2 (Servicing)

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): Must be admitted to the Appliance Technician (31-445-1) program.

ARCHT – Architectural Technology (Department: 614)

ARCHT-101 Credits: 4

Architectural Theory and Drawing 1

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.

ARCHT-103 Credits: 5

Architectural Theory and CADD 3

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): Complete ARCHT-102.

ARCHT-104 Credits: 5

Architectural Theory and CADD 4

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% 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): Complete ARCHT-103.

ARCHT-105 Credits: 2

Architectural History

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.

ARCHT-107 Credits: 2

Building Estimating

This course introduces the student to building estimating. It covers basic techniques, practices, procedures of "quantity takeoffs" and calculating material and labor requirements for residential and commercial building construction. The course also reviews design, bidding and contract administration phases of a project including introductory aspects of project scheduling and construction management. Prerequisite(s): Complete ARCHT-102.

ARCHT-109 Credits: 4

Architectural Theory and CADD 2

The second of four studio courses which make up the core of the Architectural Technology program. Students continue developing their skills in architectural drafting, sketching and 2D architectural computer applications. The early stages of the design process, use of architectural reference materials for research and presentations are covered. Universal design and energy responsive design are introduced

with emphasis on wood and masonry construction. Prerequisite(s): Complete ARCHT-101.

ARCHT-110 Credits: 2

Computer Applications for Architecture

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.

ARCHT-120 Credits: 3

Structural Systems and Components

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): Complete ARCHT-101.

ARCHT-121 Credits: 2

Architectural Materials and Methods 1

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.

ARCHT-122 Credits: 3

Architectural Materials and Methods 2

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): Complete ARCHT-121.

ARCHT-131 Credits: 2

Mechanical and Environmental Systems 1

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): Complete ARCHT-102.

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): Complete 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): Complete 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): Complete ARCHT-101, CIVIL-102, or INDSGN-102.

ART (Department: 815)

ART-201 Credits: 3

Understanding Art

This is a survey course with emphasis on 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/recording equipment in the field of music necessitates that the musician have basic knowledge of the hows and whys 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

Offers in-depth, practical study and application of current industry-standard digital audio workstation music software programs. Prerequisite(s): Complete AUDIO-100 or MUSIC-113.

AUDIO-114 Credits: 2

Critical Listening of Sound/Music

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. Prerequisite(s): Complete AUDIO-100 and MUSIC-148.

AUDIO-116 Credits: 3

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): Complete 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): Complete 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): Complete 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): Complete 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): Complete 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): Complete AUDIO-102.

AUDIO-128 Credits: 3

Final Project – Field Work

This is the student's recording project of their choosing of any of the audio disciplines including in studio multi-track recording, live concert recording, sound for film, gaming or web interactive audio. From concept to completion, the student will notate, process and journal the details in creating the audio recording. Prerequisite(s): Complete AUDIO-116.

AUTO1 – Automobile Mechanical (Department: 404)

AUTO1-300 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 pre-delivery procedures.

AUTO1-302 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.

AUTO1-304 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): Completion of or currently enrolled in AUTO1-302.

AUTO1-306 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.

AUTO1-308 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.

AUTO1-310 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): Completion of or currently enrolled in AUTO1-308.

AUTO1-312 Credits: 2

Brakes and Steering Suspension Lab 2

Construction, operation, service and testing of automotive safety restraint systems (SRS), steering column, electronic suspension and antilock brake systems are studied through lecture and demonstration. Service and testing are performed on these components and on late-model vehicles. Prerequisite(s): Instructor consent required. Completion of or currently enrolled in AUTO1-308.

AUTO1-314 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 systems and units. Prerequisite(s): Instructor consent required.

AUTO1-316 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): Instructor consent required. Completion of or currently enrolled in AUTO1-314.

AUTO1-318 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): Instructor consent required. Completion of or currently enrolled in AUTO1-314.

AUTO1-322 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): Instructor consent required.

AUTO1-324 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): Instructor consent required. Completion of or currently enrolled in AUTO1-322.

AUTO1-326 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): Instructor consent required. Completion of or currently enrolled in AUTO1-322.

AUTO2 – Automotive Technology (Department: 602)

AUTO2-147 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): Complete AUTO2-151. Must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-148 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): Complete AUTO2-147 and AUTO2-151. Must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2-150 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.

AUTO2-151 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.

AUTO2-152 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): Complete AUTO2-151. 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): Complete AUTO2-151. 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. Must be admitted to the Automotive Technology – Comprehensive (10-602-6) program.

AUTO2 – AUTOBY DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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.

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): Complete AUTO2-147, AUTO2-151, AUTO2-154 and AUTO2-155. 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): Complete AUTO2-147 and AUTO2-151. 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, antilock, traction control and stability control are included. Prerequisite(s): Complete AUTO2-151. 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): Complete AUTO2-147 and AUTO2-151. 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 pre-delivery 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 provides 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.

AUTO2-165 Credits: 1

Applied Automotive Experience 2

Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provides 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 provides 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.

AUTO2-167 Credits: 1

Applied Automotive Experience 4

Provides the student an opportunity to reinforce newly acquired skills in an approved automotive repair environment and provides 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.

AUTOBY – Auto Collision Repair/ Refinish (Department: 405)

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 dinging sheet metal damage are studied. Discussion, lectures and demonstrations pertain to these areas of auto body repair. Prerequisite(s): 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. Prerequisite(s): When registering for this course, student must also 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-on panels. Prerequisite(s): When registering for this course, student must also be registered in AUTOBY-300, AUTOBY-301, AUTOBY-303 and AUTOBY-305.

AUTOBY-303 Credits: 1

Masking, Prep and Detailing

In this course, learners prepare surfaces to be refinished by utilizing cleaning, sanding and masking techniques while protecting non-refinish 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. Prerequisite(s): When registering for this course, student must also be registered in AUTOBY-300, AUTOBY-301, AUTOBY-302 and AUTOBY-305.

AUTOBY-304 Credits: 1

Basic Auto Mechanical Systems

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.

AUTOBY-305 Credits: 5

Auto Body 1

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. Prerequisite(s): When registering for this course, student must also be registered in AUTOBY-300, AUTOBY-301, AUTOBY-302 and AUTOBY-303.

AUTOBY-310 Credits: 4

Auto Body Fundamentals

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): Complete AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Completion of or currently enrolled in AUTOBY-311, AUTOBY-313 and AUTOBY-315.

AUTOBY – AVITEC DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

AUTOBY-311 Credits: 3

Automobile Frame Straightening

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): Complete AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Completion of or currently enrolled in AUTOBY-310, AUTOBY-313 and AUTOBY-315.

AUTOBY-312 Credits: 1

Electrical Servicing for Auto Body Repairing

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.

AUTOBY-313 Credits: 1

Surface Preparation and Color Matching

Lecture-demonstrations acquaint students with sheet metal preparation and refinishing techniques. Students practice color matching new and weathered finishes, as well as sanding, masking, feather-edging and applying undercoats, sealers and color coats. Prerequisite(s): Complete AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Completion of or currently enrolled in AUTOBY-310, AUTOBY-311 and AUTOBY-315.

AUTOBY-314 Credits: 1

Front-End Alignment

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.

AUTOBY-315 Credits: 5

Auto Body 2

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): Complete AUTOBY-300, AUTOBY-301, AUTOBY-302, AUTOBY-303 and AUTOBY-305. Completion of or currently enrolled in AUTOBY-310, AUTOBY-311 and AUTOBY-313.

AVITEC – Airframe and Aircraft Technology (Department: 486)

AVITEC-302 Credits: 2

Engine Fuel Metering Systems

Training is provided in the servicing of various types of fuel supply and fuel

metering systems. Skills are developed in overhauling, assembling and testing of fuel system components.

AVITEC-303 Credits: 5

Powerplant Electrical and Instrument Systems

Skills are developed in the removal, disassembly, inspection, overhaul, installation, adjustment and systematic troubleshooting of the complete power plant ignition and electrical systems. Equipment manufacturers' service recommendations are stressed in the overhaul of electrical components.

AVITEC-304 Credits: 1

Aircraft Induction and Supercharging Systems

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.

AVITEC-306 Credits: 2

Engine Lubricating Systems

The construction, function, operating principles and relationship of a complete engine lubrication system to the basic engine are emphasized.

AVITEC-315 Credits: 2

Aircraft Reciprocating Engines 1

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.

AVITEC-316 Credits: 4

Aircraft Reciprocating Engines 2

Students continue the development of skills and knowledge gained in Aircraft Reciprocating Engines 1. Prerequisite(s): Complete AVITEC-315.

AVITEC-318 Credits: 2

Aircraft Gas Turbine Engines 1

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.

AVITEC-319 Credits: 5

Aircraft Gas Turbine Engines 2

Students continue the development of skills and knowledge gained in Aircraft Gas Turbine Engines 1. Prerequisite(s): Complete AVITEC-318.

AVITEC-320 Credits: 4

Aircraft Electrical Systems

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.

AVITEC-323 Credits: 3

Aircraft Ground Operation and Servicing

Students learn proper procedures for fueling, moving and securing aircraft. Also studied are proper cleaning and corrosion-control methods for aircraft.

AVITEC-340 Credits: 1

Aircraft Welding

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.

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): Complete 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 also is 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 learn 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 (Department: 102)

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): Complete RBUS-102, MATH-106, MATH-107, MATH-123 or any 200-level MATH course and complete 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-110 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 Analysis

An entry-level course designed to introduce students to the tools used in business for financial analysis. Business Analysis provides the students with the basics of ratio analysis, time value of money, risk analysis, capital budget evaluation and financial statement analysis. Prerequisite(s): Complete BADM-106 and complete either ACCTG-110 or ACCTG-111.

BADM-126 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): Complete ACCTG-110 or ACCTG-111 and complete BADM-106 or ACCTG-122.

BADM-134 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): Complete 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): Complete BADM-134, BADM-126, or HEALTH-104.

BADM-165 Credits: 3

Legal Environment of Business

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 Credits: 3

Advanced Legal Issues

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): Complete BADM-165.

BADM-180 Credits: 1

Business Communication With Technology 1

In Business Communication With Technology 1, the learner applies the skills and tools necessary to fulfill his/her 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 Credits: 1

Business Communication With Technology 2

In Business Communication With Technology 2, the learner applies the skills and tools necessary to fulfill his/her 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 Credits: 1

Business Communication With Technology 3
In Business Communication With Technology 3, the learner applies the skills and tools necessary to fulfill his/her 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 Credits: 3

Risk Management and Insurance
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 Credits: 1

Business Internship
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. Prerequisite(s): Completion of three semesters in the student's field of study and consent of advisor. Complete INTRN-796.

BAKING (Department: 314)

BAKING-101 Credits: 3

Specialty Baking and Pastry Techniques 1
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): Complete BAKING-120, BAKING-122, CULART-100, CULART-118 and CULMGT-112.

BAKING-107 Credits: 5

Cafe Operations
The 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. Prerequisite(s): Complete BAKING-108, BAKING-112, BAKING-131, CULART-109, CULART-116, CULART-122 and CULMGT-105.

BAKING-108 Credits: 2

Hotel and Restaurant Dessert Production
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): Complete BAKING-101, BAKING-120, BAKING-122, BAKING-125, BAKING-129, BAKING-130, CULMGT-105, CULMGT-112, CULART-100 and CULART-118.

BAKING-113 Credits: 3

Cake Decorating, Icing and Fondant
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. Prerequisite(s): Complete BAKING-101, BAKING-108, BAKING-120, BAKING-122, BAKING-125, BAKING-129, BAKING-130, CULMGT-112, CULART-100 and CULART-118.

BAKING-120 Credits: 3

Basic Baking Techniques
This course introduces students to the fundamental concepts, skills and techniques of basic baking and yeast dough production. Study of ingredient functions, product identification and weights. Training also is given in a retail store setting. Prerequisite(s): Completion of or currently enrolled in BAKING-122 and CULMGT-112.

BAKING-122 Credits: 3

Baking Principles/Ingredient Functions
In this class, instructors 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-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): Complete BAKING-120, BAKING-122, CULMGT-112, CULART-100 and CULART-118.

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): Complete BAKING-101, BAKING-108, BAKING-113, BAKING-120, BAKING-125, BAKING-129, BAKING-130, BAKING-131, 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): Complete BAKING-101, BAKING-120, BAKING-122, BAKING-125, CULMGT-112, CULART-100 and CULART-118.

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): Complete INTRN-796 with minimum grade of C.

BAKING-131 Credits: 2

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, Doosh torte, Linzer torte and Sacher torte), glazed, iced, molded and cream-filled cakes; tortes; and bombes. Prerequisite(s): Complete BAKING-101, BAKING-108, BAKING-120, BAKING-122, BAKING-125, BAKING-130, CULMGT-112, CULART-100 and CULART-118.

BAKING – BARCOS DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

<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): Complete CULMGT-112.</p>	<p>BARCOS-107 Credits: 1 Advanced Spa Treatments Students develop advanced spa treatments including the HydraFacial MD® machine for advanced exfoliation, microcurrent, stones facial massage, lymphatic drainage, body treatments, aromatherapy and reflexology techniques to relieve tension. Prerequisite(s): Complete BARCOS-102 and BARCOS-104. Completion of or currently enrolled in BARCOS-106.</p>	<p>BARCOS-114 Credits: 4 Business Fundamentals Identify essential information required for lawful and successful salon/spa practice and management, including a detailed overview of Wisconsin state laws, rules and employer taxes. Students develop a well-rounded business plan.</p>
<p>BARCOS – Barbering and Cosmetology (Department: 502)</p>	<p>BARCOS-108 Credits: 3 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.</p>	<p>BARCOS-115 Credits: 1 Advanced Hair Removal Take your hair removal skills to the next level with this advanced class. Gain confidence in full body waxing, master Brazilian waxing, and discover the benefits of sugaring.</p>
<p>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): Complete BARCOS-108 and BARCOS-355. Completion of or currently enrolled in BARCOS-104.</p>	<p>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): Complete BARCOS-108 or BARCOS-306 and BARCOS-307.</p>	<p>BARCOS-116 Credits: 1 Skin Care Machines in the Treatment Room Take a comprehensive look at the ever-changing world of esthetics equipment. Learn to evaluate and purchase equipment. Look at trends and practice treatments within your scope of practice such as high frequency and nano-infusion.</p>
<p>BARCOS-102 Credits: 3 Guest Services 2 Students continue to build on skills obtained in Introduction to Guest Services Professional, 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): Complete BARCOS-101, BARCOS-104, BARCOS-108 and BARCOS-355. Completion of or currently enrolled in BARCOS-106, BARCOS-107, BARCOS-109 and BARCOS-110.</p>	<p>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, pack, review and practice all required assessment tasks. Students will complete a mock state board exam. Prerequisite(s): Complete BARCOS-101, BARCOS-102, BARCOS-104, BARCOS-106, BARCOS-107, BARCOS-108, BARCOS-109, BARCOS-317, BARCOS-330 and BARCOS-355.</p>	<p>BARCOS-117 Credits: 2 Salon Ecology/Decontamination Explore foundational concepts of microbiology as it relates to decontamination, basic chemistry and anatomy within the barbering and cosmetology professions. Students participate in large and small groups and/or online.</p>
<p>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): Complete BARCOS-101. Completion of or currently enrolled in BARCOS-102 and BARCOS-106.</p>	<p>BARCOS-111 Credits: 3 Oncology Aesthetics Discover the esthetician's role in caring for clients facing cancer treatments. Learn how cancer affects the skin. Improve awareness of ingredients that balance your client's skin health and emotional well-being.</p>	<p>BARCOS-118 Credits: 2 Introduction to Product Development Expand your esthetics practice by learning the theory behind formulations in product production. Product packaging and label creation concepts will be developed. Various avenues of product production will be discussed.</p>
<p>BARCOS-106 Credits: 1 Advanced Makeup Techniques Students build on basic makeup theory and color analysis while embracing new techniques such as airbrush and theatrical makeup. Students practice on peers as they develop these advanced skills. Prerequisite(s): Complete BARCOS-101.</p>	<p>BARCOS-112 Credits: 1 Introduction to Energy Healing (Reiki I and II) Discover the healing art of Reiki. Study hand positions, distance Reiki, chakra system, and how to use Reiki in your daily life. Receive Usui Reiki level 1 and 2 attunements.</p>	<p>BARCOS-119 Credits: 3 Aromatherapy in Treatment Room Explore the benefits of aromatherapy. Identify extraction, blending and dilution techniques. Increase awareness of safety guidelines and prevent potential drug interactions. Research essential oil chemical components and interpret GC-MS reports.</p>
	<p>BARCOS-113 Credits: 1 Advanced Exfoliation This course provides vital information on superficial mechanical exfoliation techniques including Dermaplaning and Hydradermabrasion. It includes hands-on instruction, treatment protocols, and how to perform a proper and thorough consultation.</p>	<p>BARCOS-120 Credits: 1 Energy Healing (Reiki Master) Expand your healing energy while incorporating Advanced Reiki Techniques (A.R.T.). Learn additional Reiki symbols, focus on crystals and Reiki Grids on the way to achieving your Master Teacher Attunement.</p>
		<p>BARCOS-121 Credits: 3 Lash Extension Techniques Advance your knowledge of lash extensions. Identify characteristics of lashes, learn basic principles of lash design, adhesives and removal. Practice classic and volume lashes on models following established safety procedures.</p>

<p>BARCOS-122 Credits: 3 Advanced Brow Techniques Expand your brow business with training on lash and brow tinting, threading and microblading. Identify licensing requirements, liability issues, pre/post-client care, setup requirements and hands-on practice.</p>	<p>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 hair cutting and thinning techniques on mannequins, available models and hair goods. Prerequisite(s): Must be admitted to Cosmetology (31-502-1) program.</p>	<p>BARCOS-308 Credits: 2 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 state 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 purchased from bookstore at the start of the semester. Prerequisite(s): Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-123 Credits: 2 Introduction to Reflexology Introduction to Reflexology expounds on this complementary therapy at the basic level. Reflexology is a pressure technique therapy that stimulates the nervous system to promote relaxation and improve overall health.</p>	<p>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): Complete BARCOS-300, BARCOS-301, BARCOS-302 and BARCOS-305.</p>	<p>BARCOS-309 Credits: 2 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): Complete BARCOS-300, BARCOS-304 and BARCOS-314. Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-124 Credits: 2 Product Development Students will formulate a variety of skin care products and produce a product for their brand. Students will create a product prototype, develop marketing materials and pitch their product.</p>	<p>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.</p>	<p>BARCOS-310 Credits: 2 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): Complete BARCOS-300 and BARCOS-314. Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-155 Credits: 3 Spa Science Fundamentals Review Aesthetician program expectations. Focus on concepts of time management, professional ethics and products used within the Aesthetician program. Students discover the basic effects of product ingredients on the skin. Prerequisite(s): Must be admitted to the Aesthetician (10-502-2) degree program or the Aesthetician (31-502-3) technical diploma program.</p>	<p>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): Complete BARCOS-300, BARCOS-301, BARCOS-302 and BARCOS-314. Must be admitted to Cosmetology (31-502-1) program.</p>	<p>BARCOS-312 Credits: 1 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 weaving 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.</p>
<p>BARCOS-156 Credits: 3 Spa Sciences 2 – Product Chemistry Identify common skin diseases and disorders, and explore side effects of medication on skin. Discover how product chemistry, specific ingredients and use of electrotherapy can improve common skin conditions. Prerequisite(s): Complete BARCOS-155.</p>	<p>BARCOS-306 Credits: 2 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 skin care products, removal of superfluous hair, and an introduction to makeup application. Students practice skills on classmates.</p>	<p>BARCOS-313 Credits: 1 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): Complete BARCOS-300, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315.</p>
<p>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.</p>	<p>BARCOS-307 Credits: 1 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): Complete BARCOS-306. Must be admitted to the Cosmetology (31-502-1) program.</p>	
<p>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- and 90-degree angles to include tapers, fades, natural afros and other haircuts on mannequins and available models. Prerequisite(s): Complete BARCOS-300, BARCOS-302, BARCOS-304 and BARCOS-314.</p>		

<p>BARCOS-314 Credits: 2 Hairstyle 1 Introduces the artistic foundations in theory, and practical wet hairstyling in roller placement, hair wrapping, blowdrying, thermal pressing and thermal iron curling. Students practice developing skills on mannequins, hair goods and classmates.</p>	<p>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 (30-502-3) or Barber (31-502-5) program.</p>	<p>roller set, blowdry/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): Complete BARCOS-300, BARCOS-301, BARCOS-304, BARCOS-306, BARCOSS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315. Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-315 Credits: 2 Hairstyle 2 Presents wet hairstyling theory and practical skills for fingerwaving, pincurling and blowdry styling. Students practice various pincurling, fingerwaving patterns and blowdrying techniques on mannequins and available models. Speed and accuracy are developed in thermal curling. Prerequisite(s): Complete BARCOS-300, BARCOS-302, BARCOS-304 and BARCOS-314.</p>	<p>BARCOS-321 Credits: 1 Hair Extensions Students learn how to add hair extensions to hair and to braided styles, and apply skills learned on manikins and available models. Prerequisite(s): Complete BARCOS-300, BARCOS-314, BARCOS-315 and BARCOS-319. Must be admitted to the Cosmetology (31-502-1) program.</p>	<p>BARCOS-328 Credits: 1 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, blowdry/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): Complete BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315. Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-316 Credits: 1 Advanced Style Offers advanced techniques in long hair design, such as up-dos and braids including French twist, Gibson, French braids and inverted French braids. Students practice on mannequins, available long hair models and hair goods. Prerequisite(s): Complete BARCOS-300, BARCOS-314, BARCOS-315 and BARCOS-319. Must be admitted to the Cosmetology (31-502-1) program.</p>	<p>BARCOS-323 Credits: 1 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, blowdry/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 (30-502-3) or Barber (31-502-5) program. Complete BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315.</p>	<p>BARCOS-329 Credits: 1 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): Complete BARCOS-308. Must be admitted to the Cosmetology (31-502-1) program.</p>
<p>BARCOS-317 Credits: 1 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 (30-502-3) or Barber (31-502-5) program.</p>	<p>BARCOS-324 Credits: 1 Business Skills for Barbers/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.</p>	<p>BARCOS-330 Credits: 2 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 (30-502-3) or Barber (31-502-5) program.</p>
<p>BARCOS-318 Credits: 1 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, in class and internet assignments. Prerequisite(s): Must be enrolled in the Barber (31-502-5) program.</p>	<p>BARCOS-326 Credits: 1 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, blowdry/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): Complete BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-314 and BARCOS-315. Must be admitted to the Cosmetology (31-502-1) program.</p>	<p>BARCOS-331 Credits: 3 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.</p>
<p>BARCOS-319 Credits: 1 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.</p>	<p>BARCOS-327 Credits: 1 Client Services 4 This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, highlight,</p>	
<p>BARCOS-320 Credits: 1 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, blowdry/</p>		

BARCOS-332 Credits: 3

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): Complete BARCOS-331.

BARCOS-333 Credits: 3

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): Must have valid practitioner's license and basic computer skills.

BARCOS-334 Credits: 3

Barber/Cosmetologist 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): Complete BARCOS-333.

BARCOS-335 Credits: 3

State Board Review

Presents a review of the theory and practical skills acquired throughout the program. Prepares students for successful completion of the Barbering and Cosmetology Wisconsin professional licensing exam. Students pack an exam kit, work through a mock examination and complete a school final theory exam. Prerequisite(s): Complete BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-303, BARCOS-304, BARCOS-305, BARCOS-306, BARCOS-307, BARCOS-309, BARCOS-310, BARCOS-312, BARCOS-313, BARCOS-314, BARCOS-315, BARCOS-319 and BARCOS-320. Must be admitted to the Cosmetology (31-502-1) program.

BARCOS-336 Credits: 1

Barber Theory 1

Presents the theory in sterilization, sanitation, disinfection, laws and rules, and professional ethics as it relates to the

barber profession. Students participate in individual, group and online activities.

Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

BARCOS-337 Credits: 2

Barber Haircut 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-338 Credits: 1

Barber Chemical Services 1

Presents techniques for relaxing and texturizing naturally curly hair. Retouch, virgin and freehand applications are stressed. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

BARCOS-340 Credits: 4

Manicuring Theory

Students who wish to qualify to take the state manicurist license examination must take this course. Instruction focuses on theory relating to law, nail and skin disorders, manicuring, pedicuring, nail enhancements, e-file, safety, sanitation, anatomy, physiology and business management. This course includes some online assignments and tests in preparation for the online state board exam.

BARCOS-341 Credits: 2

Shaving/Facials

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 models. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

BARCOS-342 Credits: 4

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 conjunction 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-343 Credits: 4

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 Credits: 1

Barber Theory 2

Presents theory related to wet and thermal styling, permanent waving, relaxing and tinting. Client consultation also is covered. Students participate in individual, group and online activities. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

BARCOS-345 Credits: 2

Barber Haircut 2

Students enhance skills learned in Barber Haircut 1. Beard trimming and razor haircutting is introduced and speed and efficiency are encouraged. Students practice on mannequins and available models. Prerequisite(s): Complete BARCOS-300 and BARCOS-336. Must be admitted to the Barber (31-502-5) program.

BARCOS-346 Credits: 1

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): Complete BARCOS-300 and BARCOS-336. Must be admitted to the Barber (31-502-5) program.

BARCOS-347 Credits: 1

Barber Hairstyling 1

Presents various techniques for basic thermal styling using the blowdryer, curling iron and flat iron. Proper parting and sectioning are stressed. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber (31-502-5) program.

BARCOS-348 Credits: 2

Introduction to Client Services

Introduces students to the barbering/stylist environment. Students practice barbering skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism also are studied. Prerequisite(s): Complete BARCOS-300, BARCOS-336, BARCOS-337 and BARCOS-341. Must be admitted to the Barber (31-502-5) program.

BARCOS-349 Credits: 1**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): Complete BARCOS-300, BARCOS-336, BARCOS-345 and BARCOS-347. Must be admitted to Barber (31-502-5) program.

BARCOS-350 Credits: 2**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): Complete BARCOS-300, BARCOS-336, BARCOS-338 and BARCOS-346. Must be admitted to the Barber (31-502-5) program.

BARCOS-351 Credits: 1**Barber Hairstyling 2**

Students enhance skills learned in Barber Hairstyling 1. Wet styling techniques also are introduced. Students practice roller sets, pin curls and fingerwaves on mannequins.

Prerequisite(s): Complete BARCOS-336 and BARCOS-347. Must be admitted to the Barber (31-502-5) program.

BARCOS-352 Credits: 2**Barber State Board Review**

Presents a review of the theory and practical skills acquired throughout the program. 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): Complete BARCOS-319, BARCOS-320, BARCOS-349, BARCOS-350 and BARCOS-351. Must be admitted to the Barber (31-502-5) program.

BARCOS-353 Credits: 2**Barber Haircut 4**

This course reviews haircutting techniques learned in previous Barber Haircut courses.

Students prepare mannequins for the state board exam. Students practice skills on available models and manikins. Speed and efficiency are stressed. Prerequisite(s): Complete BARCOS-300, BARCOS-336, BARCOS-345, BARCOS-347 and BARCOS-349. Must be admitted to the Barber (31-502-5) program.

BARCOS-355 Credits: 3**Spa Sciences**

This course includes a full Aesthetician Program Orientation and introduces the science of aesthetic services including cosmetic chemistry, diseases and disorders, and electricity. Students identify the effects of product ingredients on the skin.

Prerequisite(s): Completion of or currently

enrolled in BARCOS-101, BARCOS-104, BARCOS-108 and BARCOS-317. Instructor consent also is required.

BIOSCI – Biological Science (Department: 806)

BIOSCI-177 Credits: 4**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 BIOSCI-179.) Prerequisite(s):

Two semesters of high school chemistry or one semester of college chemistry (minimum grade C) and completion of or currently enrolled in ENG-151 or ENG-195 or ENG-201.

BIOSCI-179 Credits: 4**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): Complete BIOSCI-177 (minimum grade of C).

BIOSCI-189 Credits: 3**Basic Anatomy**

Examines concepts of anatomy and physiology as they relate to health careers. Students correlate anatomical and physiological terminology to all body systems.

BIOSCI-197 Credits: 4**Microbiology**

Examines microbial structure, metabolism, genetics, growth and the relationship between humans and microorganisms. 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): Complete BIOSCI-177 or BIOSCI-201 (minimum grade of C).

BIOSCI-201 Credits: 4**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 (minimum grade of C). Completion of or currently enrolled in ENG-151 or ENG-195 or ENG-201.

BIOSCI-202 Credits: 4**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): Complete BIOSCI-201 (minimum grade of C).

BIOSCI-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.

BIOSCI-230 Credits: 1**Introduction to Nutrition Lab**

This course is a complementary laboratory course to BIOSCI-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.

BIOSCI-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): Complete ENG-151 or ENG-195 or ENG-201 (minimum grade of C) or a satisfactory MATC placement test score.

BIOSCI-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): Complete two semesters of college Anatomy and Physiology BIOSCI-177 and BIOSCI-179, or BIOSCI-201 and BIOSCI-202, with minimum grade of C.

BIOSCI-242 Credits: 4

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.

BIOSCI-257 Credits: 4

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): Complete either CHEM-207 or CHEM-211.

BIOSCI-258 Credits: 4

Biology II

This course is the second of a two-course series. This course covers a survey of organisms including viruses, bacteria, protist, fungi, plants and animals. It also will cover organ systems biology in animals and specifically in humans. Three hours lecture, three hours extended lab. Prerequisite(s): Complete BIOSCI-257.

BIOSCI-259 Credits: 2

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 provides an overview of genetics and genomics while exploring the implications of these topics on the healthcare setting. The first part of the course concentrates on the basics of

genetics and the science behind heritable characteristics. The course goes on to discuss the implications of genomics, concluding with an investigation of the social, ethical and legal issues of genetic technology (cloning for medical and reproductive purposes, genetically modified organisms or GMOs, and who owns genetic information).

Prerequisite(s): Complete one of the following courses: BIOSCI-177, BIOSCI-186, BIOSCI-202 or CHEM-208.

BIOSCI-260 Credits: 3

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): Complete ENG-151 or ENG-195 or ENG-201 (minimum grade of C) or a satisfactory MATC placement test score.

BIOSCI-261 Credits: 3

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.

BIOSCI-269 Credits: 1

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 BIOSCI-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 BIOSCI-259. Taken together, the two courses would be the equivalent of a three-credit science class with a lab.

BIOSCI-280 Credits: 3

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 life cycle 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): Complete either BIOSCI-201 or CHEM-207.

BIOSCI-292 Credits: 1

Lab Techniques in Bio-Chem Research

This two-week workshop is designed to familiarize high school students with the Associate of Science degree at Milwaukee Area Technical College. This course will introduce students to educational and career opportunities in science. 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.

BNLST – Business Analyst (Department: 102)

BNLST-121 Credits: 3

Business Analyst Planning and Monitoring

Instruction in the multiple approaches used for performing business analysis, planning activities and ongoing communication, defining scopes, process improvements, assumptions, constraints and dependencies, and the management process.

BNLST-122 Credits: 3

Business Analyst Essentials

Provides insight into the business analyst role and profession. Examines career pathways, key concepts and the underlying competencies describing the behaviors, characteristics, knowledge and personal qualities that support the practice of business analysis. Students also will be introduced to the Business Analysis Body of Knowledge (BABOK) Guide.

BNLST-123 Credits: 3

Requirements Life Cycle Management

Prioritize and trace requirements, organize large amounts of data, understand and model requirements using various analysis techniques; verify, validate and communicate the requirements.

BNLST-124 Credits: 3

Elicitation Techniques

Examines one of the five Business Analysis Perspectives (Business Intelligence) and the tasks associated with obtaining information from stakeholders (elicitation), confirming the results and communicating business analysis information with stakeholders. Introduces the business analysis elicitation techniques of surveys, interviews, observation, workshops, benchmarking and market analysis.

BNLST-127 **Credits: 3**

Requirements Analysis and Design

Explores the key tasks of Requirements Analysis and Design that business analysts perform to structure and organize requirements discovered during the elicitation activity. Tasks include specifying and modeling requirements/designs, verifying and validating information, defining requirements architecture, defining solution options that meet business needs and estimating potential value for those solution options. Introduces techniques of use-cases, prototyping, nonfunctional requirements analysis and acceptance and evaluation criteria. Students also will explore the final perspective of Business Architecture.

BNLST-135 **Credits: 3**

Business Analyst Strategy Analyst

Identify and define business needs; understand business structure, strategy and impact of work efforts; define the importance of vision, strategy, goals and objectives; and define solution scope. Effectively facilitate change management.

BNLST-136 **Credits: 3**

Business Analyst Solution Evaluation

Students assess organizational readiness by facilitating testing and training of the solution. Emphasizes test plan creation, execution and facilitation, as well as the development of training plans. Prerequisite(s): Complete BNLST-127.

BNLST-137 **Credits: 1**

Business Analyst Internship

A cooperative training program involving actual work experience. Students obtain a position at an approved work station and work under the supervision of a teacher/coordinator. Prerequisite(s): Complete INTRN-796.

BNLST-138 **Credits: 3**

Business Analyst Capstone

This course provides Business Analyst students the opportunity to integrate the knowledge they have obtained throughout their curriculum by demonstrating their proficiency during the entire life cycle of a project.

BRHLTH – Business-Related Health (Department: 160)

BRHLTH-112 **Credits: 3**

Computerized Medical Billing

This course introduces students to principles of computerized medical billing using medical office software. Students must possess medical terminology and accounting competencies. Prerequisite(s): Complete ACCTG-102. Completion of or currently enrolled in BRHLTH-125 and BRHLTH-170.

BRHLTH-124 **Credits: 3**

Medical Office Terminology 1

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.

BRHLTH-125 **Credits: 3**

Medical Office Terminology 2

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): Complete BRHLTH-124 with minimum grade of C.

BRHLTH-135 **Credits: 3**

Medical Document Production

This course is designed to expand the student's medical vocabulary and develop skill in keyboarding, editing, storing and printing of medical documents on microcomputers. Emphasis is placed on speed building and accuracy improvement. Prerequisite(s): Complete OFTECH-122, BRHLTH-125 and OFTECH-133.

BRHLTH-140 **Credits: 3**

Electronic Health Records: Administrative Application

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. Medicolegal, ethical and professional use of the protected health information in the electronic health record is addressed. Prerequisite(s): Complete BRHLTH-135. Completion of or currently enrolled in BRHLTH-170.

BRHLTH-142 **Credits: 3**

Administrative Procedures for the Medical Office

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): Complete BRHLTH-125. Completion of or currently enrolled in BRHLTH-135 and BRHLTH-170.

BRHLTH-170 **Credits: 3**

Medical Insurance Principles and Coding

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 is not for experienced coders. Prerequisite(s): Complete BRHLTH-125.

BRHLTH-174 **Credits: 2**

Medical Claims Reimbursement

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.

BRHLTH-197 **Credits: 3**

Medical Office Career Investigation

This course provides students with in-depth exposure to employment in the healthcare office setting. Student will conduct interviews, research into specific medical office careers, prepare a PowerPoint presentation, participate in group and individual work scenario case problems, and prepare an extensive portfolio. Prerequisite(s): Complete ACCTG-102, BIOSCL-189, BRHLTH-112, BRHLTH-125, BRHLTH-174, COMPSW-106 and OFTECH-136. Completion of or currently enrolled in ENG-151 or ENG-195.

CABMIL – Cabinetmaking and Millwork (Department: 409)

CABMIL-300 **Credits: 2**

Machine Maintenance/Jigs and Fixtures

Machine maintenance consists of adjusting and maintaining woodworking machinery such as wide-belt sanders, planers, shapers, and band and circular saws.

CABMIL-303 **Credits: 5**

Woodworking 1

Students are introduced to the methods of processing materials using various types of woodworking equipment. An intensive safety program is incorporated into the development and completion of projects. Teamwork is emphasized in the coordination and production of group projects. Organizational skills are developed to prepare students for performance efficiency and quality standards.

CABMIL-304 **Credits: 3**

Woodworking Fundamentals

This course is designed to provide students with woodworking fundamentals including safe operating procedures of woodworking machines, types of wood, adhesives, gluing techniques, and preparing wood for construction.

CABMIL-305 **Credits: 5**

Woodworking 2

Students are involved in advanced cabinetmaking and millwork techniques used to produce architectural millwork and cabinets. Metric units of measurement are used to fabricate 32mm system casework. Students learn to set up, run and troubleshoot equipment necessary to produce exacting work. This course prepares the student for an entry-level position in a modern architectural millwork or cabinet shop.

CABMIL-306 Credits: 3

Advanced Woodworking

This course is designed to provide students with the skills associated with advanced cabinetmaking techniques. Subjects covered include cabinet construction, case construction and 32mm construction. Setup and safe operation of woodworking equipment emphasized.

CABMIL-340 Credits: 2

Millwork for Carpenters

This course is designed to teach students skills ranging from the basic operations of woodworking machines to the construction of cabinets. Related information is included on window and door units, and the application of plastic lamination for countertops. Prerequisite(s): Must be admitted to the Carpentry (31-410-1) program.

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): Complete 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.

CARP – Carpentry
(Department: 410)

CARP-301 Credits: 5

House Framing

House Framing is a practical course that includes the development of skills in the use and care of carpenter hand tools and portable machines. The fundamental principles of layout, and erection of floor decks and walls are practiced in the shop. Prerequisite(s): Must be admitted to the Carpentry (31-410-1) program.

CARP-303 Credits: 5

Roof Framing

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.

CARP-304 Credits: 3

House Framing Fundamentals

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): Must be admitted to the Carpentry (31-410-1) program.

CARP-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): Complete CARP-301.

CARP-315 Credits: 1

Energy Efficiency in Residential Construction

The course provides an overview of key areas that are important to energy efficiency in the construction trades. Topics include energy usage and efficiencies, testing protocols and diagnostic equipment, combustion air exchange and roles of energy professionals.

CARP-351 Credits: 1

Building Materials

The characteristics, manufacture and uses of the essential materials and supplies employed in the several branches of the construction trades are presented. Such topics as physical properties of wood, defects in lumber, shrinkage and warp, lumber grades and sizes, hardware and insulation are covered. Prerequisite(s): Must be admitted to the Carpentry (31-410-1) program.

CARP-383 Credits: 2

Quantity Survey

An estimating course for students in the building trades. It deals with the "taking off" of such carpentry materials as girders, posts, studs, rafters, roof sheathing, shingles, interior trim and drywall. Prerequisite(s): Complete CARP-380.

CARP-385 Credits: 2

Blueprint Reading 1

A fundamental course in sketching and blueprint reading designed to help carpenters express themselves and interpret plans on the job. It includes sketching objects using straight and curved lines. Isometric, oblique and orthographic views, and methods of dimensioning are covered. Prerequisite(s): Must be admitted to the Carpentry (31-410-1) program.

CARP-387 Credits: 1

Commercial Blueprint Reading

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): Complete 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 mediation 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-137 Credits: 3

Concept Development 2: Advanced Concepts

Advanced project-based assignments. 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-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 guerrilla and viral methods, through case study and real-life project application.

**CHEM – Chemistry
(Department: 806)****CHEM-110 Credits: 5****Basic Chemistry**

This course is designed to provide the basic chemistry concepts to prepare students for more advanced science courses. Some of the topics include quantitative skills, atomic and molecular structure, nuclear chemistry, chemical bonding, solutions, stoichiometry and gas laws. Laboratory experiences are included.

CHEM-112 Credits: 3**Principles of Sustainability**

Prepares the student to develop sustainable literacy; analyze the interconnections among the physical and biological sciences and environmental systems; summarize the effects of sustainability on health and well-being; analyze connections among social, economic and environmental systems; employ energy conservation strategies to reduce the use of fossil fuels; investigate alternative energy options; evaluate options to current waste disposal and recycling in the U.S.; and analyze approaches used by your community to promote and implement sustainability.

CHEM-186 Credits: 4**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): One year of high school chemistry with minimum grade of C or one semester of college chemistry with minimum grade of C. Completion of or currently enrolled in ENG-151 or ENG-195 or ENG-201.

CHEM-207 Credits: 4**General Chemistry**

This course provides a foundation in general inorganic chemistry in preparation for a second semester of organic 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): Complete CHEM-110 with minimum grade of C or one year of high school chemistry with minimum grade of C.

CHEM-208 Credits: 4**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): Complete CHEM-207 or CHEM-211 with minimum grade of C.

CHEM-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 with minimum grade of C. Also, MATH-200 with minimum grade of C, or a satisfactory MATC placement test score.

CHEM-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): Complete CHEM-211 with minimum grade of C.

CHEM-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 titrations, and optical and electrometric methods. Laboratory work is included. Prerequisite(s): Complete CHEM-212 with minimum grade of C.

CHEM-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): Complete CHEM-212 with minimum grade of C.

CHEM-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): Complete CHEM-212 with minimum grade of C.

CHEM-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): Complete CHEM-217 or CHEM-117 with minimum grade of C.

CHEM-219 Credits: 2**Organic Chemistry Laboratory 1**

Laboratory work focuses on the synthesis and purification of organic compounds illustrating reaction mechanisms. Prerequisite(s): Complete CHEM-212 with minimum grade of C.

**CHEMT – Chemical Technology
(Department: 603)****CHEMT-101 Credits: 2****Chemical Laboratory/Process Safety**

This course develops the knowledge and skills required to work safely in the chemical laboratory. Among the topics included are the history and application of state and federal regulations pertaining to the workplace, recognition and reduction of chemical and physical hazards, manipulation of glassware and laboratory equipment, handling compressed gas cylinders, and personal protective equipment and practices. Certified Cardiopulmonary Resuscitation for Professional Rescuers and First Aid training are included. Prerequisite(s): Complete CHEM-110, CHEM-211, or both SCIHS-705 and SCIHS-706, or both SCIPH-705 and SCIPH-706, with minimum grade of C.

CHEMT-103 Credits: 2**Introduction to Chemical Technology**

This course introduces students to chemical technology. Students learn to use the fundamental skills needed to work safely and productively in the chemical laboratory. The proper procedures and methods for recording, manipulating and applying data are noted. Measurement of intensive and extensive physical properties of materials 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): Complete CHEMT-105 with 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): Complete CHEM-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. Prerequisite(s): Complete one year of high school chemistry with minimum grade of C or complete one year of college chemistry with minimum grade of C.

CHEMT-112 Credits: 5**General Chemistry 2**

A study is made of kinetics, equilibria, thermodynamics, nucleonics, coordination chemistry, electrochemistry, and topics in organic and biochemistry. Qualitative analysis is emphasized in the laboratory course. Prerequisite(s): Complete CHEMT-111 or CHEM-211 with 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): Complete CHEMT-112 or CHEM-212 with minimum grade of C.

CHEMT-116 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): Complete CHEMT-112 or CHEM-212 with 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): Complete CHEMT-112 or CHEM-212 with 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): Complete CHEM-217 or CHEMT-117 with 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): Completion of or currently enrolled in CHEMT-112 or CHEM-212.

**CHILDD – Child Development
(Department: 307)****CHILDD-108 Credits: 3****ECE: Early Language and Literacy**

This course explores strategies to encourage the development of early language and literacy knowledge and skill building in children birth to 8 years of age. Learners will investigate the components of literacy including: literacy as a source of enjoyment, vocabulary and oral language, phonological awareness, knowledge of print, letters and words, comprehension, and an understanding of books and other texts. Theories and philosophies regarding children's language and literacy development will be addressed. Dual language learning will be examined within the context of developmentally appropriate practices. Assessment tools for early language and literacy acquisition will be reviewed.

CHILDD-110 Credits: 3**ECE: Social Studies, Art and Music**

This three-credit course will focus on beginning-level curriculum development in the specific integrated content areas of social studies, art, music and movement (SSAMM).

CHILDD-112 Credits: 3**ECE: STEM**

This three-credit course will focus on beginning-level curriculum development in the specific integrated content areas of science, technology, engineering and mathematics.

CHILDD-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-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): Complete CHILDD-151, CHILDD-169 and CHILDD-195.

CHILDD-117 Credits: 3**ECE: Credit for Prior Learning**

This three-credit 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 WTCS 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 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 Child Care Capstone**

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 three-credit 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 child experiences such as their 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 service delivery systems available to the child and family. Prerequisite(s): Complete CHILDD-140, CHILDD-141 and CHILDD-187.

CHILDD-148 Credits: 3

ECE: Foundations of Early Childhood Education

This three-credit 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 three-credit 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 care giving routines as curriculum.

CHILDD-153 Credits: 3

Foundations of Afterschool 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-167 Credits: 3

ECE: Health, Safety and Nutrition

This three-credit course examines the topics of health, safety and nutrition within the context of the early childhood educational 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-169 Credits: 3

ECE: 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.

CHILDD-174 Credits: 3

ECE: Introductory Practicum

In this three-credit practicum course, you will learn about and apply the course competencies in an actual early childhood setting. You will explore the standards for quality, early childhood education; demonstrate professional behaviors; and meet the requirements for training in the Wisconsin Model Early Learning Standards.

CHILDD-175 Credits: 3

ECE: Preschool Practicum

This course will apply as the capstone course in The Registry Preschool Credential. You will be placed or working in an early childhood setting with 3- to 5-year-old children and create a portfolio that prepares you for The Registry commission. In this course, you will be implementing regulations and standards for quality, early childhood education; applying knowledge of child development and positive guidance; utilizing observation and assessment techniques; and assessing developmentally appropriate environments for preschoolers. Prerequisite(s): Complete CHILDD-174. Must be admitted to the Early Childhood Education (10-307-1) program or the Child Care Services (31-307-1) program.

CHILDD-177 Credits: 3

ECE: Intermediate Practicum

In this three-credit course, you will be implementing regulations and standards for quality, early childhood education; applying knowledge of child development and positive guidance; utilizing observation and assessment techniques; and assessing developmentally appropriate environments for children. Prerequisite(s): Complete CHILDD-174. Must be admitted to the Early Childhood Education (10-307-1) program.

CHILDD-179 Credits: 3

ECE: Child Development

This 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.

CHILDD-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 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.

CHILDD-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.

CHILDD-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.

CHILDD-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, multicultural and anti-bias approaches in curriculum, materials, activities, relationships, and space design and equipment.

CHILDD-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 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. Those first five courses are primarily about mastering the necessary skills to be successful at managing quality, early childhood education programs. The strategies learned in this course build upon their management skills and take them beyond management to incorporate leadership in their programs, communities and profession. Through the development of a major project, students synthesize, integrate and apply the concepts and skills acquired in the full series of courses. Prerequisite(s): Complete CHILDD-181, CHILDD-182, CHILDD-184, CHILDD-185 and CHILDD-204.

CHILDD-187 Credits: 3

ECE: Children With Differing Abilities

This three-credit 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-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-195 Credits: 3

ECE: Family and Community Relationships

In this three-credit 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-199 Credits: 3

ECE: Advanced Practicum

In this final three-credit practicum course, you will demonstrate competence in supporting child development through observation, assessment and implementation of teaching strategies as you work in, learn about and apply the course competencies in an actual, early childhood setting. You will demonstrate a high level of skill in fostering relationships with children, families and early childhood professionals, and use skills learned in a lead teacher role to develop a career plan to transition from student to early childhood education professional. Prerequisite(s): Admission to the Early Childhood Education (10-307-1) program. Complete CHILDD-175 and CHILDD-177.

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.

CHILDD-301 Credits: 3

Introduction to Family Child Care

This introductory course is designed for family child care providers, or individuals seeking to become family child care providers. In this course, providers will fulfill the requirements for both Department of Children and Families entry-level courses, Fundamentals of Family Child Care and Introduction to the Child Care Profession. Through this course, providers will be introduced to important topics such as quality standards in family child care, health and wellness, child development, curriculum planning, guiding children's behavior, program wellness, and provider health and wellness. This course must be taken first in the Family Child Care Credential series and is aligned with the Wisconsin Model Early Learning Standards and the National Association for Family Child Care Quality Standards.

CHILDD-302 Credits: 3

Family Child Care: Responsive Programming

This second course of the Family Child Care Credential series focuses on creating responsive, family child care programming with an emphasis on building relationships and curriculum. Through this course, providers will be introduced to important topics such as quality standards for relationships, intentional relationships, diversity and anti-bias perspectives, family partnerships, mixed age curriculum, learning environment indoor, and learning environment outdoor. This course is aligned with the Wisconsin Model Early Learning Standards and the National Association for Family Child Care Quality Standards.

CHILDD-303 Credits: 3

FCC: Financial Management and Planning

This third course of the Family Child Care Credential series focuses on managing the finances of a family child care with an emphasis on principles and practices for budget planning, budget preparation and fiscal management. Through this course, providers will be introduced to important topics such as quality standards for financial management and planning, business management, financial planning, record keeping, business budgets, marketing, and financial management tools and systems. This course is aligned with the National Association for Family Child Care Quality Standards. Prerequisite(s): Complete CHILDD-133, CHILDD-134 and CHILDD-135.

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): Complete 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.

CIVIL-108 Credits: 1

Construction Computer Applications

This computer applications course is designed to provide students with word processing, spreadsheet and internet skills. Additionally, the course gives students an opportunity to utilize these skills in a project and presentation. Prerequisite(s): Completion of or currently enrolled in CABMIL-303.

CIVIL-110 Credits: 2

Introduction to Civil 3D

Civil 3D is an engineering software application used by civil engineers and other professionals to plan, design and manage civil engineering projects. Students will become familiar with the Civil 3D user interface and enhanced capabilities with respect to AutoCAD. Field collected survey points, Point file formats and Point Groups are discussed and used; Surfaces are created utilizing breaklines, feature lines and Point

Groups; Alignments, annotation methods and geo-referenced digital orthophotography also are covered. Prerequisite(s): Complete CIVIL-102.

CIVIL-111 Credits: 2

Advanced Civil 3D

Autodesk Civil 3D is a civil engineering design software used for civil design, drafting and documentation, collaboration and Building Information Modeling (BIM) workflows. This course covers the advanced design functions and techniques of Civil 3D including alignments, surface grading and analysis, pipe networks and survey databases. Prerequisite(s): Complete CIVIL-110.

CIVIL-135 Credits: 3

Public Works Engineering and Estimating

The basic principles of planning, design, construction and operation of public works facilities, such as water, wastewater, solid waste and transportation systems, are discussed. Estimating techniques for civil engineering projects are covered.

CIVIL-141 Credits: 4

Statics and Strength of Materials

The principles of static equilibrium are applied to free bodies. Students study the behavior of simple structures under load. The properties of the cross section are determined and used in the analysis of stress, deflection and strain. Compression, tension, shear and bending stresses are analyzed. Prerequisite(s): Complete MATH-115 or MATH-202.

CIVIL-142 Credits: 3

Structures

General structural behavior with respect to live and dead loading, wind loading, earthquake loading and transfer of loads throughout a structure by diaphragms and shear walls are studied. The principles of structural steel, reinforced concrete and timber structures are studied, including the codes of practice for each. Different types of foundations are presented and basic foundation design principles are studied. Prerequisite(s): Complete CIVIL-141 and MATH-115 or MATH-202.

CIVIL-147 Credits: 3

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. Wisconsin Department of Transportation (WisDOT) Certification for PCCTec 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 Credits: 3

Structural Detailing

The students will learn how to draw detailing drawings using AutoCAD and Autodesk Revit Structure. Autodesk Revit Structure is a 3D civil engineering design software used for civil design, drafting and documentation, collaboration and Building Information Modeling (BIM) workflows. The students will learn how to draw a structural project and framing system, and add structural elements such as concrete foundation, walls, beams, in addition to steel beams, columns and connections. Prerequisite(s): Complete CIVIL-106 and CIVIL-141.

CIVIL-155 Credits: 2

Surveying 1

The principles of surveying are presented, and the use of surveying tools and instruments in the application of these principles is covered. Taping, leveling and basic total station operation are included. The methods of measurement, and the processing of measurement and data are studied.

CIVIL-156 Credits: 2

Surveying 2

The principles of surveying are continued, with emphasis on traverse procedures and calculations. The theodolite, EDM, total station GPS and data collector are used for topographic and construction surveys. The uses of COGO also are covered. Prerequisite(s): Complete CIVIL-155. Completion of or currently enrolled in CIVIL-102 and MATH-115.

CIVIL-157 Credits: 3

Route and Highway Surveying

Horizontal and vertical alignment field problems and theory are covered. Geometric design, including circular horizontal curves, vertical curves, sight distance, super elevation, cross sections and earthwork, is studied. Also, a roadway plan and profile are prepared. Prerequisite(s): Complete CIVIL-156 and CIVIL-102.

CIVIL-158 Credits: 2

Land Surveying

The U.S. Public Land Survey is reviewed. Minimum standards for property surveys are covered. Subdivision regulations and mapping requirements for CSM and subdivision plats also are studied. Also, the principles of control surveys, state plane coordinates and GPS, are reviewed. Prerequisite(s): Complete CIVIL-157.

CIVIL-160 Credits: 3

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): Complete CIVIL-156.

CIVIL-161 Credits: 3

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): Complete CIVIL-156.

CIVIL-170 Credits: 3

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): Complete CIVIL-102 and CIVIL-135.

CIVIL-190 Credits: 1

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 Credits: 1

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)

CLABT-109 Credits: 4

Blood Bank

This course focuses on blood banking concepts and procedures including blood typing, compatibility testing, workups for adverse reaction to transfusions, disease states and donor activities. Prerequisite(s): Complete CLABT-110, CLABT-113 and 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): Must be admitted to Clinical Laboratory Technician (10-513-1) program or Phlebotomy (30-513-1) 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): Must be admitted to Clinical Laboratory Technician (10-513-1) 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): Must be admitted to Clinical Laboratory Technician (10-513-1) 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 carbohydrate, lipids, proteins, renal function and blood gas analysis. Prerequisite(s): Complete 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): Complete 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): Complete 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): Completion of or currently enrolled in CLABT-133.

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): Complete CLABT-170.

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): Complete CLABT-151.

CLABT-170 Credits: 2**Introduction to Molecular Diagnostics**

Introduces the principles and application of molecular diagnostics in the clinical laboratory. Prerequisite(s): Complete CLABT-113.

CNC – Computer Numeric Control (Department: 444)**CNC-122 Credits: 1****Introduction to CNC Setup and Operation**

Introduction to CNC Setup and Operation 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. The 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. Student will learn tooling maintenance and machine maintenance; how to set up a loader program specific to a company's lathes; how to call up programs; complete prove out and run parts. Students will learn how to identify worn out inserts and install new ones.

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 workholders are designed and built. Basic elements of supporting, locating and clamping the parts are included, as well as modular component workholders and principles of power clamping.

CNC-321 Credits: 1**CNC Machine Technology**

Instruction is given in state-of-the-art CNC machining technologies. This course is upgraded as these technologies change.

CNC-324 Credits: 3**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): Complete either MACHTL-320 and MACHTL-322 or MACHTL-373.

CNC-325 Credits: 3**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): Complete CNC-324.

CNC-326 Credits: 3**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. Also covered are advanced CNC machine center operational procedures. All of the jobs that the student programs will be run on a CNC machining center. Prerequisite(s): Complete CNC-325.

CNC-327 Credits: 3**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): Complete CNC-326.

CNC-332 Credits: 3**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): Complete either MACHTL-320 and MACHTL-322 or MACHTL-373.

CNC-333 Credits: 3**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. Prerequisite(s): Complete CNC-332.

CNC-334 Credits: 3

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): Complete CNC-333.

CNC-335 Credits: 3

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): Complete CNC-334.

CNC-340 Credits: 3

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, speed/feed 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, workholding, 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: 103)

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

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): Complete COMPSW-137.

COMPSW-139 Credits: 1

MS Excel – Part 3

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): Complete COMPSW-138.

CONSTR – Construction Trades General (Department: 476)

CONSTR-302 Credits: 1

OSHA Safety/CPR 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 great fit will have advising provided to discuss options in similar areas that may better suit their skills.

CSG-110 Credits: 3

Introduction to Computer Simulation and Gaming

This course provides students with an overview of the computer simulation and gaming industry. Students will be introduced to the genres, gaming development process, ethics, copyright issues, and planning, marketing and management concepts. Emphasis will be placed on game objectives, keeping the player perspective and educational applications.

CSG-114 Credits: 3

Introduction to Game Development/Programming

This course focuses on object-oriented logic and programming skills as it applies to simulation and game development. Students will learn the fundamentals of applying sequences, decisions, loops, variables and basic data structures in a game engine. They also will learn the importance of optimization and how to debug simulation and game software. Proper program design, documentation and testing also will be emphasized.

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 the introductory course 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): Complete 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): Complete CSG-118 or ANIM-106.

CSG-120 Credits: 1**Interactive Display Production 1**

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-121 Credits: 1**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-122 Credits: 1**Interactive Display Production 3**

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 Credits: 3**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 Credits: 3**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 also will 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): Complete CSG-114.

CSG-129 Credits: 2**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): Complete CSG-110 and CSG-115.

CSG-130 Credits: 3**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 the planning, development control and testing process of the simulation

or game. Educational applications also will be discussed. Prerequisite(s): Complete CSG-110 and CSG-115.

CSG-131 Credits: 3**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 communications will be emphasized.

CSG-132 Credits: 3**Artificial Intelligence**

This course provides students with an introduction to artificial intelligence 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): Complete CSG-179.

CSG-133 Credits: 3**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): Complete CSG-115 and CSG-117.

CSG-137 Credits: 3**Innovation Lifecycle Management**

This course provides students the opportunity to learn more mature Agile Methods revolving around a focused Lean approach to New Product Development and Business Practices. Innovation Lifecycle Management is the blend of these methodologies that engage potential customers early and often while staying focused on the Innovation process. Some of the core methods covered in this course are Kanban, ScrumBan, Lean Startup, Complexity Thinking, Business Value Estimating and Product Development Flow.

CSG-138 Credits: 3**Advanced Games 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): Complete CSG-133.

CSG-147 Credits: 3**Game Studio Management**

This course provides students the opportunity to learn about how to effectively build and manage a technical games software development studio. Curriculum will revolve around building an employee handbook that reinforces a strong culture required to run a diverse Agile and Lean Business successfully. Students also will build a three-year strategic business plan that focuses on researching and building products within emerging markets. This course also will help students to design, build and Manage Information Systems; as well as identify DevOps opportunities that will effectively help them to successfully deliver winning software. This course builds on learning gained from the Agile Project Management and Innovation Lifecycle.

CSG-179 Credits: 4**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): Complete CSG-118.

CSG-180 Credits: 3**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 where faculty, industry and the students are all part of the project planning, monitoring and evaluation. Prerequisite(s): Complete CSG-181.

CSG-181 Credits: 4**CSG Collaborative Lab**

This course offers students in the CSG program 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 just to focus on production and testing of the integrated pieces of animation and programming. Prerequisite(s): Complete CSG-129 and CSG-130.

CSG-185 Credits: 3**Data Structures for Game Developers**

This course focuses on advanced data structures used in programming simulations and games. Students will solve problems by using advanced data structures such as trees, queues, stacks and linked lists. The integration of these data structures into game engines, as well as the fundamental concepts on their efficient use, will be the main focuses of the course. Prerequisite(s): Complete CSG-128.

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 (31-317-2).

CULART-103 Credits: 2**Culinary Arts Practicum**

At the completion of the first year of study, students will be assessed on the application and demonstration of the program competencies required. Competencies include: knife skills; basic cooking procedures including stocks, soups, sauces, dry heat and moist heat applications;

vegetable applications; grains, pasta and potato applications; and the fabrication and preparation of meats, poultry and fish. These will be assessed through a practical exam. Prerequisite(s): Complete CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, CULMGT-105 and CULMGT-112. Completion of or currently enrolled in CULART-112, CULART-134, CULART-135, CULART-136, CULART-137.

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): Complete CULART-115 and CULMGT-112. Completion of or currently enrolled in CULART-138.

CULART-106 Credits: 4**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): Complete CULART-115 and CULMGT-112. Completion of or currently enrolled in CULART-105 and 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): Complete INTRN-796 with minimum grade of C.

CULART-109 Credits: 1**Garde Manger 1**

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 sausage are prepared and presented. Brines, 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): Complete CULMGT-112. Completion of or currently enrolled in CULART-116 and CULART-122.

CULART-111 Credits: 1

Garde Manger 2

This course includes three modules: salads, sandwiches and barista. Students will produce five major salad types including classic salads as well as modern-day favorites. They will develop an efficient method of producing salads in quantity. Students will learn the fundamental skills of sandwich making, set up a sandwich station and develop methods for efficient sandwich production. The barista module offers students the opportunity to learn how to brew coffee and teas, and prepare cappuccino, latte, cafe au lait, macchiato, Americano, breve and mocha. Prerequisite(s): Complete CULART-109 and CULMGT-112.

CULART-114 Credits: 4

Food Advocacy

This course explores barriers and opportunities to the current food system and how we can support industry-wide and local change for food advocacy. Students problem solve to create efficiencies within MATC culinary food outlets. Production is focused on food recovery, utilization and quantity cooking to benefit student and community populations. Prerequisite(s): Complete CULART-103, CULART-116, CULART-122, CULART-124, CULART-126, CULART-128 and CULMGT-112. Must be admitted to Culinary Arts (10-316-1) or Culinary Assistant (31-316-1) program. Completion of or currently enrolled in CULART-115, CULART-134, CULART-135, CULART-136 and CULART-137.

CULART-116 Credits: 2

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 Assistant (31-316-1), Baking and Pastry Arts (10-314-1) or Baking Production (31-314-2). Completion of or currently enrolled in CULMGT-112.

CULART-117 Credits: 1

Nutrition for Culinary Arts

The course introduces the basic principles of scientific nutrition. Students will be introduced to nutritional guidelines, basic nutrients, and promotion of healthy cooking and eating. The course will show how the foods we eat contribute to our health and to the enjoyment of our lives.

CULART-118 Credits: 1

Sustainable Food Communities

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. Prerequisite(s): Must be admitted

to one of the following programs: Culinary Arts (10-316-1), Culinary Assistant (31-316-1), Baking and Pastry Arts (10-314-1) or Baking Production (31-314-2).

CULART-119 Credits: 1

Culinary Science

Basic food science principles as related to cookery are the foci 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 (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): Complete CULMGT-112. Completion of or currently enrolled in CULART-116. Must be admitted to one of the following programs: Culinary Arts (10-316-1), Culinary Assistant (31-116-1), Baking and Pastry Arts (10-314-1) or Baking Production (31-314-2).

CULART-124 Credits: 1

Meat Identification/Fabrications

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): Complete CULMGT-112 and CULART-121. 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): Complete 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 seafood to be studied. Students learn the difference between freshwater fish, farm-raised fish and seafood from the oceans around the world. Prerequisite(s): Complete CULMGT-112 and CULART-121. Completion of or currently enrolled in CULART-122, CULART-123, CULART-124 and 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): Complete CULMGT-112 and CULART-121. Completion of or currently enrolled in CULART-122, CULART-123, CULART-124 and CULART-126.

CULART-128 Credits: 1

Vegetables, Starches and Grains

Basic principles of vegetable, 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): Complete CULART-116 and CULMGT-112. Completion of or currently enrolled in CULART-122, CULART-124, CULART-126 and CULART-127.

CULART – CULMGT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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): Complete CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, CULMGT-105 and CULMGT-112. Completion of or currently enrolled in CULART-112, CULART-115, CULART-135, CULART-136 and 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): Complete CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, CULMGT-105 and CULMGT-112. Completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-136 and 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): Complete CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, CULMGT-105 and CULMGT-112. Completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135 and CULART-137.

CULART-137 Credits: 1

South and Latin American Cuisine

Students discuss the history of the Latin American region, and prepare dishes from that cuisine using specific ingredients, equipment and tools needed, while adhering to basic kitchen principles of food safety. Prerequisite(s): Complete CULART-122, CULART-123, CULART-124, CULART-126, CULART-127, CULMGT-105 and CULMGT-112. Completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135 and 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): Complete CULART-115 and CULMGT-112. Completion of or currently enrolled in CULART-105.

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 and marketing, and 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-190 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, 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. Prerequisite(s): Complete CULART-116.

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. Prerequisite(s): Complete CULMGT-105.

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): Complete MATH-134. 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 (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): Complete 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): Complete CULART-119, CULMGT-102, CULMGT-112, CULMGT-117 and INTRN-796. Must have minimum grade of C or P.

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): Complete 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 – CVTECH DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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

Course will introduce distinctive areas of cardiovascular technology 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): Must be admitted to Cardiovascular Technology (10-521-1, 10-521-2) or EKG certificate (61-521-1) program.

CVTECH-110 Credits: 2

EKG Analysis

Course will explain the electrical activity of the heart and the various techniques for recording them. 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): Must be admitted to Cardiovascular Technology (10-521-1, 10-521-2) or Anesthesia Technology (10-541-1) program.

CVTECH-115 Credits: 4

Essentials of Cardiac Care 1

This course will concentrate on the cardiovascular system. 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): Must be admitted to Cardiovascular Technology (10-521-1, 10-521-2) or EKG 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): Must be admitted to 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): Must be admitted to the Cardiovascular Technology (10-521-2) program.

CVTECH-119 Credits: 4

Introduction to Sonography Fundamentals

This course introduces the student to the history of ultrasound and the evolution of its medical applications. Topics include licensure, use and maintenance of ultrasound equipment, ergonomics, communication and critical thinking skills, and the responsibilities of diagnostic medical sonographers in the workplace. Program policy and procedures, program curriculum, and student rights and responsibilities also are included in this course. Prerequisite(s): Complete BIOSCI-197.

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): Complete CVTECH-102, CVTECH-110, CVTECH-115, CVTECH-117 and CVTECH-118.

CVTECH-121 Credits: 2

Echo 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 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): Complete CVTECH-102, CVTECH-110, CVTECH-115, CVTECH-117 and CVTECH-118.

CVTECH-122 Credits: 3

Peripheral Vascular Essentials

This course will focus on peripheral vascular anatomy and allow the student to understand the basic steps in endovascular treatment of peripheral vascular disease. Prerequisite(s): Must be admitted to the Cardiovascular Technology – Invasive (10-521-1) program.

CVTECH-132 Credits: 3

Physics of Medicine

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): Complete CVTECH-120 or ANTECH-120. Must be admitted to either Cardiovascular Technology (10-521-1) or Anesthesia Technology (10-541-1) program.

CVTECH-133 Credits: 3

Cardiovascular Agents

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): Complete CVTECH-120.

CVTECH-134 Credits: 3

Hemodynamics

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): Complete CVTECH-120.

CVTECH-135 Credits: 4

Essentials of Cardiac Care 2

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): Complete CVTECH-115. Must be admitted to Cardiovascular Technology (10-521-1) program.

CVTECH-137 Credits: 4

Invasive CVT Fundamentals 2

This course further exposes the student into the profession of the cardiovascular technologist (CVT). 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

CVTECH – DENAST DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

technologies, electrophysiology, implantable devices, radiographic image panning. Prerequisite(s): Complete CVTECH-120.

CVTECH-139 **Credits: 2**

Invasive CVT Clinical 1

This course presents the student with his or her first opportunity in a direct patient care setting, while beginning to perform the duties of a CVT. Here the student will be able to correlate didactic and laboratory classes with the day-to-day duties of a CVT. Prerequisite(s): Complete CVTECH-120.

CVTECH-140 **Credits: 4**

Echo Instrumentation

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): Complete CVTECH-121.

CVTECH-142 **Credits: 3**

Echo Case Review

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): Complete CVTECH-140, CVTECH-144, CVTECH-145 and CVTECH-149.

CVTECH-143 **Credits: 3**

Ultrasound Principles and Physics

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): Complete CVTECH-149.

CVTECH-144 **Credits: 3**

Advanced Echo Practicum

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): Complete CVTECH-121.

CVTECH-145 **Credits: 4**

Echocardiography Fundamentals

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): Complete CVTECH-121.

CVTECH-149 **Credits: 2**

Echocardiography Clinical Experience 1

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): Complete CVTECH-121.

CVTECH-185 **Credits: 2**

Invasive CVT Clinical Seminar

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): Complete CVTECH-139.

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 currently enrolled 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): Complete 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): Complete 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): Complete 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): Must be admitted to the Dental Assistant (30-508-2) program. Completion of or currently enrolled in DENAST-304, DENAST-305, DENAST-307 and 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): Must be admitted to the Dental Assistant (30-508-2) program.

DENAST – DENHYG DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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 Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography and Dental Assistant Professional 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 Professional

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 in an ongoing professional development plan. Prerequisite(s): Must be admitted to the Dental Assistant (30-508-2) 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. This course is a WTCS-aligned course required in both the Dental Hygienist and Dental Assisting programs.

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): Complete BIOSCI-177, CHEM-186, BIOSCI-197 with minimum grade of B-. Complete 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): Must be admitted to the Dental Hygiene (10-508-1) program. Completion of or currently enrolled in DENHYG-103.

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): Complete 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): Completion of or currently enrolled in DENHYG-101.

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 to 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-110 Credits: 2

Nutrition and Dental Health

Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets, and to construct diets that meet the needs of patients with compromised dental/oral health. Students also learn to counsel patients about the effect of eating disorders on dental health. Prerequisite(s): Completion of or currently enrolled in DENHYG-101.

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): Complete DENHYG-102, DENHYG-103 and DENHYG-105. 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

DENHYG – DIESEL DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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): Complete DENHYG-106, DENHYG-108, DENHYG-109 and DENHYG-110. 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 or currently enrolled in DENHYG-102 or DENAST-302.

DENHYG-114 Credits: 2

Dental Pharmacology

Prepares student dental hygienists to select safe and effective patient pre-medication, 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 Hygiene 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-112.

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, 1, 2 and 3 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.

DENHYG-165 Credits: 1

Clinical Dental Hygiene Practicum

This skills laboratory will offer students the opportunity to enhance patient treatment skills developed during DENHYG-105, DENHYG-106 and DENHYG-112. Instruction will be tailored to individual student skills and abilities, along with patient treatment needs. Prerequisite(s): Must be admitted to the Dental Hygiene (10-508-1) program. Complete DENHYG-102, DENHYG-103 and DENHYG-105.

DIESEL – Diesel/Powertrain Servicing (Department: 412)

DIESEL-300 Credits: 2

Introduction to Transportation

This class is designed to help the entry-level technician for 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. This also focuses on soft skills to help the student obtain and keep employment.

DIESEL-301 Credits: 2

Diesel Fuel Systems

Students will perform diagnosis, testing and repair procedures on diesel engine fuel system mechanical components. Prerequisite(s): Must be admitted 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): Complete DIESEL-301 and 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): Must be admitted 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): Complete DIESEL-301 and 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): Complete 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): Complete DIESEL-301 and 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 ABS (antilock brake systems) diagnosis, testing and repair. Prerequisite(s): Complete 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.

DIETNT – Nutrition Dietetic Technician (Department: 313)

DIETNT-106 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. FDA food code is reviewed. Prerequisite(s): Must be admitted to the Nutrition and 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): Completion of or currently enrolled in DIETNT-106 or CULMGT-112 or the ServSafe Certificate.

DIETNT-109 Credits: 3

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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program.

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): Completion of or currently enrolled in DIETNT-106.

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/Healthcare Pathway, 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 Nutrition and 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-151 and DIETNT-123. 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-124 and 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-123 and DIETNT-151, with a grade of C or higher. Completion of or currently enrolled in DIETNT-152 and DIETNT-160.

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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-123, DIETNT-124, DIETNT-151 and DIETNT-152. Completion of or currently enrolled in DIETNT-125.

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): Complete 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-166 and DIETNT-167. 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): Complete DIETNT-106, DIETNT-107, DIETNT-108, DIETNT-118, DIETNT-123, DIETNT-124, DIETNT-125, DIETNT-134, DIETNT-135, DIETNT-151, DIETNT-152, DIETNT-156, DIETNT-157, DIETNT-160 and DIETNT-166. 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): Must be admitted to the Nutrition and 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-124 and 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 Nutrition and Dietetic Technician (10-313-1) program. Completion of or currently enrolled in DIETNT-151.

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): Complete DIETNT-108, DIETNT-118 and DIETNT-106 or ServSafe Certificate. Must be admitted to the Nutrition and 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 Nutrition and Dietetic Technician (10-313-1) program.

DIETNT-166 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 Nutrition and Dietetic Technician (10-313-1) program. Completion of or currently enrolled in DIETNT-156.

DIETNT-167 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): Must be admitted to the Nutrition and Dietetic Technician (10-313-1) program. Complete DIETNT-108, DIETNT-118 and DIETNT-106 or ServSafe Certificate. 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): Complete DIETNT-125 and DIETNT-156.

DLABT – Dental Laboratory Technician (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): Must be admitted 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): Complete DLABT-102.

DLABT-121 Credits: 5**Introduction to Crown and Bridge**

This course is an introduction to the theories and laboratory techniques required to design and fabricate cast metal dental crowns, bridges and porcelain fused to metal restorations. Lecture topics include the theories of model and die production, pattern design, pattern waxing, investing, casting, porcelain application, finishing and polishing metal crowns and bridges, and porcelain fused to metal restorations. In the laboratory sessions, a variety of metal crowns, bridges, and porcelain laminated dental restorations are completed. Prerequisite(s): Complete DLABT-111.

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. Prerequisite(s): Complete DLABT-121.

EBUS – eBusiness (Department: 135)**EBUS-174 Credits: 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)**ECON-195 Credits: 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, ecological and global economic issues.

ECON-201 Credits: 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 Credits: 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 Credits: 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-216 Credits: 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. Prerequisite(s): Complete ECON-195, ECON-201 or ECON-202.

ECON-218 Credits: 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 Credits: 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 life-long habits in planning, spending, saving and consumption decision-making.

ECON-223 Credits: 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 Credits: 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.

EDF – Educational Foundations (Department: 809)

EDF-249 Credits: 2

Orientation to Urban Teaching

This course is designed for students who are interested in exploring a career in urban K-12 teaching. Students learn about themselves in relationship to the children they may teach. Students explore different licensure areas and the pathways toward becoming a teacher. Readings and topics are chosen in order to explore how race, class and ethnicity affect the dynamics of teaching-learning relationships in schools.

EDF-253 Credits: 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): Complete EDF-249 or SOCSCI-249 with minimum grade of C.

EDF-254 Credits: 2

Field Experience in Urban K-12 Classrooms

This is a field experience/service learning course, which provides students who are completing the Teacher Education Track opportunity 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): Complete EDF-253 or SOCSCI-253. Also a TB test and criminal background checks are required for school placement.

EDF-255 Credits: 3

Introduction to Teaching

This course is intended 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): Complete EDF-253. Completion of or currently enrolled in EDF-254.

ELCTEC – Electronics Technology (Department: 605)

ELCTEC-100 Credits: 2

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): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-108 Credits: 2

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-109 Credits: 3

Fundamentals of DC/AC 2

This course, along with ELCTEC-108, helps complete the sequence for students requiring DC and AC Electronics 1 in Electronic 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): Complete ELCTEC-108. Completion of or currently enrolled in MATH-115.

ELCTEC-110 Credits: 4

DC/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-115, MATH-202, MATH-230, MATH-231 or MATH-232.

ELCTEC-111 Credits: 3

DC/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): Complete ELCTEC-110 or ELCTEC-115. Completion of or currently enrolled in MATH-116.

ELCTEC-112 Credits: 3

DC/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): Complete ELCTEC-111 or ELCTEC-116 and ELCTEC-120 or ELCTEC-118 and MATH-197 or MATH-230. Completion of or currently enrolled in ELCTEC-121.

ELCTEC-115 Credits: 4

DC and AC Electronics 1 – Interactive

This is an alternative delivery interactive course equivalent to ELCTEC-110. Theory presented via multimedia is reinforced by

lab experimentation and written technical reports. Prerequisite(s): Completion of or currently enrolled in MATH-115.

ELCTEC-116 Credits: 3

DC and AC Electronics 2 – Interactive

This is an alternative delivery interactive course equivalent to ELCTEC-111. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): Complete ELCTEC-110 or ELCTEC-115. Completion of or currently enrolled in MATH-116.

ELCTEC-117 Credits: 3

Digital Electronics – Interactive

This is an alternative delivery interactive course equivalent to ELCTEC-130. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): Completion of or currently enrolled in ELCTEC-115 and MATH-115.

ELCTEC-118 Credits: 4

Electronic Devices – Interactive

This is an alternative delivery interactive course equivalent to ELCTEC-120. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): Complete ELCTEC-110 or ELCTEC-115. Completion of or currently enrolled in MATH-116 and ELCTEC-116.

ELCTEC-119 Credits: 3

Microprocessors – Interactive

This introductory course is equivalent to the ELCTEC-140 course. It is an alternative delivery course that presents microprocessor basics including number systems and codes, terms and conventions, arithmetic, programming and interfacing. Lab experimentation reinforces theory. Prerequisite(s): Complete ELCTEC-117 or ELCTEC-130. Completion of or currently enrolled in ELCTEC-118 and MATH-116.

ELCTEC-120 Credits: 4

Electronic Devices

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): Complete ELCTEC-110 or ELCTEC-115. Completion of or currently enrolled in MATH-116 and ELCTEC-111.

ELCTEC-121 Credits: 3

Electronic Devices Advanced

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): Complete ELCTEC-118 or ELCTEC-120.

ELCTEC-124 Credits: 3

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): Complete ELCTEC-112 and ELCTEC-121.

ELCTEC-130 Credits: 3

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. The computer will be used to generate circuit simulations and technical reports. Prerequisite(s): Completion of or currently enrolled in MATGEN-110, MATH-115, MATH-202, MATH-230 or MATH-231.

ELCTEC-131 Credits: 3

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 PLD 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): Complete ELCTEC-117 or ELCTEC-130. Completion of or currently enrolled in ELCTEC-120.

ELCTEC-133 Credits: 4

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): Complete ELCTEC-134, ELCTEC-137 and BIOSCI-177. Completion of or currently enrolled in ELCTEC-176.

ELCTEC-134 Credits: 4

Biomedical Instrumentation

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): Complete ELCTEC-111 or ELCTEC-116 and ELCTEC-120 or ELCTEC-118 and BIOSCI-177 and ENG-197 or ENG-208.

ELCTEC-137 Credits: 2

Biomedical Electronics Technician Practicum 1

Students are assigned to area hospitals or clinical technicians to assist with preventive maintenance, calibration and repair of medical equipment. The use and operation of basic test equipment is introduced, along with guidelines for properly documenting procedures. Prerequisite(s): Completion of or currently enrolled in ELCTEC-134.

ELCTEC-138 Credits: 2

Biomedical Electronics Technician Practicum 2

Under the supervision of hospital or clinic technicians, students enhance their skills by troubleshooting patient care and diagnostic equipment, and various medical imaging systems. Prerequisite(s): Complete ELCTEC-134 and ELCTEC-137. Completion of or currently enrolled in ELCTEC-133.

ELCTEC-139 Credits: 3

Advanced Biomedical Electronics

This course is designed to help prepare students in the biomedical electronics field for taking related professional certification exams. Equipment demonstrations, along with in-depth technical discussions, will culminate internship experiences and previous classroom instruction as it relates to biomedical equipment technician certification. Prerequisite(s): Completion of or currently enrolled in ELCTEC-133 and ELCTEC-138.

ELCTEC-140 Credits: 3

Microprocessors

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): Complete either ELCTEC-110 or ELCTEC-115 and ELCTEC-130 or ELCTEC-117.

ELCTEC-141 Credits: 3

Microcontrollers

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): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-150 Credits: 3

Data Communications and Networking

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): Complete ELCTEC-111 and ELCTEC-120.

ELCTEC-170 Credits: 3

Computer Systems

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): Must be admitted to one of the following Electronics programs: (10-605-1), (10-605-3), (10-605-6) or (10-605-7). Completion of or currently enrolled in MATGEN-109, MATGEN-110, MATH-115, MATH-202 or MATH-230.

ELCTEC-172 Credits: 3

Input/Output Programming

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): Complete ELCTEC-173 and ELCTEC-174.

ELCTEC-173 Credits: 3

Computing With C

This course is a survey of computer programming and operation. The C programming language is introduced, with emphasis on developing an initial understanding of the architecture common to all computers. The C language becomes a tool in subsequent computer courses. Prerequisite(s): Complete ELCTEC-119 or ELCTEC-140. Completion of or currently enrolled in MATH-115, MATH-202 or MATH-230.

ELCTEC-174 Credits: 3

Hardware Systems

Students install, configure, upgrade, maintain, repair and learn the theory and operation of current computer hardware. Modular level troubleshooting techniques are introduced and developed. Computers, printers, displays and other devices are disassembled, analyzed and assembled. Technical manuals and the internet are used to obtain current computer technical documentation. Prerequisite(s): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-176 Credits: 3

Computer Networks

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): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-178 Credits: 3

Software Systems

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): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-179 Credits: 3

Advanced Computer Systems

Students learn and practice powerful strategies to identify, isolate and correct failing hardware and software at the component and modular levels. Windows is installed using alternate methods including unattended installation and cloning. Students install the Linux operating system, add web and FTP services, create and manage users and groups, and write scripts. Prerequisite(s): Complete ELCTEC-174. Must be admitted to one of these Electronics programs: (10-605-1), (10-605-3), (10-605-6) or (10-605-7).

ELCTEC-186 Credits: 1

Fabrication Techniques

This course is a practical approach to construction/repair of electronic equipment. Topics include shop safety, soldering techniques including SMDs, connectors, fasteners, ESD control, use of hand and power tools, PC board layout, schematic interpretation and industrial/military standards. The course includes projects in which theories of topics are applied. Prerequisite(s): Complete ELCTEC-110 or ELCTEC-115.

ELCTEC-192 Credits: 2

Fluid Power

Students are introduced to symbology, diagram logic, operation and application of various hydraulic/pneumatic devices used on an automated machine or automated process as they apply to electronic technology. Prerequisite(s): Complete ELCTEC-119 or ELCTEC-140.

ELCTEC-195 Credits: 4

Motor Controls

This course covers the operational characteristics of DC and AC motors and generators, motor drives, transformers, PLC integration and servo drives with particular emphasis on applications. A short study of renewable energy systems is included. Prerequisite(s): Complete ELCTEC-111.

ELCTEC-196 Credits: 3

PLC Systems Basic

This course is a study of programmable controllers. The history and principles of operation and the installation, programming and maintenance of the programmable controller are covered in lecture, demonstration and laboratory exercises. Prerequisite(s): Complete ELCTEC-110 and ELCTEC-130.

ELCTEC-198 Credits: 3

PLC Systems Advanced

This course is a study of advanced programmable controller concepts. The advanced features and instructions of the programmable controller are covered in lecture, demonstration and laboratory exercises. The student applies these concepts to interface the PLC to HMI equipment, robots, VFD motor controls and various communication protocols. Prerequisite(s): Complete ELCTEC-196.

ELCTEC-199 Credits: 3

Automated Systems

Built 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): Complete ELCTEC-195 and ELCTEC-196. Completion of or currently enrolled in ELCTEC-192.

ELECTY – Electricity (Department: 413)

ELECTY-308 Credits: 2

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. Must be admitted to the Electricity (31-413-1) or Manufacturing Maintenance (32-462-1) program.

ELECTY-310 Credits: 2

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. Must be admitted to the Electricity (31-413-1) program.

ELECTY-312 Credits: 2

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) program. Completion of or currently enrolled in ELECTY-308.

ELECTY-314 Credits: 1**Electrical Service Installation**

Practical experience is provided in wiring, installing and connecting the various types of services for lighting, heating and power. A study is made of single-phase and three-phase service requirements and code rules applicable to service installations. Prerequisite(s): Complete ELECTY-308, ELECTY-340 and ELECTY-392.

ELECTY-318 Credits: 5**Electrical Power Distribution 1A**

This course is an introduction to electrical power distribution systems. Emphasis is on the setting and securing of poles, mounting equipment on the poles, and the stringing of power lines. Students work on in-class mockups and on real-height, outdoor setups. Safety is emphasized. Prerequisite(s): Must be admitted to the Electrical Power Distribution (31-413-2) program.

ELECTY-319 Credits: 4**Electrical Power Distribution 1B**

This course is an introduction to electrical power distribution systems. Emphasis is on the setting and securing of poles, mounting equipment on the poles, and the stringing of power lines. Students work on in-class mockups and on real-height, outdoor setups. Safety is emphasized. Prerequisite(s): Complete ELECTY-318.

ELECTY-320 Credits: 4**Electrical Principles and Applied Math 1**

An introduction to basic electrical principles includes a review of arithmetic and the basics of algebra, which are applied to the solution of electrical problems. The course provides an introduction to DC circuits. Prerequisite(s): Completion of or currently enrolled in ELECTY-319.

ELECTY-321 Credits: 2**Line Mechanic Rescue and Safety**

Instruction in pole-top rescue, safety, accident prevention and analysis, electrical shock treatment, and accident reporting. Standardized basic first-responder and CPR training are included. Prerequisite(s): Must be admitted to the Electrical Power Distribution (31-413-2) program. Completion of or currently enrolled in ELECTY-319.

ELECTY-322 Credits: 5**Electrical Power Distribution 2A**

This course is a continuation of Electrical Power Distribution 1 with emphasis on modification of existing installations and live work. The student reads maps and system plans. Maintaining systems clearance and the use of chainsaws are covered. Prerequisite(s): Complete ELECTY-319.

ELECTY-323 Credits: 4**Electrical Power Distribution 2B**

This course is a continuation of ELECTY-322 and features underground (URD) and street lighting systems. Prerequisite(s): Complete ELECTY-322.

ELECTY-324 Credits: 4**Electrical Principles and Applied Math 2**

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): Must be admitted to the Electrical Power Distribution (31-413-2) program. Completion of or currently enrolled in ELECTY-323.

ELECTY-328 Credits: 2**Electric Motor Control Wiring**

Motor control diagrams are analyzed. Shop jobs are applied to control circuits. Motor control wiring skills are developed. Prerequisite(s): Complete ELECTY-308, ELECTY-340 and ELECTY-392.

ELECTY-340 Credits: 2**Electrical Code Fundamentals 1**

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 NEC are studied. The learner performs various types of calculations. Prerequisite(s): Must be admitted to the Electricity (31-413-1) program. Completion of or currently enrolled in ELECTY-392 or ELECTY-390 and ELECTY-391. Or be an electrician with a working knowledge of electricity.

ELECTY-341 Credits: 1**Electrical Code Fundamentals 2**

The learner will perform a comprehensive review of the 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): Complete ELECTY-340 or other code related experience, or electrician currently working in the field.

ELECTY-378 Credits: 1**Construction Blueprint Reading**

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) program. Completion of or currently enrolled in ELECTY-308.

ELECTY-382 Credits: 1**Electrical Equipment Circuit Analysis**

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): Complete ELECTY-391 or ELECTY-392.

ELECTY-384 Credits: 1**Electrical Design and Estimating**

The student will draw on their 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): Complete ELECTY-310 and ELECTY-312.

ELECTY-386 Credits: 2**Solid State Devices**

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): Complete ELECTY-391 or ELECTY-392.

ELECTY-390 Credits: 3**Principles of Electricity 1**

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.

ELECTY-391 Credits: 2**Principles of Electricity 2**

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): Complete ELECTY-390.

ELECTY-392 Credits: 5**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. Required math topics are presented during the course. Prerequisite(s): Must be admitted to the Electricity (31-413-1) program.

ELECTY-394 Credits: 4**Electrical Apparatus**

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): Complete ELECTY-391 or ELECTY-392.

ELECTY-396 Credits: 2

HVAC/R Electrical Systems

This is a lab course designed to provide the heating, air conditioning and refrigeration student with hands-on experience in wiring mockups of HVAC/R systems. Students operate, analyze, describe sequences, and test these systems using various test instruments. Prerequisite(s): Completion of or currently enrolled in ELECTY-398.

ELECTY-397 Credits: 1

Electrical Wiring Methods for Air Conditioning and Refrigeration

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.

ELECTY-398 Credits: 3

Electronic Circuits/Controls for HVAC/R

This course provides a practical knowledge of electricity, its measurement and the circuits used in the field of heating, air conditioning and refrigeration. This is a theory course that covers the functions of electronic circuits and controls, and explains servicing techniques and troubleshooting procedures.

EMS – Emergency Medical Services (Department: 531)

EMS-192 Credits: 5
EMT

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 will 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.

EMS-311 Credits: 4

AEMT – Advanced Emergency Technician

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): Complete EMS-192 or State of Wisconsin approved EMT class.

EMS-315 Credits: 3

Critical Care Paramedic

The course is designed to prepare Wisconsin paramedics to function as critical care transport team members. Critically ill or

injured patients requiring transport between facilities need a different level of care from hospital or emergency field patients. This course provides students with knowledge of the special assessment techniques and needs of the critical care patient, the ability to operate and troubleshoot critical care transport equipment, and develops the skills necessary to maintain the stability of the critical care patient during transport. This course follows the Wisconsin curriculum for license endorsement as a Critical Care Paramedic. Prerequisite(s): Student must have a Wisconsin Paramedic License.

EMS-911 Credits: 2

EMS Fundamentals

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues and ethical issues with the intended outcome of improving the health of EMS personnel, patients and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other healthcare professionals. Prerequisite(s): Must be admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.

EMS-912 Credits: 4

Paramedic Medical Principles

This course addresses the complex depth of anatomy, physiology and pathophysiology of major human systems while also introducing the paramedic student to the topics of shock, immunology and bleeding. Prerequisite(s): Completion of or currently enrolled in EMS-911. Must be admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.

EMS-913 Credits: 3

Advanced Patient Assessment Principles

This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients. Prerequisite(s): Completion of or currently enrolled in EMS-912. Must be admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.

EMS-914 Credits: 3

Advanced Pre-Hospital Pharmacology

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. Prerequisite(s): Completion of or currently enrolled in EMS-913. Must be admitted to the Emergency Medical Technician – Paramedic (31-531-1) program.

EMS-915 Credits: 2

Paramedic Respiratory Management

This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system also is provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. Prerequisite(s): Completion of or currently enrolled in EMS-914.

EMS-916 Credits: 4

Paramedic Cardiology

This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. Prerequisite(s): Completion of or currently enrolled in EMS-915.

EMS-917 Credits: 3

Paramedic Clinical/Field 1

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and healthcare environment experiences with actual patients under the supervision of instructors or approved preceptor. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Prerequisite(s): Completion of or currently enrolled in EMS-916.

EMS-918 Credits: 1

Advanced Emergency Resuscitation

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest and pre-arrest states with an emphasis on early intervention to prevent respiratory and/

or cardiac arrest if possible. Prerequisite(s): Complete EMS-917. Completion of or currently enrolled in EMS-916.

EMS-919 **Credits: 4**

Paramedic Medical Emergencies

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. Prerequisite(s): Complete EMS-916.

EMS-920 **Credits: 3**

Paramedic Trauma

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. Prerequisite(s): Completion of or currently enrolled in EMS-916 and EMS-919.

EMS-921 **Credits: 3**

Special Patient Populations

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma also are included within this course. Prerequisite(s): Completion of or currently enrolled in EMS-916 and EMS-920.

EMS-922 **Credits: 1**

EMS Operations

This course provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety. Prerequisite(s): Completion of or currently enrolled in EMS-921.

EMS-923 **Credits: 1**

Paramedic Capstone Assessment

This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum. Prerequisite(s): Completion of or currently enrolled in EMS-922.

EMS-924 **Credits: 4**

Paramedic Clinical/Field 2

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and healthcare environment experiences

with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS. Prerequisite(s): Completion of or currently enrolled in EMS-919.

ENG – English (Department: 801)

ENG-195 **Credits: 3**

Written Communication

Develops writing skills which include prewriting, drafting, revising and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents. Prerequisite(s): An ACT Reading score ≥ 16 and an ACT English score ≥ 16 or H.S. GPA of ≥ 2.5 or GEN of ≥ 165 or advisor/instructor waiver.

ENG-196 **Credits: 3**

Oral/Interpersonal Communication

Focuses on developing effective listening techniques, and verbal and nonverbal communication skills through oral presentation, group activity, and other projects. The study of self, conflict and cultural contexts will be explored, as well as their impact on communication.

ENG-197 **Credits: 3**

Technical Reporting

Prepare and present written, oral, and visual communication products including instructions, proposals, informal and formal reports. Produce clear, usable communication by incorporating information design principles, arranging content to satisfy diverse audience needs, and presenting visuals for various contexts. Designed as an advanced course to develop collaborative communication practices, information literacy skills, and ethically responsible professional communication strategies. Prerequisite(s): Complete ENG-151 or ENG-195 with minimum grade of C.

ENG-201 **Credits: 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 which emphasize finding, evaluating, and incorporating appropriate secondary sources into students' written work. Prerequisite(s): ((An ACT Reading score ≥ 18) and (an ACT English score ≥ 18)) or (ENG-152 or ENG-200 with a minimum grade of C).

ENG-202 **Credits: 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 which emphasize finding, evaluating, and incorporating appropriate secondary sources into students' written work. Prerequisite(s): Complete ENG-151 or ENG-195 and ENG-152 or ENG-197 with minimum grade of C, or ENG-201 with minimum grade of C.

ENG-205 **Credits: 3**

Journalism 1

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): Complete ENG-152 or ENG-197 with minimum grade of C or ENG-201 with minimum grade of C.

ENG-207 **Credits: 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): Complete ENG-151 or ENG-195 and ENG-152 or ENG-196 or ENG-197 with minimum grade of C, or ENG-201 with minimum grade of C.

ENG-208 **Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-213 Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-214 Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-215 Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-218 Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-219 Credits: 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-220 Credits: 3**Native American Literature**

Students examine literary work 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

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 women's literature from various genres and times: oral traditional tales to contemporary short stories, novels, poetry, plays, histories and essays. Prerequisite(s): Complete ENG-151 or ENG-195 and ENG-152 or ENG-196 or ENG-197 with minimum grade of C, or ENG-201 with 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): Complete ENG-152 or ENG-197 or ENG-201 with 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

ENG-226 Credits: 3**Literature of Migration**

This course examines literature of migration, both fiction and nonfiction, from a global perspective. Authors come from a variety of countries of origin and migrate to a variety of destinations. Students will consider the historical, cultural and personal reasons for, and impacts of, both voluntary and involuntary migrations. Students write reflective and analytical essays, with major attention given to the preparation and writing of a research essay. Prerequisite(s): Complete ENG-152 or ENG-196 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with 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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with minimum grade of C.

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): Complete ENG-152 or ENG-197 or ENG-201 or ENGE-201 or ENGCR-201 with 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 jobseeker.

ENTREP – Entrepreneurship (Department: 145)

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 writing, in detail, the aspects of the business. 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): Complete ENVHEL-101, ENVHEL-109 and MATH-107 or any 200-level MATH course.

ENVHEL-105 Credits: 4

Fundamentals of Hazardous Materials Control

The properties of materials commonly used in the workplace that are potentially hazardous to workers and the techniques of detection of those materials, along with proper methods of transporting, handling and disposal of those materials in the workplace are studied. Course includes the preparation and sitting for the WI DATCP Structural Pest Control 7.1 certification

exam. Successful completion of required coursework and hours will result in the 40-HR OSHA HAZWOPER Certification per 29 CFR 1910.120. Prerequisite(s): Complete ENVHEL-104.

ENVHEL-109 Credits: 4

Applied Environmental Chemistry

The applied approach to environmental chemistry provides students with a review of basic principles and laboratory techniques. The specialized focus includes environmentally related areas of water and wastewater, toxics, air, soil and hazardous materials.

ENVHEL-111 Credits: 4

Applied Water Chemistry and Analysis

A student in this course will perform sampling, measurement and interpretation, both in the field and laboratory settings, for the analysis of water resources. Water is treated and used in our daily lives for drinking water, municipal reclamation, manufacturing, industry, food, beverage, medical use, and survival of aquatic ecosystems. The course will provide students with a better understanding of water quality monitoring, water treatment and analyses through real-world practical quantitative water chemistry applications. This course will include chemical safety, approved methodology, instrumentation use, regulations, quality assurance and quality control concerns. Prerequisite(s): Complete ENVHEL-101, ENVHEL-102, ENVHEL-109, and MATH-107 or any 200-level MATH.

ENVHEL-115 Credits: 4

Air Quality

This study of the effects of air pollution includes the types of air pollution, their sources, and their prevention and control. Various air pollution sampling techniques and air analysis methods are performed by the student. Prerequisite(s): Complete ENVHEL-101, ENVHEL-102 and ENVHEL-109.

ENVHEL-119 Credits: 3

Food and Dairy Safety

This course covers the application of sanitation principles necessary for food and milk protection. It includes preservation, distribution and serving of food and milk. Also covered are the microbiology of food-borne diseases; food code compliance, and milk pasteurization and testing. Prerequisite(s): Complete ENVHEL-101 and ENVHEL-173.

ENVHEL-126 Credits: 3

Environmental Lab Projects

Practical experience in environmental health is gained through individualized placement in a laboratory of an area health department, treatment plant, or other environmental health firm or agency. Assignments consist of lab projects, lab placement and an optional internship. Prerequisite(s): Complete ENVHEL-111 and ENVHEL-115.

ENVHEL-127 Credits: 3**Environmental Field Projects**

The goals of this course are to give participants advanced training in field techniques important to environmental health and water quality assessment and research. This course emphasizes field applications through lectures and field practices. Students will deal with actual environmental issues and complete projects associated with job-readiness, professionalism on the job, oral and written communication skills. Prerequisite(s): Complete ENVHEL-111 and ENVHEL-115.

ENVHEL-128 Credits: 1**Environmental Health Internship**

Students will gain valuable work experience in the environmental health and water quality technology field. Students will utilize the knowledge, skills and techniques learned in the program at an approved work station under the guidance of the program instructor and employer. Prerequisite(s): Complete ENVHEL-111 and ENVHEL-115.

ENVHEL-142 Credits: 3**Principles of Water Resources**

This course is the study of water and its uses which includes: the history; types of surface water and groundwater sources; water quality; federal, state and local legislation; water conservation; and emerging water issues affecting human health and the environment.

ENVHEL-143 Credits: 3**Interpersonal Communication Skills and Environmental Management**

Instruction is provided to develop and/or enhance people skills essential to an environmental manager. Students will observe and apply a variety of NLP strategies including conflict resolutions, recognizing people's communication patterns, and responding appropriately and effectively to those patterns. Prerequisite(s): Complete ENVHEL-111 and ENVHEL-115.

ENVHEL-145 Credits: 3**Water/Wastewater Operations – Municipal**

Operational procedures and facilities used in public water supply treatment and wastewater/water reclamation treatment are studied. Methods of establishing and maintaining hydraulic flow and techniques for chemical treatment, nutrient removal, and an overview of applicable regulations are integrated into the course. Field trips to local facilities are during class time in order to demonstrate various procedures and treatment process methods. Laboratory work may include demonstrations or hands-on testing.

ENVHEL-146 Credits: 2**Water/Wastewater Operations – Industrial**

The process basics and operational procedures for treating industrial wastewater are studied. Emphasis is placed on proper operation and maintenance, chemical

safety, sampling, remedial measures, waste minimization, recordkeeping, and typical wastewater treatment process problems encountered in both the industrial and the food and beverage industries. Prerequisite(s): Complete ENVHEL-145.

ENVHEL-173 Credits: 3**Environmental Bacteriology**

Principles dealing with microbiological organisms, with emphasis on bacteriological applications to the environmental health field, are covered in this course. Students conduct laboratory procedures utilized in the field according to standard methods. Environmental parameters include: water, milk, food, and inanimate surfaces. Interpretations of laboratory results are based on applicable standards.

EPROD – eProduction (Department: 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 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. Prerequisite(s): Completion of or currently enrolled in TV-101 and TV-181.

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. Prerequisite(s): Completion of or currently enrolled in EPROD-150.

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 non-linear editing. Students will produce and post-produce several productions of increasing complexity for multiplatform delivery as it pertains to eproduction. Prerequisite(s): Complete EPROD-151.

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 nonthreatening environment. The fundamentals of teamwork, creative applications of technology and organization are emphasized. Job search techniques and job site observations also are discussed. MPTV's “College Place” initiative will serve as a practical lab for students whenever possible. Prerequisite(s): Completion of or currently enrolled in 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. Prerequisite(s): Completion of or currently enrolled in EPROD-153.

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 via air, web, podcasting, social media, etc. Students produce a selected multimedia project and deliver it via these various media outlets. An eye toward future technologies and techniques is emphasized, encouraging students to challenge existing views and develop innovative new solutions. Prerequisite(s): Completion of or currently enrolled in EPROD-153 and EPROD-154.

FIN – Financial (Department: 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 construe 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): Complete FIN-110 or ACCTG-111, 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): Complete 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. Emphasis is placed on interpreting and analyzing financial statements under different business structures and financing decisions. Course takes an analytical approach around balance

sheet and the impact business decisions have on it. Prerequisite(s): Complete ACCTG-113 and ACCTG-122.

FIRE – Fire Protection Technician (Department: 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): Complete 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): Complete FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192 and FIRE-193.

FIRE-142 Credits: 4

Firefighting Principles

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): Complete FIRE-143, FIRE-191, FIRE-192, FIRE-193. Completion of or currently enrolled in FIRE-153.

FIRE-143 Credits: 3

Building Construction for Fire Protection

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 also are covered.

FIRE-144 Credits: 2

Advanced Firefighting Principles

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): Complete FIRE-142 and FIRE-153.

FIRE-151 Credits: 4

Fire Prevention

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): Complete FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-153 Credits: 1

Hazmat Awareness and Operations

Examines characteristics relating to hazardous materials including problems of recognition and mitigation. Prepares students to Hazardous Materials Awareness and Operations Level. Prerequisite(s): Complete FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-154 Credits: 2

Hazmat Chemistry

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 Credits: 3

Strategies, Tactics and Incident Management

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): Must be admitted to the Fire Protection Technician (10-503-2) program.

FIRE-157 Credits: 3

Fire Investigation

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): Complete FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192 and FIRE-193.

FIRE-191 Credits: 2

Principles of Emergency Services

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 Credits: 3

Principles of Emergency Services Safety and Survival

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 Credits: 3

Fire Protection Systems

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 Credits: 3

Fire Protection Hydraulics

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): Complete FIRE-193.

FIRE-195 Credits: 3

Fire Behavior and Combustion

This course explores the theories and fundamentals of how and why fires start, spread and are controlled.

FLANG – Foreign Language (Department: 802)

FLANG-101 Credits: 1

Survival Spanish for Law Enforcement Officers

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 Credits: 1

Spanish for Dental Staff

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 post-operative problems.

FLANG-105 Credits: 1

Spanish for Nursing

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 health belief systems.

FLANG-107 Credits: 1

Survival Spanish – Work and Travel America

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-109 Credits: 1

Spanish for Business Professionals

Upon completion of the program, participants will be able to use Spanish to greet people; engage in etiquette and social niceties; introduce oneself and others; count to 2,000; compliment people, food and drink; order food and drink; give directions to a cab driver; register in a hotel; make simple purchases; request emergency assistance; and make and receive telephone calls.

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): Complete 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

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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): Complete 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): Complete 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): Complete FLANG-201, 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): Complete 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): Complete 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): Complete FLANG-205.

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): Complete 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): Complete FLANG-214 or satisfactory MATC placement test score.

FLANG-219 Credits: 1 **Spanish Immersion/Special Topics**

Spanish immersion: music and culture in Mexico is for students at beginning proficiency (completion of at least one semester of college-level Spanish or the equivalent). Students at higher levels can also benefit. With 16 hours of immersion, your Spanish will improve through conversation, games and activities.

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): Complete 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-mid level of written and spoken Spanish. Prerequisite(s): Complete 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): Complete FLANG-262 or consent of instructor.

FUNERL – Funeral Service (Department: 528)

FUNERL-104 Credits: 2 **Funeral Service Field Experience I**

Students currently enrolled in Semester 1 of the Funeral Service program will be placed in a participating funeral home establishment for a total of eight hours per week to gain hands-on experience in all facets of funeral directing. Required tasks will include embalming under the supervision of a licensed funeral director, cosmetizing, observing arrangement conferences, assisting with conducting services and any other related tasks in funeral service. Report submissions will be required of students throughout the term of the class documenting their tasks and progress. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program.

<p>FUNERL-105 Credits: 2 Funeral Service Field Experience II Students currently enrolled in Semester 2 of the Funeral Service program will be placed in a participating funeral home establishment for a total of eight hours per week to gain hands-on experience in all facets of funeral directing. Required tasks will include embalming under the supervision of a licensed funeral director, cosmetizing, observing arrangement conferences, assisting with conducting services and any other related tasks in funeral service. Report submissions will be required of students throughout the term of the class documenting their tasks and progress. Prerequisite(s): Complete FUNERL-104, FUNERL-110, FUNERL-112, FUNERL-114 and FUNERL-116. Must be admitted to the Funeral Service (10-528-1) program.</p>	<p>situations with medicolegal implications. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program.</p> <p>FUNERL-116 Credits: 4 Funeral Service Practices Focus on duties and responsibilities of the funeral director relating to funeralization from the first notification of death through final disposition of the deceased, with emphasis on procedures for various religious customs as practiced in America. Also covered are military and fraternal funeral practices, and creating nontraditional, personalized funerals. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program.</p> <p>FUNERL-117 Credits: 4 Funeral Service Management Basic principles of business organization and management are covered, then applied to funeral establishments and operations. Small business management including starting a business, funeral home business models, pricing, marketing, and employee/employer relations. Detailed focus on casket and outer burial container construction, merchandising and presentation. Required simulation arrangement conference conducted by each student to demonstrate thorough understanding of planning a funeral, interpersonal communication skills, laws and merchandise is assessed. Prerequisite(s): Complete FUNERL-112 and FUNERL-116.</p>	<p>FUNERL-122 Credits: 1 National Board Exam Prep II This online course is a continuation of National Board Exam Prep I, addressing new content areas with weekly guided review and extensive testing practice of funeral service technical course curriculum and National Board Exam content areas. Simulation board exam experiences will be provided to mitigate high-stakes test anxiety and to determine overall board readiness. Prerequisite(s): Must be in their last semester of the Funeral Service (10-528-1) program, or graduate of any ABFSE-accredited mortuary science program. Completion of or currently enrolled in FUNERL-105, FUNERL-117, FUNERL-120, FUNERL-132 and FUNERL-153 or graduate of the program.</p>
<p>FUNERL-106 Credits: 3 Thanatochemistry Offers an in-depth study of the basic principles of chemistry as they relate to funeral service. Emphasis is on the chemical principles and precautions involved in preservation and disinfection of the dead human body. Discussion includes aspects of general chemistry, organic chemistry and biochemistry.</p>	<p>FUNERL-120 Credits: 4 Restorative Art Discusses the principles of restorative art as they relate to funeral service. The course focus is on the techniques of restoring and recreating an acceptable physical appearance of the deceased. Proportional relationships, the anatomical structure of the facial area of the human skull, wax modeling, color theory, lighting and cosmetic principles are presented along with sequence, materials and legal aspects for major restoration. Students practice restorative art in laboratories provided by the college. Prerequisite(s): Complete BIOSCI-177 or BIOSCI-189. Must be admitted to the Funeral Service (10-528-1) program.</p>	<p>FUNERL-131 Credits: 4 Embalming Theory The basics of the embalming process and study of the phenomenon of death in the human body, government regulations applicable to the embalming process, embalming analysis and reports. Also discussed are embalming techniques and instrumentation procedures and treatments for handling the deceased, embalming difficulties encountered due to disease and pathological changes, autopsied and procurement cases, organ and tissue donation cases, and various conditions encountered in the dead human body. Students will practice embalming in laboratories provided by or approved by the college. Prerequisite(s): Complete NATSCI-138 or BIOSCI-177. Must be admitted to the Funeral Service (10-528-1) program.</p>
<p>FUNERL-110 Credits: 2 Introduction to Funeral Service An orientation to the funeral service profession and the value of a funeral. This course surveys the history of funeral service and how it has influenced contemporary funeral principles and practices. Also emphasized is ethics of a funeral director, both professionally and personally. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program. Completion of or currently enrolled in FUNERL-116.</p>	<p>FUNERL-121 Credits: 1 National Board Exam Prep I This online course will provide weekly guided review and extensive testing practice of general funeral service curriculum and National Board Exam content areas while identifying students' learning styles and reinforcing test-taking strategies. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program, or graduate of any ABFSE-accredited mortuary science program. Completion of or currently enrolled in FUNERL-104, FUNERL-110, FUNERL-112, FUNERL-114, FUNERL-116 and FUNERL-131 or graduate of the program.</p>	<p>FUNERL-132 Credits: 3 Funeral Service Science Discusses the study of the morphology, taxonomy, physiology, transmission and control of microbes, especially those which cause disease in humans. The process of infectious disease and defense mechanisms of disease will be covered. Prerequisite(s): Must be admitted to the Funeral Service (10-528-1) program. Complete FUNERL-131.</p>
<p>FUNERL-112 Credits: 3 Laws, Rules and Regulations of Funeral Service The study of principles and rules governing the practice of mortuary science as they relate to practitioners and establishments. Topics include the federal laws, Wisconsin statutes and local laws as they relate to human remains, final disposition, public health, liability and regulatory compliance. Also studied are torts, contracts, wills, probate, and preneed funeral arrangements. Prerequisite(s): Complete BADM-160 or BADM-165. Must be admitted to the Funeral Service (10-528-1) program.</p>	<p>FUNERL-122 Credits: 2 National Board Exam Review This course will be offered online as an accelerated review of course material that will be covered on the National Board Exam for Funeral Directors. It is intended for students who have successfully completed the Funeral Service program at Milwaukee Area Technical College or from any other accredited program for funeral service. Emphasis will be placed on reviewing either the arts or science portion of the National Board Exam, based on the needs of the student.</p>	<p>FUNERL-140 Credits: 2 National Board Exam Review This course will be offered online as an accelerated review of course material that will be covered on the National Board Exam for Funeral Directors. It is intended for students who have successfully completed the Funeral Service program at Milwaukee Area Technical College or from any other accredited program for funeral service. Emphasis will be placed on reviewing either the arts or science portion of the National Board Exam, based on the needs of the student.</p> <p>FUNERL-153 Credits: 3 Psychology of Funeral Service Basic principles and theories of psychology and counseling are covered as they relate</p>

to funeral service, with emphasis on the psychological and sociological value of the funeral. All aspects of grief, both normal and complicated, are addressed, along with many related factors such as family structure, cause and manner of death, and societal influences. Effective verbal and nonverbal communication skills are applied to the role of the funeral director. Prerequisite(s): Complete PSYCH-199 or PSYCH-231. Must be admitted to the Funeral Service (10-528-1) program.

GENST – General Studies (Department: 890)

GENST-204 Credits: 3
College Success Seminar

Course provides learners with strategies to develop tools for success in college and life. Students learn academic and research skills. Students will develop strategies, behaviors and habits that lead to success in personal responsibility, goal setting, self-motivation, self-management, interdependence, and multicultural awareness. Learners will apply self-management techniques, explore financial management strategies, practice study skills, and apply methods to improve personal effectiveness.

GEOSCI – Geological Science (Department: 806)

GEOSCI-112 Credits: 3
Principles of Sustainability
See description at selfservice.matc.edu.

GEOSCI-232 Credits: 3
Earth Science

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.

GEOSCI-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.

GEOSCI-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. Consult instructor or department chairperson for specific content. This laboratory should only be taken in conjunction with, or subsequent to, GEOSCI-232.

GEOSCI-243 Credits: 3

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.

GEOSCI-244 Credits: 1

Weather Fundamentals Laboratory

This laboratory course complements GEOSCI-243 (Weather Fundamentals) by providing additional investigations involving real-time data and satellite images, plus a comprehensive range of critical-thinking exercises.

GEOSCI-245 Credits: 4

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.

GEOSCI-246 Credits: 3

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.

GLOBAL – Global Studies (Department: 140)

GLOBAL-113 Credits: 1
International Field Studies - 1

Emphasizes the importance of integrating international awareness in the student's program. Students explore the facets of the international environment examining ethical, cultural, social and organizational similarities and differences.

GLOBAL-115 Credits: 3
International Field Studies

Emphasizes the importance of integrating international awareness in the student's program. Students explore the facets of the international environment examining ethical, cultural, social and organizational similarities and differences.

GRDS – Graphic Design (Department: 201)

GRDS-103 Credits: 3
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.

GRDS-104 Credits: 3

Researching and Concepting

Successful graphic design needs careful planning and research before ideas are explored. In this course, students will experience the professional design process from clarification of the client's objective, to analysis and research of visual reference and contemporary trends, to implementation of the final comprehensive design. Prerequisite(s): Complete GRDS-103.

GRDS-107 Credits: 3

Digital Imaging: Adobe Photoshop

This course is an introduction to digital imaging in Adobe Photoshop as it applies to design and illustration. Students learn digital color correction, retouching, image manipulation, special effects, image composing and creative design techniques. Differences between raster and vector graphics are discussed. Students also learn how to manage files, optimize images for print output and multimedia applications.

GRDS-110 Credits: 3

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): Complete GRDS-115.

GRDS-111 Credits: 3

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): Complete GRDS-107.

GRDS-112 Credits: 3

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): Complete GRDS-121.

GRDS-113 Credits: 3**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): Complete GRDS-129.

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**Integrated Design Thinking**

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): Complete GRDS-110.

GRDS-117 Credits: 3**Packaging Design**

This course focuses on seeing and designing in three dimensions for product packaging, point of purchase display (POP) 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): Complete 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): Complete 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 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): Complete GRDS-103.

GRDS-129 Credits: 3**Motion Graphic Design**

An advanced layout and production course addressing motion graphic design. Students prepare concepts to finished pieces for digital distribution. Topics covered include design technique for time-based media through a variety of mediums. Prerequisite(s): Complete GRDS-110.

GRDS-153 Credits: 3**Portfolio Assessment**

In this course, students will learn portfolio preparation and presentation, networking and establishing contacts, job interviewing skills, résumé writing, completing job applications and follow-up. Guest speakers will add professional insight. Prerequisite(s): Complete GRDS-116.

HEALTH (Department: 501)**HEALTH-101 Credits: 3****Medical Terminology**

Focuses on the component parts of medical terms: prefixes, suffixes and word roots. You will practice formation, analysis and reconstruction of terms. Course emphasis on spelling, definition and pronunciation. It provides an introduction to operative, diagnostics, 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-109 Credits: 1**Advanced Nutrition for Health Professionals**

The Advanced Nutrition for Health Professionals course is designed to provide students with a background in the healthcare profession and in nutrition that will allow them to discuss nutrition with their patients in relationship to prevention, health promotion and wellness.

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 1500 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, the emergence of the sectional controversy leading to the Civil War, and the period of Reconstruction that followed.

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 BC 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 instruction 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-226 **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-227 **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-228 **Credits: 3**
World History to 1500

This course examines global history for antiquity to 1500 C.E. It explores from 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-229 **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-231 **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-232 **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 their rich and diverse multiethnic and multicultural heritage in the backdrop of Wisconsin's seasonal array of natural beauty, wonderlands and festivals.

HIST-236 **Credits: 3**
History of the Vietnam War Years

This course examines the American experience in the Vietnam War. It will deal with the roots of the conflict in French colonialism in Southeast Asia and the containment principles of U.S. foreign policy, and traces the course of the war through the Kennedy, Johnson and Nixon administrations. It also examines the domestic political response to the war, and the literature produced by Vietnam veterans.

HIT – Health Information Technology (Department: 530)

HIT-159 Credits: 3

Healthcare Revenue Management

Prepares learners to compare and contrast healthcare payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign payment classifications with entry-level proficiency using computerized encoding and grouping software. Prerequisite(s): Complete HIT-162, HIT-182, HIT-197 and HIT-199. Must be admitted to the Health Information Technology (10-530-1) or the Medical Coding (30-530-2 or 31-530-2) program.

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): Complete 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. 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): Complete HEALTH-101. Completion of or currently enrolled in HEALTH-107.

HIT-163 Credits: 3

Healthcare Stats and Analytics

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): Complete HEALTH-107 and 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): Complete HEALTH-107 and 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): Complete HIT-197 and HIT-199. 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 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): Complete HIT-162 and 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): Complete HIT-162.

HIT-182 Credits: 3

Human Disease for the 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): Complete BIOSCI-177, BIOSCI-189 or both BIOSCI-201 and BIOSCI-202, and HEALTH-101. With 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): Must be admitted to the Medical Coding (30-530-2) or the Health Information Technology (10-530-1) program. Complete HEALTH-101, HEALTH-107 with minimum grade of C. Complete either BIOSCI-177, BIOSCI-189 or BIOSCI-201 and BIOSCI-202 with minimum grade of C.

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): Must be admitted to Health Information Technology (10-530-1) or Medical Coding (31-530-2) program. Complete HIT-165. Completion of or currently enrolled in HIT-161, HIT-164 and HIT-166.

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): Complete BIOSCI-177, BIOSCI-189 or BIOSCI-201 and BIOSCI-202, HEALTH-101 and HEALTH-107 with minimum grade of C. Must be admitted to the Medical Coding (31-530-2) or the Health Information Technology (10-530-1) 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): Complete BIOSCI-177, BIOSCI-189, or BIOSCI-201 and BIOSCI-202, HEALTH-101 and HEALTH-104 with minimum grade of C. Must be admitted to the Medical Coding (31-530-2) or the 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.

<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>HORT-114 Credits: 3 Survey of 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.</p>	<p>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.</p>	<p>HORT-127 Credits: 3 Arboriculture 1: Tree Care Fundamentals 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.</p>
<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>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 Landcare Network (PLANET).</p>	<p>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): Complete HORT-122.</p>	<p>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.</p>
<p>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.</p>	<p>HORT-124 Credits: 2 Landscape Design 3 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): Complete HORT-123.</p>	<p>HORT-132 Credits: 2 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.</p>
<p>HORT-119 Credits: 3 Landscape Construction 1 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.</p>	<p>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.</p>	<p>HORT-133 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.</p>
<p>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</p>	<p>HORT-134 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 is the main focus.</p>	

HORT-140 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-141 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): Complete HORT-140.

HORT-142 Credits: 2

Introduction to Organic Vegetables/Culinary Herbs

Identification and cultural requirements of culinary herbs and cool- and warm-season vegetables suitable for growing in Wisconsin are studied. Attention is given to bed layout and preparation, propagation, planting techniques, maintenance and harvesting. Special consideration is given to urban agriculture including contained-space gardening containers, vertical cropping and rooftop gardens.

HORT-152 Credits: 3

Greenhouse Production – Spring

Students will grow spring greenhouse crops from propagation, transplanting, fertilization, 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 Credits: 2

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 Credits: 2

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. Prerequisite(s): Complete HORT-114 or HORT-158.

HORT-161 Credits: 2

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. Prerequisite(s): Complete HORT-114 or HORT-158.

HORT-162 Credits: 3

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. Prerequisite(s): Complete HORT-159.

HORT-163 Credits: 3

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 Credits: 2

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 plant health-care system of control.

HORT-193 Credits: 3

Native Plants – Spring

This course teaches landscaping with native plants through on-site 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 – Hospitality Management (Department: 109)

HOTEL-105 Credits: 3

Hospitality Marketing, Sales and Revenue Strategy

This course takes a practical perspective in introducing students to marketing, sales, and revenue management of hotels and restaurants. The course identifies trends, market segmentations in the industry, and the concept of revenue management.

HOTEL-110 Credits: 3

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 Credits: 3

Front Office Computerized Procedures

Provides an overview of the informational needs of lodging properties and food service

establishments; addresses essential aspects of computer systems, such as hardware, software and generic applications. The course focuses on computer-based property management systems for both front office and back office functions, and examines features of computerized restaurant management systems. Describes hotel sales computer applications, revenue management strategies and accounting applications. The course also focuses on managing information systems, and examines the impact of the internet and private intranets on the hospitality industry. Students also learn basic tasks on a mock reservation system such as making a reservation, group reservation, travel agent reservation and looking up availability. Students will learn the basic operation of Cvent and also become Cvent certified.

HOTEL-120 Credits: 3

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 Credits: 3

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 Credits: 3

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-127 Credits: 3

Fundamentals of Meetings and Special Events

This course provides the Hotel/Hospitality Management student with the overall concept of conventions, weddings, and catering sales and their contracts, including coordination of functions, to achieve the ultimate result – a satisfied customer.

HOTEL-130 Credits: 1

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): Complete INTRN-796 with minimum grade of C.

HOTEL-133 Credits: 3**Supervision in the Hospitality Industry**

The course is designed to provide students with the principles of supervision as they apply specifically to the hospitality industry: To identify the role of the supervisor in hospitality operations; to describe the communication skills essential for effective leadership; to understand the effect of labor shortage, Equal Employment Opportunity laws, sexual harassment, cultural diversity, substance abuse, and working with employee unions.

HOTEL-135 Credits: 3**Hospitality Professional Service and Development**

In this course, students will be able to identify the difference between excellent and poor customer service, along with how to anticipate guest needs in order to provide exceptional service and build rapport. Students will be able to define and demonstrate what professionalism means in the hospitality industry. After the completion of this course, students will have the opportunity to become Guest Service Gold Certified from the American Hotel and Lodging Association.

HOTEL-150 Credits: 2**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 Credits: 3**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, privacy issues, and summarizing legal issues facing contemporary human resource professionals.

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, and celebrates 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, which 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 return on investment and value-added of training initiatives, and the impact on overall strategic goal achievement.

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: 1**Human Resources Information Systems**

Students learn to use the integrated human resource information components of available software systems to perform human resource database tasks related to administration, performance management, compensation, recruitment and more. In a series of exercises, students process HR information related to groups of employees as these employees move through the application, selection, promotion and retirement phases of employment. Prerequisite(s): Complete HRMGT-193 with minimum grade of C.

HSM – Healthcare Services Management (Department: 530)

HSM-129 Credits: 3

HR Management in HCOs

In this course, learners will be introduced to employment-related functions and practices healthcare organizations utilize to develop and maintain an effective workforce while complying with local/federal laws. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3) program.

HSM-130 Credits: 3

Health Services Coordination 1

This course is an introduction to health services coordination. Learners will examine healthcare-based clerical and systems coordination, communication support functions, facilitate the use of technology, and customer service interactions. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-131 Credits: 3

Health Services Coordination 2

This course is a continuation of the health services coordination skills learned in HSM-130 (Health Services Coordination 1). Students will be introduced to the functions and services offered by patient care areas, as well as ancillary departments providing diagnostic, treatment and support within diverse healthcare environments. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-132 Credits: 3

Health Services Applications

In this course, learners will utilize electronic health records (EHR) simulation and case study-based practical learning to apply health services coordination theoretical concepts, skills and functions within diverse healthcare environments. Prerequisite(s): Must be admitted to Healthcare Service Management (10-530-3) or Health Unit Coordinator (30-510-2) program. Instructor consent required.

HSM-139 Credits: 4

Bioethics, Human Research Practice and Compliance

Learners investigate the Human Research Protection Program (HRPP) to ensure the rights, welfare and privacy of all individuals participating in biomedical and/or behavioral studies. Topics include: foundations and concepts of Institutional Research Board (IRB) practices, legal constructs, operational functions and documentation practices. Students also will be introduced to quantitative and interpretive research methods, as well as bioethical applications and case studies. Prerequisite(s): Instructor consent required.

HSM-143 Credits: 3

Healthcare Quality Management

This course investigates various quality improvement methodology utilized within healthcare organizations to increase patient care outcomes, safety and satisfaction. Students will explore benchmarking, outcome measures such as Continuous Quality Improvement, Deming's models, Six Sigma and Lean initiatives. Prerequisite(s): Must be admitted to Healthcare Services Management (10-530-3) program. Instructor consent required. Completion of or currently enrolled in HSM-146.

HSM-144 Credits: 3

Introduction to the Business of Healthcare

Students are introduced to the business aspects of healthcare through case study/project-based learning. Topics include: organizational culture, leadership styles, managed care, patient education, documentation practices and reimbursement systems. Prerequisite(s): Instructor consent required. Must be admitted to the Healthcare Services Management (10-530-3) program.

HSM-145 Credits: 3

Healthcare Law, Ethics and Professional Standards

Student will investigate federal/local health-related legislation, HIPAA, Patient Bill of Rights, EMTALA, the informed consent process, ethical and professionalism scenarios, as well as service-centered delivery standards and other related topics. Prerequisite(s): Must be admitted to the Healthcare Services Management (10-530-3) program. Instructor consent required.

HSM-146 Credits: 4

Leadership in Healthcare Organizations

This course prepares student to investigate healthcare service 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 required. Must be admitted to the Healthcare Services Management (10-530-3) program. Completion of or currently enrolled in HSM-143.

HUMSVC – Human Services (Department: 520)

HUMSVC-101 Credits: 3

Introduction to Human Services

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): Must be admitted to the Human Service Associate (10-520-3) program. Completion of or currently enrolled in HUMSVC-144.

HUMSVC-102 Credits: 3

Interviewing Skills

Students will practice and refine mastery of effective interviewing skills relevant to a wide range of human service practices. Prerequisite(s): Complete HUMSVC-101 and HUMSVC-144.

HUMSVC-103 Credits: 3

Group Work Skills

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): Complete HUMSVC-101 and HUMSVC-144.

HUMSVC-104 Credits: 1

Field Preparation

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): Complete HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-113 and HUMSVC-144. Completion of or currently enrolled in HUMSVC-115.

HUMSVC-106 Credits: 4

Advanced Field Experience

Advanced Field Experience must be taken concurrently with HUMSVC-107, Field Experience Seminar. Students are assigned to a community human service agency where they work 20 hours per week under the joint supervision of the agency and MATC field supervisors. Advanced Field Experience is designed to enhance the knowledge, skills and behaviors essential for human service workers in the professional setting. Students apply the material from their coursework to a real work situation. Prerequisite(s): Complete HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-104, HUMSVC-113 and HUMSVC-115. Completion of or currently enrolled in HUMSVC-107.

HUMSVC-107 Credits: 2

Field Experience Seminar

Field Experience Seminar must be taken concurrently with HUMSVC-106 Advanced Field Experience. This seminar provides the opportunity for students to discuss their field placement experiences and engage in consultation, networking and problem-solving. Students develop a strong knowledge base of community human service agencies and resources. Prerequisite(s): Complete HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-104, HUMSVC-113, HUMSVC-115 and HUMSVC-144. Completion of or currently enrolled in HUMSVC-106.

HUMSVC – HVAC2 DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

HUMSVC-113 Credits: 3

Documentation and Recordkeeping

Students will practice techniques involved with maintaining clinical records, documentation of referrals, staffing and consultations. Prerequisite(s): Complete HUMSVC-101 and HUMSVC-144.

HUMSVC-115 Credits: 3

Methods of Social Casework

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): Complete HUMSVC-102, HUMSVC-103 and HUMSVC-113. Completion of or currently enrolled in HUMSVC-104.

HUMSVC-118 Credits: 3

Introduction to Gerontology

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 Credits: 3

Family Issues and Interventions

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 Credits: 3

Disabilities and the Helping Profession

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 Credits: 3

Multicultural Competence in Human Service Profession

Students learn to build a foundation of culturally competent social work/human service practices that enable them to work effectively with diverse populations. Students develop skills through the acquisition of knowledge and awareness of various groups, cultures and lifestyles.

HUMSVC-144 Credits: 3

Ethics in the Human Service Professions

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): Must be admitted to the Human Service Associate (10-520-3) program. Completion of or currently enrolled in HUMSVC-101.

HVAC1 – Air Conditioning, Refrigeration and Heating (Department: 401)

HVAC1-300 Credits: 4

Basic Refrigeration/System Operations

Theory and principles of refrigeration, and includes practical lab work. Students perform such skills as tube bending, flaring, soldering and brazing. The pressure, temperature relationship of refrigerants and pressure/enthalpy 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 regulations.

HVAC1-301 Credits: 4

Introduction to Refrigeration 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 EPA procedures. Service and troubleshooting of small hermetic, commercial and central air conditioning systems are covered. Prerequisite(s): Complete 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 all 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 that 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): Complete HVAC1-325.

HVAC1-332 Credits: 2

Math for Heating, Ventilation, Air Conditioning and Refrigeration Service Technician

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): Complete 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): Complete HVAC2-110 and 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): Complete 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 multitype systems. Prerequisite(s): Complete HVAC2-110 and 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): Complete 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): Complete HVAC2-116 and 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): Complete HVAC2-116 and 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): Complete 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): Complete 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, troubleshooting and repair of heat pump equipment. Prerequisite(s): Complete HVAC1-300 or HVAC2-115.

HVAC2-149 Credits: 1

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 job-site 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): Complete HVAC2-109, HVAC2-110, HVAC2-113, HVAC2-114, HVAC2-115 and HVAC2-120. Consent of instructor is required.

HVAC2-150 Credits: 2

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): Complete HVAC-114 or ELECTY-396 and ELECTY-398.

HYDPNU – Hydraulics Pneumatics (Department: 419)

HYDPNU-330 Credits: 5

Basic Hydraulics/Pneumatics

Students will be introduced to the basic principles of hydraulics and pneumatics, along with some of the basic components used in each system. This includes their principles of operation and more common problems. Some of the components covered are: pumps, compressors, directional control valves, actuators, fluid conditioning devices, pressure control valves, conductors and sealing devices.

HYDPNU-336 Credits: 4

Fluid Power Circuits

This course begins with instilling an understanding of hydraulic/pneumatic circuits and their schematic symbols. Building on those skills, students then explore electrically/electronically relay logic circuits and their components. The student builds skills through written and hands-on lab assignments designed to simulate real-world systems and the skills to install and troubleshoot them.

HYDPNU-338 Credits: 4

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.

INDSGN – Interior Design (Department: 304)

INDSGN-100 Credits: 3

Introduction to Interior Design

Course presents an overview of the field of interior design. Course will cover the principles and elements of design. Pencil and ink sketching techniques will be explored to obtain a comfort level with loose drawing 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, both manual and digital methodology.

INDSGN-102 Credits: 3

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 Credits: 3

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 Credits: 3

Materials and Furniture Design

This course will explore appropriate material and furniture selections and specifications including sustainable solutions. Exploration will include quality construction and design applications used in the furniture industry.

INDSGN-108 Credits: 3

Residential Studio

This course will explore residential planning guidelines and safety codes. Student 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): Complete INDSGN-102.

INDSGN-110 Credits: 3

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 also will be introduced and explored as a method of communicating design. Prerequisite(s): Complete INDSGN-102.

INDSGN-113 Credits: 3

Textiles: Science, Application and Design

This course will cover fiber and yarn composition as it relates to woven goods. Students will learn appropriate material specification per application based on textile, fiber and yarn properties. Emphasis will be placed on upholstery and applied use, as well as textile design including exploration of warp, weave, pattern and color.

INDSGN-114 Credits: 3

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): Complete INDSGN-100.

INDSGN-116 Credits: 3

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): Complete INDSGN-102.

INDSGN-118 Credits: 3

Commercial Studio

This course will explore the contract 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): Complete INDSGN-102.

INDSGN-120 Credits: 1

Interior Design Internship

This course will explore basic professional business practices including ethics and standards of the interior design profession. Students will explore various types of design employment and develop a working résumé and cover letter. In addition, the student will observe and participate in work experience under the supervision of faculty in the Interior Design program. Prerequisite(s): Complete INDSGN-110 and INTRN-796 with minimum grade of C.

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 relate 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 compliance 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): Complete 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): Complete INDSGN-102.

INDSGN-128 Credits: 3

Designer/Client Relationships

This course will focus on presentation selling 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-131 Credits: 3

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 works and will participate in a series of mock interviews. Prerequisite(s): Complete INDSGN-110.

INDVTS – Individual 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): Complete INTP-126 with 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): Complete INTP-127 with 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): Complete INTP-128 with minimum grade of C or instructor consent.

IT – Information Technology (Department: 107)**IT-107 Credits: 3****Social Networking and Business Communications**

This course is an introduction to social media, communication and collaboration tools utilized professionally in a business environment. Students will learn to set up, use and support these tools. Emphasis will be placed on proper business communication, development of a personal résumé, and the implementation of a professional persona using social media that supports work within the information technology field.

ITDEV – IT Development/ Programming (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): Complete 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): Complete ITDEV-110.

ITDEV-117 Credits: 3**Logic and Problem-Solving**

This course presents a formal approach to logical thinking and problem-solving using mathematical and programming logic structures. For students to think logically and solve problems, they need to think abstractly. This means to use logically valid forms of argument, both direct and indirect, to derive new results from those already known to be true. This course will teach these mathematical and programming logic structures in context with fundamental object-oriented programming principles. MATC strongly recommends that students take this course concurrently with ITDEV-110 Introduction to Object-Oriented Programming.

ITDEV-140 Credits: 3**Programming With Java**

Using the latest Java SE Development Kit, students will learn and apply Java programming language to create both console and graphical user interface applications. Topics explored include data types, decisions, loops, methods, data structures, I/O, exceptions, object-oriented

skills, user interfaces, and the use of relational databases. Successful completion of ITDEV-110 prior to enrollment in the class is required or instructor's permission. Prerequisite(s): Complete ITDEV-110.

ITDEV-149 Credits: 3**Data Reporting**

Introduces database querying and reporting using leading tools and frameworks. Learners will design, create and publish reports that access diverse datasets using a variety of tools including Crystal Reports and Microsoft SQL Reporting Services. Additional topics include SQL, report distribution, data analysis, data security, and ethical handling of sensitive data.

ITDEV-150 Credits: 3**Database Management With SQL**

This is a fundamental course in database concepts, design and implementation involving the relational database model. Students will create, query and update relational databases using Structured Query Language (SQL).

ITDEV-154 Credits: 3**Data Structures and Programming**

This course focuses on advanced data structures used in programming. Students will solve problems by using advanced data structures such as trees, queues, stacks, linked lists and heaps. MATC strongly recommends that students complete ITDEV-115, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): Complete ITDEV-121, ITDEV-140, or ITDEV-185.

ITDEV-160 Credits: 3**Web Programming With Scripts (JavaScript)**

This course teaches students how to build websites that interact with the user by means of client-side scripts. HTML and CSS techniques are used for page formatting. Programming in JavaScript with jQuery is used to create interactive webpages.

ITDEV-161 Credits: 3**Web Programming 1**

This course covers interactive web programming using AJAX, APIs, PHP, MySQL and Angular JS. Students publish their pages to a web server. Prerequisite(s): Complete ITDEV-160.

ITDEV-162 Credits: 3**Client/Server and eCommerce Implementation**

Students will investigate the theory and concepts of client/server implementations with advanced database concepts and practices including the use of both of these technologies in the development of electronic commerce sites. MATC strongly recommends that students complete ITDEV-150 and ITDEV-177, or have the equivalent skills, prior to enrollment in this course.

ITDEV-164 Credits: 3

Web Programming 2

The student will create websites that use more advanced properties of the ASP.NET tools used in ITDEV-162. The student will learn how to deploy and set up websites using the Internet Information Server. Advanced material in PHP also will be covered. Prerequisite(s): Complete ITDEV-161.

ITDEV-177 Credits: 3

Systems Analysis and Design

This course will teach techniques and approaches to develop new software systems efficiently and effectively. It will introduce the phases that a project must undergo from inception to completion, as well as the various methodologies that can be employed to properly manage a project. It also will identify the skills and team members required to successfully develop and launch the new system. Prerequisite(s): Complete ITDEV-150.

ITDEV-181 Credits: 3

Mobile Application Development

Students will learn how to create applications for mobile devices expanding upon concepts presented in ITDEV-140 Programming With Java. Topics include XML, widgets, lists, menus, file and database access, as well as communicating with the internet. Prerequisite(s): Complete ITDEV-140.

ITDEV-182 Credits: 3

Hybrid Mobile App Development

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-base services will be explored. Prerequisite(s): Complete ITDEV-181.

ITDEV-184 Credits: 3

iPhone and iOS Mobile App Development

Students will learn the basics of the iPhone SDK including user interface design, multiview applications, table views, navigation controllers, data persistence, drawing, taps and touches, using libraries and localization. Students will develop several basic iPhone applications that provide the foundations of developing more advanced applications. Students will learn Objective-C and Swift programming languages while creating applications for Mac OS interfaces. MATC strongly recommends that students complete ITDEV-185 or have prior Mac OS experience before enrolling in this course.

ITDEV-185 Credits: 3

Advanced OO Programming

This course is the third of a four-course sequence focusing on the object-oriented programming paradigm. The focus of this

course will be the C programming languages (C, C++ and Objective-C). Students see the similarities and differences of popular procedural and OOP languages while problem-solving. Emphasis is on algorithms, data structure and software engineering. Topics include header files, pointer data types, encapsulation, abstraction, inheritance and polymorphism, as well as introduction to design patterns. Prerequisite(s): Complete ITDEV-115.

ITDEV-198 Credits: 1

Internship

A cooperative training program involving actual work experience. Students obtain a position at an approved work station and work under the supervision of a teacher-coordinator. Prerequisite(s): Complete INTRN-796.

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 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 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+)

Network Communications 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 some 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-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 OS); 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 in 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): Complete 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): Complete 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-154 Credits: 3**Scripting for Network Administrators**

Successful network administrators use scripting languages to automate the configuration of clients, servers and cloud environments. Students will learn about the Python and PowerShell scripting languages. Python will be used to learn the fundamentals of variables, mathematical operators, logical operators, conditionals, loops, functions and error handling. PowerShell will be used to learn the administration and automation of Windows servers and clients. Topics include: scripting, pipelines, formatting, variables, remote PowerShell, data types, looping, comparison operators, and how to run/edit scripts. Students should complete ITNET-112, or have equivalent skills, prior to enrolling.

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**Network Specialist Internship**

Students enrolled in this course complete an internship involving actual work experience or a networking capstone project. The internship requires students to obtain an instructor-approved IT position and work under the supervision of a manager/coordinator. The networking capstone project requires students to 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 student complete or enroll in ITNET-134, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): Complete INTRN-796 with minimum grade of C.

ITNET-199 Credits: 2**Integrated Project – Network Specialist**

The Integrated Project course 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 through the implementation, demonstration and documentation of capstone project, and display overall comprehension of their program. MATC strongly recommends that students complete or enroll in ITNET-198, or have the equivalent skills, prior to enrolling in this course.

ITSEC – IT Information Security Systems (Department: 150)**ITSEC-106 Credits: 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-114 Credits: 3**Information Security Principles**

This course is designed to give students a broad knowledge of information security while addressing the five phases of security: inspection, protection, detection, reaction and reflection. Students learn to analyze the most critical risks and threats, define an information security strategy and architecture, and plan for and respond to

intruders. The 10 domains of the CISSP certification and Windows workstation security are covered. Students in online sections of this course have access to a virtual server to complete the required lab work.

ITSEC-120 Credits: 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 building security devices, are also 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 Credits: 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 Credits: 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 ITNET-101, or have the equivalent skills, prior to enrollment in this course.

ITSEC-126 Credits: 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 Credits: 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 Credits: 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 Credits: 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 Credits: 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 developing 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 Credits: 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 AirConnect 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 Credits: 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 Credits: 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-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 its use in cellular evidence. Students will learn the ability to utilize forensics tools to conduct analysis of mobile devices; in addition, to be able to create evidence case report. Prerequisite(s): Complete 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 also will 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 such as data hiding, encryption, advanced Windows registry, steganography and password recovery. Prerequisite(s): Complete 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 2**

Students will explore the field of professional computing, information technology and information systems security by working in a real work environment, and apply 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): Complete INTRN-796 with minimum grade of C.

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-101

Credits: 3

Computer Information Systems Fundamentals

Students will learn the concepts and terms to enable them to better understand the role of information technology, careers for computer professionals, basics in computer hardware, software and networking, as well as the internet in business and society. A brief overview of the history of information technology, as well as strategic future direction are discussed. Topics include technology trends that affect computing and everyday life such as concerns for data security, personal privacy online safety, controversy over digital rights management, open source software, and smartphone and tablet devices and more. In addition, coverage of the latest release of Microsoft Windows and Office will introduce you to exciting, new features of next-generation consumer and enterprise software. The course is a combination of lecture discussion and hands-on lab assignments.

ITSUP-102

Credits: 3

CompTIA A+ Essentials and IT Technician

This course prepares students for the CompTIA A+ Certification exam. Students will work on hands-on labs that build and configure computers; replace parts; install and configure operating systems and troubleshoot hardware, software, networking and security problems. Additional topics and hands-on activities include multithreading, UEFI, disk and memory management, virtualization, mobile devices, laptops, OS software updates and optimization, managing device drivers, and virus protection.

ITSUP-103

Credits: 1

IT Documentation

Designing effective documents and visuals in the IT world is a key objective of this course. Whether it is Microsoft, Google or other cloud resources, students will determine the best tool to produce quality, technical support documentation. Establishing the purpose of the communication, identifying the audience, and then creating a well-written and illustrated response will be addressed.

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 70-65) 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 IPv6 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 the latest version 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-111

Credits: 3

CompTIA A+ Software Support

This course prepares students for the CompTIA A+ Software Certification Exam. Students will work on hands-on labs to install and configure operating systems including Windows, iOS, Android, Apple OS X and Linux. They also will learn security, the fundamentals of cloud computing and operational procedures.

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.

ITSUP-150

Credits: 3

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, replace batteries, LCD, broken lens, cameras and touch screens. Course also teaches students the concepts of data transfer and recovery, jailbreaking, and cellphone locking and unlocking.

ITSUP-152

Credits: 3

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.

ITSUP-153

Credits: 3

Mobile Device Administration

This course prepares students for managing mobile devices in the enterprise including smartphones, tablets and laptops. Students will gain skills required to understand and research capabilities of mobile devices and features of over-the-air technology. Students will learn device administration for the iOS and Android mobile platforms. Students also will learn how to deploy, integrate, support and manage a mobile environment ensuring proper security measures are implemented for devices while maintaining usability. This course is a combination of lectures and hands-on exercises with physical mobile devices, virtual mobile operating systems, and mobile device management (MDM) services.

ITSUP-155

Credits: 3

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 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.

ITSUP-177

Credits: 3

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, learn

about 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.

ITSUP-197 Credits: 3
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.

ITSUP-198 Credits: 1
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): Complete INTRN-796 with minimum grade of C.

ITSUP-199 Credits: 1
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)**

LOGMGT-105 Credits: 3
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.

LOGMGT-106 Credits: 3
eCommerce Logistics

The continued double-digit growth of ecommerce 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 omnichannel 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.

LOGMGT-144 Credits: 3
Production Planning and Inventory Control

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.

LOGMGT-146 Credits: 3
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-164 Credits: 3
Supply Chain Management

This course provides the student with an overview to supply chain management. Topics covered in the course include transportation, distribution, customer relationship management, supplier management, forecasting, Just In Time, inventory management, Total Quality Management and facilities management.

LOGMGT-170 Credits: 3
Procurement

Includes an analysis of 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 Credits: 3
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 documentations. Management and selection of international transportation modes and associated regulations are explained.

LOGMGT-190 Credits: 3
Logistics

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 Credits: 3
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. Prerequisite(s): Complete LOGMGT-105, LOGMGT-144, LOGMGT-146, LOGMGT-164, LOGMGT-170, LOGMGT-184 and LOGMGT-190.

**MACHTL – Machine Tool
 (Department: 420)**

MACHTL-300 Credits: 3
Engine Lathe 1 (Turning)

Course offers basic instruction for turning operations on an engine lathe. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Instruction includes using basic hand tools, layout, performing bench work, part inspection, safety and job organization. Detailed information will be given on lathe setup, controls, tooling, workholding and general operational guidelines. Upon completion of the course, student will be able to set up and operate an engine lathe and produce parts that require basic turning operations in a chuck, as well as basic turning between centers.

MACHTL-301 Credits: 3
Engine Lathe 2 (Turning)

Course offers more advanced instruction for performing chucking operations on an engine lathe. Instruction is based on Machining Level 1 skill standards established by National Institute for Metalworking Skills. Safety, part inspection, shop and job organization, job planning and proper turning procedures will be presented. Student will learn to set up and operate an engine lathe and produce parts that are more advanced. Instruction also provided for using basic hand tools, performing bench work, and off hand grinding on a pedestal grinder. Prerequisite(s): Complete MACHTL-300.

MACHTL-304 Credits: 1

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. The 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 Credits: 3

Manual Vertical Milling Machine 1

This course offers basic instruction for machine operations on a manual vertical milling machine. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Items of instruction will include using basic hand tools, part layout, part inspection, bench work, safety and job organization. Detailed information will be given on milling machine setup, controls, tooling, workholding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a manual vertical milling machine producing square parts with drilled and tapped holes. 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 Credits: 3

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. Safety, part inspection, shop and job organization, job planning and proper machining procedures will be presented. Detailed information will be given on milling machine setup and operation to produce parts requiring slots, steps, bored and reamed holes. In addition to working on the manual vertical milling machine, the student also will learn how to set up and perform multiple operations on a drill press. Prerequisite(s): Complete MACHTL-309.

MACHTL-320 Credits: 4

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. Prerequisite(s): Complete MACHTL-301.

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 student produces parts to print specifications from programs developed on their own. Prerequisite(s): Complete 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 workholding. 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, workholding 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.

MACHTL-348 Credits: 3

Single Spindle Automatic Screw Machine 2

This course offers more advanced instruction on the operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the setup of screw machine tooling used for box milling, knurling internal and external threading, and 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 more operations. Prerequisite(s): Complete MACHTL-347.

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, workholding 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): Complete 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): Complete 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 workholding 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, workholding 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): Complete 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): Complete 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): Complete 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): Complete 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): Complete MACHTL-386.

MACHTL-391 Credits: 1

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): Complete MACHTL-360.

MASON – Bricklaying and Masonry (Department: 408)

MASON-190 Credits: 1

Current Topics in Masonry

This course explores current topics and trends in the masonry and bricklaying fields. Students may participate in hands-on demonstration 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 Credits: 5

Fundamental Bricklaying

This course provides training in laying bricks and blocks, with application to straight walls, corners and jamps. 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 (30-408-2) program.

MASON-303 Credits: 5

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. Must be admitted to the Bricklaying (30-408-2) program.

MASON-306 Credits: 5

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): Complete MASON-303.

MASON-308 Credits: 1

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 (30-408-2) program.

MASON-310 Credits: 5

Advanced Masonry Techniques 2

A hands-on course covering construction of arches, brick panels and stonework for various bonds and arches. Practical work is given in layout for arches, panels and stonework. The cutting of brick and stone is practiced. Glass block and thin veneer techniques are taught. Prerequisite(s): Complete MASON-306.

MASON-356 Credits: 2

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): Must be admitted to the Bricklaying (30-408-2) program. Completion of or currently enrolled in MASON-300.

MASON-357 Credits: 2

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. Arches, fireplaces, grouting and flashing techniques, along with hot- and cold-weather masonry construction, are studied. Prerequisite(s): Complete MASON-356.

MATH – Mathematics (Department: 804)

MATH-107 Credits: 3

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): Complete MATGEN-109 with minimum grade of C, or satisfactory Math placement test score.

MATH-113 Credits: 3

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): Complete MATGEN-110 with minimum grade of C, or satisfactory MATC placement test score.

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): Complete MATH-113 with 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): Complete MATGEN-110, MATH-107, MATH-134 or MATH-135 with 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): Complete MATH-114 or MATH-115 with 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): Complete MATGEN-109 with minimum grade of C, or satisfactory MATC placement test score.

MATH-134 Credits: 3

Mathematical Reasoning

All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental and health issues that require quantitative reasoning skills. An activity-based approach is used to explore numerical relationships, graphs, proportional relationships, algebraic reasoning and problem-solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course may be used as the first of a two-part sequence that ends with Quantitative Reasoning as the capstone general education math requirement.

MATH-135 Credits: 3

Quantitative Reasoning

This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction and interpretation of graphs; descriptive statistics; geometry and spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation, and available technology will be emphasized throughout the course.

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-114, 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): Complete 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): Complete MATH-107, MATH-134 or MATH-135 with minimum grade of B.

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): Complete MATH-200 with 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, DeMoiivre's Theorem, polar coordinates and vectors. Learning involves extensive use of a graphing calculator. Prerequisite(s): Complete MATH-201 with 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): Complete 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): Complete MATH-116 or MATH-200 with a minimum grade of B, or satisfactory MATC placement test score.

MATH-211 **Credits: 5**

Analytic Geometry and Calculus 1

Limit topics include continuity, trig functions, logarithms, infinite limits and limits at infinity. Derivative topics include the chain rule, implicit differentiation, related rates, approximations, higher order derivatives, extremum and other applications of the derivative. Integration topics include sums, antiderivatives, the Fundamental Theorem of Calculus, areas and the definite integral, and integration by substitution. Differential equations topics include growth and decay, and basic separation of variables. The course includes appropriate mathematical notation, trigonometric function and transcendental functions with optional coverage of hyperbolic functions. Prerequisite(s): MATH-202 or MATH-230 with 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 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): Complete MATH-231 with minimum grade of C.

MATH-233 **Credits: 5**

Analytic Geometry and Calculus 3

A continuation of MATH-232. Topics include vectors, geometry of space, vector valued functions, partial derivatives, multiple integrals and vector analysis. Extensive use of the graphing calculator is required. Prerequisite(s): Complete MATH-232 with minimum grade of C.

MATH-234 **Credits: 4**

Differential Equations/Linear Algebra

Topics include elementary differential equations, vectors, matrices, linear transformations, quadratic forms, Eigen values and applications. Extensive use of the graphing calculator is required. Prerequisite(s): MATH-232 or MATH-233.

MATH-260 **Credits: 3**

Basic Statistics

Studies appropriate statistical techniques for the systematic collection, presentation, analysis and interpretation of data. Studies statistical inference including sampling techniques, confidence intervals, type I and II errors, hypothesis testing and results interpretation. Also includes descriptive statistics, basic probability theory, the Central Limit Theorem, probability distributions, linear regression, correlation and sample sizes. May require use of a graphing calculator or computer software. Lecture. Prerequisite(s): Complete MATH-200 with minimum grade of C, or satisfactory MATC placement test score.

MATH-275 **Credits: 3**

Math Exploration for Elementary Teachers 1

This course is intended for students enrolled in the Teacher Education Track (TET). Topics include theory of arithmetic of whole numbers, fractions and decimals. Also includes an introduction to algebra, estimation and problem-solving strategies. Prerequisite(s): MATH-134.

MATH-276 **Credits: 3**

Math Exploration for Elementary Teachers 2

A continuation of MATH-275; geometry, statistics and probability. Prerequisite(s): Complete MATH-275 with minimum grade of C.

MATH-304 **Credits: 1**

Math Principles 1

Topics include a review of operations with numbers, fractions, decimals, calculator skills, formulas, percents and measurement conversions. Applications are related to technical diploma programs.

MATH-308 **Credits: 2**

Math for Industrial Applications 1

Concepts in basic algebra, along with principles of plane geometry are studied. Emphasis is placed on calculating dimensions and angles of geometric figures related to industrial occupations. Prerequisite(s): Satisfactory math placement score required.

MATRLS – Materials Technology (Department: 613)

MATRLS-102 **Credits: 3**

Material Testing

This lab/lecture course defines properties of engineering materials and then performs tests to measure these properties. ASTM procedures are examined and applied to many of the tests. Tests performed include hardness, tensile, impact, shear, compression, creep and bend testing. The course also covers failure modes such as fatigue and corrosion.

MATRLS-105 **Credits: 2**

Statistical Process Control

This lecture course teaches the basic concepts of quality control and statistical process control (SPC). Histograms, normal distributions, control charts (including \bar{x} and R, moving range, p and np) and process capability are covered. These tools are applied to common applications in manufacturing and service industries.

MATRLS-108 **Credits: 2**

Principles of Metallography

This lab/lecture course studies the microstructures of common ferrous alloys (steels and cast irons) and their relationship to chemical composition, thermal cycles and mechanical properties. Phase diagrams are used to understand microstructures. Lab methods covered include sample preparation, microscopic and macroscopic examination, and photography. Prerequisite(s): Complete MATRLS-151.

MATRLS-110 **Credits: 2**

Fundamentals of Heat Treatment of Metals

This lab/lecture course studies the microstructure and property changes that occur during heat treatment of steel and cast iron and relates these changes to the iron-carbon phase diagram. Treatments performed include hardening, tempering, normalizing, annealing and surface hardening. Lab work also includes hardness testing and some metallography.

MATRLS-151 **Credits: 3**

Metallography and Material Science

This lecture/demonstration course studies engineering materials (metals, plastics, ceramics and composites). Topics include refining and recycling of metals, classification and uses of steels, cast irons, nonferrous alloys, plastics, material properties, phase diagrams, heat treatment, corrosion and solidification. Atomic structure and nanotechnology are discussed.

MCDESG – Mechanical Design Technology (Department: 606)

MCDESG-102 **Credits: 3**

Technical Drafting 1

This course is designed to provide the principles of drafting, as well as an introduction to computer-aided drafting. Geometric constructions, sketching, orthographic projection, section views, dimensions (without tolerances) and primary auxiliary views are covered in this course. Prerequisite(s): Completion of or currently enrolled in CIVIL-102.

MCDESG – MDRAFT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MCDESG-104 Credits: 3

Technical Drafting 2 With CAD

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. Prerequisite(s): Complete MCDESG-102. Completion of or currently enrolled in MCDESG-114.

MCDESG-106 Credits: 3

Advanced Engineering Graphics

This course focuses on advanced engineering graphics concepts utilizing SolidWorks. Instruction includes advanced detailing of parts and assemblies bill of materials, parametric equations, tables and spreadsheets. This course will emphasize GD&T in the relationship between parts and fits calculations between mating parts such as gears, bushings, keys, retaining rings and fasteners. Prerequisite(s): Complete MCDESG-104, MCDESG-114 and CIVIL-105.

MCDESG-112 Credits: 3

Tool Design

This course is designed to give the mechanical design student knowledge in the design of simple jigs and fixtures, gauges and dies, using two- and three-dimensional design. Prerequisite(s): Complete MCDESG-106 and MCDESG-114.

MCDESG-114 Credits: 2

SolidWorks 1

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-116 Credits: 3

Design Elements

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): Complete MCDESG-106, MCDESG-130 and CIVIL-105.

MCDESG-118 Credits: 3

Kinematics

This course covers the displacement, velocity and acceleration of four bar linkages, slider-cranks, crank-shapers and compound mechanisms using graphical and analytical methods. Also covered are cam displacement diagrams, profiles, gear trains and epicyclics. Prerequisite(s): Complete MCDESG-104 and CIVIL-105 and MATH-116 or MATH-202. Completion of or currently enrolled in MCDESG-106.

MCDESG-120 Credits: 1

Basic AutoCAD

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.

MCDESG-124 Credits: 2

SolidWorks 2

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): Complete MCDESG-114.

MCDESG-125 Credits: 3

Design Problems

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 and define the scope, the path of the completion of the projects, perform necessary computations and complete all working drawings. Prerequisite(s): Complete MCDESG-106, MCDESG-114 and MCDESG-130. Completion of or currently enrolled in MCDESG-116.

MCDESG-130 Credits: 3

Strength of Materials

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): Complete MCDESG-160.

MCDESG-133 Credits: 2

Inventor 1

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.

MCDESG-134 Credits: 2

Inventor 2

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): Complete MCDESG-133.

MCDESG-135 Credits: 2

PTC Creo (Pro/E) 1

This course introduces parametric solid modeling using PTC Creo (Pro/E). Students are introduced to modeling skills for creating parts, assemblies, detailed drawings and rapid prototyping techniques.

MCDESG-145 Credits: 2

PTC Creo (Pro/E) 2

This course introduces advanced 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): Complete MCDESG-135.

MCDESG-160 Credits: 3

Statics

Statics is the study of forces on and in structures that are at rest. Forces, vectors, resultants, moments, couples, equilibrium, free-body diagrams, friction, centroids and centers of gravity, and shear and moment diagrams are covered. Prerequisite(s): Completion of or currently enrolled in MATH-116 or MATH-202.

MCDESG-162 Credits: 2

Engineering Materials

This course emphasizes engineering materials and processes used in manufacturing. Fundamentals include the properties and structure of materials for manufactured goods, such as ferrous and nonferrous metals and alloys, plastics, composites and ceramics, and the selection of materials for various functions. Casting and form casting processes, mold casting, powder metallurgy, and metal and nonmetal fabrication processes are included.

MCDESG-163 Credits: 2

Machining Processes

This course introduces machining processes used in manufacturing such as turning, milling, grinding, CNC, water jet cutting, EDM, punch press, welding, drilling, reaming and tapping. The course emphasizes best practices in mechanical design and design for manufacturability. Labs are integral to the course and expose the student to the various manufacturing processes and practices.

MDRAFT – Mechanical and Computer Drafting (Department: 421)

MDRAFT-320 Credits: 1

Coordinate Blueprint Reading

Instruction is given in the interpretation of CNC coordinate piece part drawings. Students translate standard engineering drawings into coordinate drawings used in the programming of CNC machine tools. Prerequisite(s): MDRAFT-386.

MDRAFT-385 Credits: 1

Machine Blueprint Reading 1

This course covers the basic principles essential for visualization and training in the interpretation of blueprints and freehand sketches of simpler machine parts. Emphasis

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is placed upon orthographic projection principles and pictorial drawing.

MDRAFT-386 Credits: 1

Machine Blueprint Reading 2

Instruction is offered in the interpretation of blueprints that show job procedure methods and their relation to drafting. Attention is given to representations of common machine processes, special forms of dimensioning, sections, and other advanced drafting and design principles. Prerequisite(s): MDRAFT-385.

MEDAST – Medical Assistant (Department: 509)

MEDAST-301 Credits: 2

Medical Assistant Administrative Procedures

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): Must be admitted to the Medical Assistant (31-509-1) program. Completion of or currently enrolled in HEALTH-107.

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): Complete HEALTH-101. 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): Must be admitted 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): Complete HEALTH-101. 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): Complete 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): Complete 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): Complete MEDAST-302. 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): 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): Complete HEALTH-101, MEDAST-301,

MEDAST-302, MEDAST-304, MEDAST-306 and MEDAST-303 or CLABT-303. Completion of or currently enrolled in MEDAST-305, MEDAST-307 and MEDAST-309.

MEDINT – Medical Interpreter (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): Must be admitted 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. Explore selected materials including patient information, medical journal articles and medicolegal 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

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.

MEDINT-111 Credits: 3

Applied Medical Interpretation 3

Through a variety of experiences such as job shadowing, role playing and practice, this course provides students with entry-level experiences in interpreting skills. Expands professional insights as students share and analyze fieldwork experiences. Prerequisite(s): Completion of or currently enrolled in MEDINT-110.

MEDINT-112 Credits: 3

Dual Language Enhancement for Healthcare Providers

This course highlights fundamental skills of written and oral language for healthcare professionals. Coursework includes composition, public speech and reading comprehension in the English and Spanish language. Prerequisite(s): Must be admitted to the Medical Interpreter (31-538-1) program.

MEET – Meeting and Event Planning (Department: 109)

MEET-116 Credits: 2

Fundamentals of Green Meetings

This course provides students with a solid foundation of what is a green meeting, commonly used terminology and how to execute a socially responsible and environmentally responsible meeting or event. Through a green lens, students will explore core strategies and principles in planning a green meeting. Further focus includes green tools and resources available to plan a green meeting.

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): Complete MEET-180 and 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 guest rooms from blocks. Prerequisite(s): Complete 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): Complete MEET-151.

MEET-184 Credits: 3

Risk Management and Crisis Planning

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): Complete MEET-180.

MFGMNT – Manufacturing Maintenance (Department: 462)

MFGMNT-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, student learning materials for theory and lab. The 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.

MFGMNT-352 Credits: 2

Mechanical Drives 1

Mechanical Drives 1 introduces mechanical systems and develops fundamental knowledge of mechanical systems and practices. Covers basic safety, installation, key fasteners, power transmission systems, V-belt drives, chain drives, spur gear drives and multiple shaft drives. Topics covered include learning how to select, install, adjust, troubleshoot and repair a range of mechanical systems that are commonly found in both automated and manual machines used in every industry around the world.

MFGMNT-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 is heavy-duty chain drives, which describes silent chain drives, multiple-strand systems, chain selection, chain lubrication, chain maintenance and troubleshooting. Prerequisite(s): Complete MFGMNT-352.

MFGMNT-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. Mechanical Fabrication 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, 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 to 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-170 Credits: 1

Supervisory Leadership 1

In Supervisory Leadership 1, the learner applies the skills and tools necessary to fulfill his/her 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.

MGTDEV-171 Credits: 1

Supervisory Leadership 2

In Supervisory Leadership 2, the learner applies the skills and tools necessary to fulfill his/her 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.

MGTDEV-172 Credits: 1

Supervisory Leadership 3

In Supervisory Leadership 3, the learner applies the skills and tools necessary to fulfill his/her 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.

MGTDEV-173 Credits: 1

Supervision 1

In Supervision 1, the learner applies the skills and tools necessary to perform the functions of a frontline leader. Each learner will demonstrate 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-174 Credits: 1

Supervision 2

In Supervision 2, the learner applies the skills and tools necessary to perform the functions of a frontline leader. Each learner will demonstrate 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-175 Credits: 1

Supervision 3

In Supervision 3, the learner applies the skills and tools necessary to perform the functions of a frontline leader. Each learner will demonstrate 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-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 his/her 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; omnichannel retailing, retail formats, merchandise management, technology in retail and the rise of Amazon. Competitive strategies will be discussed. Prerequisite(s): Complete MKTG-102.

MKTG-107 Credits: 3

Customer Experience

Course covers the skills needed to deliver an exceptional customer experience, build customer relationships, the use of technology to improve the customer experience, 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, 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 fixturing, display locations and merchandise presentation.

MKTG-124 Credits: 3

Fashion Merchandising and Marketing

Merchandising fashion goods – men’s, women’s, 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-125 Credits: 3

Advertising: Brands and Campaigns

Examine advertising’s role in the marketing landscape by exploring topics such as investigating how research influences decisions, creating a creative strategy, developing creative ideas and pieces, and selecting media channels.

MKTG-134 Credits: 3

IMC Management

Introduces students to the concepts of Integrated Marketing Communication. 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

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-145 Credits: 3

Special Event Management

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-151 Credits: 1

Business Career Management

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 Credits: 3

Digital Marketing

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 Credits: 3

Marketing Research/Analytics

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 Credits: 1

Marketing Internship

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 Marketing Management or Fashion/Retail. Prerequisite(s): Complete MKTG-151 or INTRN-796 with minimum grade of C.

MKTG-198 Credits: 3

Visual Media Marketing

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 Credits: 1

Computer Applications for the Medical Laboratory

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): Must be admitted to the Phlebotomy (30-513-1) program. Completion of or currently enrolled in HEALTH-107, CLABT-110 and CLABT-111.

MLABT-166 Credits: 3

Phlebotomy Clinical Experiences

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.

MTLFAB – Metal Fabrication (Department: 457)

MTLFAB-300 Credits: 5

Metal Fabrication 1

Basics of metal fabrication, safety, production, measuring, hand tools and layout. Instruction using power shears, forming brakes, drilling equipment, iron worker and various power saws. Proficiency in fabrication through related projects. Prerequisite(s): Instructor consent is required.

MTLFAB-301 Credits: 3

Metal Forming and Press Brake

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 Credits: 4

Advanced Cutting Techniques and Applications

Enhancing metal fabrication skills and techniques utilizing CNC equipment. Prerequisite(s): Instructor consent is required.

MTLFAB-303 Credits: 5

Metal Fabrication 2

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.

MTLFAB-304 Credits: 4

Fixturing

Design and create devices for locating, holding and supporting a workpiece during the manufacturing operation. Students will utilize various lab equipment and welding processes to create fixtures that can be used to make parts with repeatability. Prerequisite(s): Instructor consent is required.

MTLGY – Metallurgy (Department: 422)

MTLGY-301 Credits: 1

Basic Heat Treatment of Metals

This course is designed to provide information related to steel types, alloying elements and microstructure as they relate to the heat treatment of steel. Lab work includes heat treating (hardening, tempering, normalizing and annealing), hardness testing and tensile testing.

MTLGY-321 Credits: 1

Metallurgy 1

This course gives an introduction to metals commonly used to manufacture products. It describes the properties and applications of steels, cast irons, aluminum alloys and other common nonferrous metals. It covers the AISI/SAE specifications for steel and

common nonferrous metals, including aluminum and copper alloys. Lab work includes hardness testing, tensile testing and common heat treatments used with steel.

MUSIC (Department: 805)

MUSIC-101 Credits: 2

Music Business

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 Credits: 1

Major Instrument 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 Credits: 1

Major Instrument 2

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): Complete 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): Complete 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): Complete 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 will 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): Complete 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): Complete 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): Complete 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, maintain and develop 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): Complete MUSIC-150.

MUSIC-119 Credits: 1

Music Ensemble 4

A continuation of Combo 1 with the continued study and performance of improvisation, reading music notation, ear training, and reading chord charts and lead sheets. Performance is on the intermediate to advanced level. Prerequisite(s): MUSIC-141.

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): Complete 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 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 the 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 the 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): Complete 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.

MUSIC-147 Credits: 1

Songwriting 2

This course is a continuation of Songwriting 1. Students will hone the art and craft of songwriting and will develop a more sophisticated approach to writing lyrics, melody, harmony and form. The process of song arrangement will be discussed and emphasized in more detail in this second part of the course. The challenge of writing songs in various genres and for specific commercial purposes will be explored. Prerequisite(s): Complete MUSIC-107.

MUSIC-148 Credits: 2

Music Fundamentals 1

An introduction to the building blocks of music: reading, notation, keys, scales and chords.

MUSIC-150 Credits: 4

Music Theory

This introductory course presents fundamental music theory. The following topics are presented: the study of intervals; major and minor tonality; scale construction; diatonic triads; harmonic function; figured bass, four-voice chorale; voice leading and chord voicing; figured brass, chord inversion; tonal and structural organization in music; seventh chords and simple/compound meter. This class uses lecture, workbook exercises, sight singing and dictation.

MUSIC-151 Credits: 4

Music Theory 2

This course involves the application of knowledge acquired in Music Theory as it relates to harmony and harmonic progression. Our objective is to develop skills in fundamental to advanced harmonizing within the modern musical idioms. Prerequisite(s): Complete MUSIC-150.

MUSIC-152 Credits: 3

Composition 1

Students learn to write original compositions for commercial and artistic purposes (film, radio, concert, etc.). Compositional styles covered include classical, jazz, pop, Latin and serial composition, radio and television. Prerequisite(s): Complete MUSIC-151.

MUSIC-153 Credits: 3

Composition 2

Students compose, orchestrate and record in various musical styles using computers, digital keyboards, sequencing and music notation software. Prerequisite(s): Complete MUSIC-152.

MUSIC-158 Credits: 1

Orchestration 1

Students will learn the fundamentals of orchestration (arranging) for small ensembles from jazz combo to small chamber orchestra. Students will orchestrate original works and classic examples from the literature for live players or digital orchestra. Students will learn instrumental ranges, transpositions and characteristics for maximum effect. Prerequisite(s): Complete MUSIC-151.

MUSIC-159 Credits: 1

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): Complete MUSIC-158.

MUSIC-162 Credits: 1

Music Ensemble 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.

MUSIC-163 Credits: 1

Music Ensemble 2

A continuation of Music 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): Complete MUSIC-162.

MUSIC-167 Credits: 1
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): Complete MUSIC-151.

MUSIC-168 Credits: 1
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 both the study of theoretical concepts, as well as practice and performance on one's chosen instrument. Prerequisite(s): Complete MUSIC-167.

MUSIC-173 Credits: 1
Music Reading

This course is designed to provide the student with the ability to read standard music notation and play music on their primary instrument. Instruction begins with the fundamental tools and terminology of music notation. It moves through simple melodies in simple rhythms and meters, and progresses to longer and more difficult melodies in more difficult rhythms and compound meters.

MUSIC-174 Credits: 2
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): Complete MUSIC-151.

MUSIC-177 Credits: 1
Piano Lab 1

A beginning piano class designed to develop skills in music reading and proper keyboard technique, as well as the functional use of scales, chords, transposition and other elements of music theory. Taught in a group class setting on Roland digital pianos. Elementary to late-elementary level.

MUSIC-178 Credits: 1
Piano Lab 2

A continuation of MUSIC-177, this class is designed to improve skills in music reading and proper keyboard technique, as well as the functional use of scales, chords, transposition and other elements of music theory. Prerequisite(s): Complete MUSIC-177.

MUSIC-181 Credits: 1
Conducting

This course will develop basic conducting skills. It will explore and develop techniques associated with historically classical instrumental and vocal conducting, as well as contemporary genres and conducting/leading a group while also playing in the group. Prerequisite(s): Complete MUSIC-152.

MUSIC-182 Credits: 3
Composition for Advertising

Composition for Advertising is a class that applies music composition skills to the area of broadcast advertising music for radio and television commercials, in-house instructional videos, convention theme songs, and variations on a melodic theme for multi-commercial campaigns, all within the confines of the predetermined guidelines of the client's specific direction. The details of running a commercial production company also will be emphasized including establishing a client base, demo writing, producing a final production, keeping good books, fee structures and pitching skills. Prerequisite(s): MUSIC-151.

MUSIC-183 Credits: 3
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): Complete MUSIC-152.

MUSIC-184 Credits: 2
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): Complete MUSIC-174.

MUSIC-185 Credits: 1
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. The student will perform simple music examples in class on their instrument.

MUSIC-187 Credits: 1
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.

MUSIC-188 Credits: 1
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): Complete MUSIC-187.

MUSIC-189 Credits: 1
Voice Lab 1

Students learn basic vocal techniques and improve their singing ability through solo singing.

MUSIC-190 Credits: 1
Choir 1

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 1 is open to all MATC students and especially to anyone who would enjoy choral singing.

MUSIC-191 Credits: 3
Performance Techniques 1

Students will develop their performance abilities on their particular instrument(s). Solos or ensembles will be formed from the class. Students will learn through lecture, coaching, interactive discussion, preparing selections for performance, and performing music and non-music presentations. The class will emphasize learning to prepare adequately for successful performances, working successfully with other musicians, developing ensembles, musical arranging, improving personal technical and musical abilities, proper performance etiquette, professional work ethic and attitude, and refining playing in various styles. Prerequisite(s): Complete MUSIC-163.

MUSIC-192 Credits: 3
Performance Techniques 2

A continuation of MUSIC-191. Prerequisite(s): Complete MUSIC-191.

MUSIC-193 Credits: 1
Voice Lab 2

Students continue to develop good vocal techniques through solo singing and develop skills in sight singing. Prerequisite(s): Complete MUSIC-189.

MUSIC-194 Credits: 1
Honors 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): Complete MUSIC-192.

MUSIC-205 Credits: 3

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.

MUSIC-206 Credits: 3

History of Rock Music

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.

MUSIC-207 Credits: 3

Jazz History

This course will focus principally on America's indigenous music – jazz. Course will explore the development of this music over the last 150+ years to present. Course will explore musical, multicultural and historic perspectives, tracing the evolution of the music. Selective listening, as well as analysis of rhythmic, melodic, harmonic and form structures will be a course focus. Open elective to all majors.

MUSIC-210 Credits: 3

World Music Sound and Structure

An insightful introduction to major musical traditions of the world. This course will focus on musical sound and structure in the musical genre of sub-Saharan Africa, India, Japan, Latin America and Ireland.

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) program 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) program 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) program or the LPN-RN Progression (10-543-10) program.

NRSAD-104 Credits: 2

Nursing: Introduction to Nursing 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 Registered Nursing (10-543-1) program or the LPN-RN Progression (10-543-10) program. Completion of or currently enrolled in NRSAD-101, NRSAD-102 and NRSAD-103.

NRSAD-105 Credits: 3

Nursing Health Alterations

This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of patients through the lifespan, utilizing problem-solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It also will introduce concepts of leadership and management. Prerequisite(s): Complete NRSAD-101, NRSAD-102, NRSAD-103 and NRSAD-104. Must be admitted to the Registered Nursing (10-543-1) program or the LPN-RN Progression (10-543-10) program.

NRSAD-106 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 lifestyles 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): Complete NRSAD-101, NRSAD-102, NRSAD-103 and NRSAD-104. Must be admitted to the Registered Nursing (10-543-1) program or the LPN-RN Progression (10-543-10) program.

NRSAD-107 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): Completion of or currently enrolled in NRSAD-105 and NRSAD-106. Must be admitted to the Registered Nursing (10-543-1) program or the LPN-RN Progression (10-543-10) program.

NRSAD-108 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 Registered Nursing (10-543-1) program 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

Complex Health Alterations 1 prepares the learner to provide and evaluate care for patients across the lifespan with alterations in cardiovascular, respiratory, endocrine and hematologic systems, as well as patients with fluid/electrolyte and acid-base imbalance and alterations in comfort. Prerequisite(s): RN students complete NRSAD-105, NRSAD-106, NRSAD-107, NRSAD-108 and must be admitted to the Registered Nursing (10-543-1) program. LPN-RN Progression students complete NRSAD-191 and must be admitted to the LPN-RN Progression (10-543-10) program.

NRSAD-110 Credits: 2

Nursing Mental Health Community Concepts

This course will cover topics related to the delivery of community and mental healthcare. Specific health needs of individuals, families and groups will be addressed across the lifespan. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups. Prerequisite(s): RN students complete NRSAD-105, NRSAD-106, NRSAD-107,

NRSAD-108 and must be admitted to the Registered Nursing (10-543-1) program. LPN-RN Progression students complete NRSAD-191 and must be admitted to the LPN-RN Progression (10-543-10) program.

NRSAD-111 Credits: 3

Nursing Intermediate Clinical Practice

This intermediate-level clinical course develops the RN role when working with clients with complex healthcare needs. A focus of the course is developing skills needed for managing multiple clients across the lifespan and priorities. Using the nursing process, 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) program 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): RN students complete NRSAD-105, NRSAD-106, NRSAD-107, NRSAD-108 and must be admitted to the Registered Nursing (10-154-1) program. LPN-RN Progression students complete NRSAD-109, NRSAD-110, NRSAD-191 and must be admitted to the LPN-RN Progression (10-543-10) program.

NRSAD-113 Credits: 3

Nursing Complex Health Alterations 2

Prepares the learner to provide and evaluate care for patients across the lifespan with alterations in the immune, neuro-sensory, 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): Complete NRSAD-109, NRSAD-110, NRSAD-111 and NRSAD-112. Must be admitted to the Registered Nursing (10-543-1) program 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): Complete NRSAD-109, NRSAD-110, NRSAD-111 and NRSAD-112. Must be admitted to the Registered Nursing (10-543-1) program or the 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) program or the LPN-RN Progression (10-543-10) program. 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 works 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) program 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): Complete NRSAD-105, NRSAD-106, NRSAD-107 and 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, skills competencies and physical assessment. In addition, the nursing process, role transition and concept mapping will be presented. Prerequisite(s): Must be admitted to the Practical Nursing LPN-RN Educational Progression (10-543-10) program.

NRSNA – Nursing Assistant (Department: 543)

NRSNA-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): Must be admitted to the Nursing Assistant (30-543-1) program.

NRSPN – Practical Nursing (Department: 543)

NRSPN-301 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.

NRSPN-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.

NRSPN-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.

NRSPN-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 NRSPN-301, NRSPN-302 and NRSPN-303.

NRSPN-305 Credits: 3

Nursing Health Alterations
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of patients through the lifespan, utilizing problem-solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It also will introduce concepts of leadership and management. Prerequisite(s): Complete NRSPN-301, NRSPN-302, NRSPN-303 and NRSPN-304. Must be admitted to the Practical Nursing (31-543-1) 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 lifestyles 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): Must be admitted to the Practical Nursing (31-543-1) program. Completion of or currently enrolled in NRSPN-301, NRSPN-302, NRSPN-303 and NRSPN-304.

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 (31-543-1) program. 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 (31-543-1) program. 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

Office Technologies 1
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): Complete 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 (30 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-104 Credits: 3

Budgeting Basics for Support Personnel
Students will review basic mathematical operations, and survey accounting principles

and practices with an emphasis on applying them to administrative professional tasks: payroll, bank reconciliation, budgeting and accounts payable/receivable and invoicing.

OFTECH-111 Credits: 3

Workplace Communication for Support Personnel
Students in this course study the principles, strategies and techniques of effective written, oral and digital business communication. Emphasis is placed on applying grammar and mechanics to create written messages including emails, memos, letters, reports and résumés. Students learn productive techniques for business meetings, presentations and interviews, as well as communicating professionally in an increasingly global, digital workplace.

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

Proofreading and Editing
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): Complete OFTECH-122 with minimum grade of C, and OFTECH-133.

OFTECH-128 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-129 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): Complete OFTECH-128.

OTASST – PHARMT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

OTASST – Occupational Therapy Assistant (Department: 514)

OTASST-171 Credits: 3

Introduction to Occupational Therapy

Provides an overview of history, philosophy, ethics and scope of occupational therapy practice. The course examines legal responsibilities, professional resources and organization. Students practice basic skills related to therapeutic relationships and determine their own suitability to a career in occupational therapy. Prerequisite(s): Must be admitted to the Occupational Therapy Assistant (10-514-1) program.

OTASST-172 Credits: 3

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): Must be admitted to the Occupational Therapy Assistant (10-514-1) program. Completion of or currently enrolled in OTASST-171 and OTASST-173.

OTASST-173 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): Must be admitted to the Occupational Therapy Assistant (10-514-1) program.

OTASST-174 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): Complete OTASST-171, OTASST-172 and OTASST-173.

OTASST-175 Credits: 3

Psychosocial Practice

Examines the role of the OTA 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): Complete OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

OTASST-176 Credits: 3

OT Theory and Practice

Examines the theoretical foundations that guide OT practice. Apply group dynamics and demonstrate leadership skills. Prerequisite(s): Complete OTASST-171, OTASST-172 and OTASST-173.

OTASST-177 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): Complete OTASST-171, OTASST-172 and OTASST-173.

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): Complete OTASST-171, OTASST-172 and 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): Complete OTASST-171, OTASST-172 and OTASST-173.

OTASST-184 Credits: 2

OTA Fieldwork 1

Integrate classroom theory and practice into a fieldwork Level 1 experience. Provides experiences to assist in the development of communication, professional and observational skills. Prerequisite(s): Completion of or currently enrolled 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): Complete OTASST-175, OTASST-179, OTASST-182, OTASST-183 and 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): Complete OTASST-175, OTASST-179, OTASST-182, OTASST-183 and 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 currently enrolled in OTASST-185 and OTASST-186.

OTASST-189 Credits: 4

OT Physical Rehab Practice

Explores interventions relative to major physical disability diagnoses seen in OT practice. Evaluation, treatment interventions,

assistive technology and documentation are emphasized relative to the biomechanical, neurodevelopmental and rehabilitative approaches to practice. Prerequisite(s): Complete OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

OTASST-190 Credits: 4

OT Pediatric Practice

Explores interventions relative to major pediatric diagnoses seen in OT practice. Evaluation, treatment interventions, assistive technology and documentation are emphasized within the context of the child's occupations. Prerequisite(s): Complete OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

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.

PHARMT – Pharmacy Technician (Department: 536)

PHARMT-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.

PHARMT-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.

PHARMT-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.

PHARMT – PHOTO DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PHARMT-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): Complete PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307, PHARMT-395 and HEALTH-107. Completion of or currently enrolled in HEALTH-104.

PHARMT-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.

PHARMT-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): Complete PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307 and PHARMT-395.

PHARMT-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): Complete PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307 and PHARMT-395.

PHARMT-312 Credits: 3

Pharmacy Operations Laboratory

This laboratory course applies theory through performance of technical pharmacy tasks in an institutional pharmacy setting. Prerequisite(s): Complete PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307 and PHARMT-395.

PHARMT-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): Complete PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307, PHARMT-395 and HEALTH-107. Completion of or currently enrolled in PHARMT-306, PHARMT-310, PHARMT-311 and PHARMT-312.

PHARMT-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-100 Credits: 1

Introduction to Digital Photography

Using a digital camera to create consistent and good photographs requires knowledge and understanding of complex skills. If you have little experience with your camera, these can be daunting. Setting the proper shutter speed and knowing how different aperture settings, or ISO, affect your image are critical to successful photography. Knowing how to achieve proper digital files with your camera is an important step in this process. Learn to select the right lens and to properly plan how you compose photographs. Having photographs printed will be discussed.

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 D-SLR 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 caliber, continuous-tone, digital printing systems. Prerequisite(s): Complete PHOTO-108, PHOTO-130, PHOTO-139 and PHOTO-141.

PHOTO-106 Credits: 3

View Camera Techniques

Students will 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, scanning, inkjet printing and finishing techniques. Prerequisite(s): Complete PHOTO-108, PHOTO-130, PHOTO-139 and PHOTO-141.

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): Complete 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, also are stressed. Prerequisite(s): Complete PHOTO-103, PHOTO-121, PHOTO-124 and 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 how to control subject form and tonality, and the function of the photographer as director. Both film and digital processes will be incorporated. Prerequisite(s): Complete PHOTO-108, PHOTO-130 and 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): Complete PHOTO-108, PHOTO-130, PHOTO-139 and PHOTO-141.

PHOTO-125 Credits: 2

Conceptual Photography Projects

This course will help students focus on one photographic project that will be conceived, developed and finished in book form. Students will produce a new, cohesive group of images created specifically for this class. This class is for a hobbyist, aspiring professionals, fine art photographers or professionals intending to produce a "personal" project. Prerequisite(s): Complete PHOTO-101, PHOTO-107, PHOTO-108, PHOTO-130 and PHOTO-141.

PHOTO-126 Credits: 3

Advanced Lighting

This is a study and execution of modern lighting techniques. Students learn how to apply these techniques in order to produce progressive studio work in a variety of studio situations. Prerequisite(s): Complete PHOTO-103 and PHOTO-108.

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): Complete 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): Complete PHOTO-101.

PHOTO-141 Credits: 3

Photoshop for Photographers 1

Photoshop 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

Photoshop for Photographers 2

Photoshop 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): Complete 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): Complete PHOTO-103, PHOTO-121, PHOTO-124 and 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): Complete PHOTO-108 and 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): Complete PHOTO-103, PHOTO-121, PHOTO-124 and 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): Complete PHOTO-103, PHOTO-121, PHOTO-124 and PHOTO-142, and also complete INTRN-796 with minimum grade of C.

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.

PHYED-203 Credits: 1

Hatha Yoga for Wellness 1

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.

PHYED-210 Credits: 3

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.

PHYED-221 Credits: 1

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.

PHYED-222 Credits: 1

Basketball 2

Advanced individual basketball skills are demonstrated and practiced. The course includes offense and defense strategies along with special situations and coaching techniques.

PHYED-223 Credits: 1

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 individual students have, from beginner to experienced.

PHYED-224 Credits: 1

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.

PHYED-233 Credits: 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.

PHYED-234 Credits: 1

Stretch and Stability Techniques 2

This advanced course includes increasing body awareness, improving flexibility, posture, muscular strength and mobility. This involves strategies for maintaining a full range of muscular activities with emphasis on body mechanics, flexibility, core strengthening and balance. Prerequisite(s): Complete PHYED-233.

PHYED-245 Credits: 1

Cardiopulmonary Resuscitation (CPR) and First Aid

This course develops skills needed to certify individuals in the techniques for rescue breathing, choking emergencies and other

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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.

PHYED-248 **Credits: 1** **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 is covered.

PHYED-249 **Credits: 1** **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.

PHYED-255 **Credits: 1** **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.

PHYED-256 **Credits: 1** **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.

PHYED-266 **Credits: 1** **Earth-Friendly Fitness**

In this course, students explore and participate in practical, green (Earth-friendly) physical activities that help to utilize human energy to reduce our carbon footprint from mechanical and industrial behaviors.

PHYED-268 **Credits: 1** **Fitness Walking 1**

This course introduces proper guidelines and techniques used in indoor and outdoor fitness walking. Students will learn proper walking mechanics and develop a lifelong walking program. Various forms of walking and related exercises are presented.

PHYED-269 **Credits: 1** **Fitness Walking 2**

This course offers advanced walking techniques and mechanics. Weekly training programs are developed to include distance training, hill workouts and intervals. These workouts are incorporated with an advanced lifelong walking program. Prerequisite(s): Complete PHYED-268.

PHYED-271 **Credits: 2** **ACE Personal Trainer Exam Preparation**

This course provides knowledge and practical skills in preparation for the national certification exam. Topics include safe, effective and purposeful activity guidelines, designing and implementing programs, and essentials of the client-trainer relationship.

PHYED-272 **Credits: 2** **ACE Lifestyle and Weight Management Consultant Certificate Preparation**

This course highlights essential relationships between physical activity and nutrition, and illustrates how permanent weight loss is brought about through a change in lifestyle. Topics include weight management, behavior change and physiology of obesity.

PHYS – Physics (Department: 806)

PHYS-139 **Credits: 3** **Survey of Physics**

This course emphasizes understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.

PHYS-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): Complete MATH-202 or MATH-230.

PHYS-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): Complete PHYS-221.

PHYS-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.

PHYS-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, PHYS-225.

PHYS-274 **Credits: 4** **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): Complete MATH-232 with minimum grade of C.

PHYS-275 **Credits: 4** **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): Complete PHYS-274 with minimum grade of C.

PLEGAL – Paralegal **(Department: 110)**

PLEGAL-101 **Credits: 3** **Introduction to Paralegalism**

This course offers an orientation to the American judicial system, the growth and development of the paralegal profession, ethics, and skills required to practice such as interviewing, investigation, legal reasoning and writing, and document preparation.

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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or Paralegal Studies (30-110-2) program.

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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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or Paralegal Studies (30-110-2) program.

PLEGAL-127 Credits: 3

Debtor-Creditor Law

This course examines the law of 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or 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): Complete PLEGAL-101. Must be admitted to Paralegal (10-110-1) or Paralegal Studies (30-110-2) program.

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): Complete 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): Complete 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): Complete 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/acetylene 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): Complete PLUMB-301.

PLUMB-310 Credits: 1

First Aid/Safety in Plumbing

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 Credits: 1

Computer Applications/Plumbing

This course is designed to provide students 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 Credits: 3

Criminal Evidence

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): Complete POLICE-901.

POLICE-144 Credits: 3

Law Enforcement Internship 1

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): Complete POLICE-900, POLICE-901 and POLICE-902 with minimum grade of C required.

POLICE-145 Credits: 3

Law Enforcement Internship 2

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): Complete 15 credits of POLICE coursework with minimum grade of C.

POLICE-160 Credits: 3

Contemporary Legal Issues

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 Credits: 3

Ethics in Law Enforcement

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 Credits: 3

Sensitive Crimes

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): Complete POLICE-902.

POLICE-163 Credits: 3

Interview and Interrogation

Student will learn the legal issues that define the interviewing of subjects, both 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 of persons during the interview process. Prerequisite(s): Complete POLICE-900, POLICE-902 and POLICE-905.

POLICE-164 Credits: 3

Law Enforcement Employability

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 Credits: 3

Introduction to Corrections

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 Credits: 2

Overview of Investigations

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: Constitutional Law I, Crimes I, Juvenile Law I, Interviews, Report Writing and Physical Evidence.

POLICE-381 Credits: 3

Principles of Tactics

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 Credits: 2

Application of Investigations

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 Credits: 2

Principles of Investigation

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 Wisconsin Department of Justice 720 Academy curriculum framework: Constitutional Law II, Crimes II, Domestic and Report Writing.

POLICE-384 Credits: 1

Overview of Tactics

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 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 Credits: 2

Overview of Patrol Response

Through classroom lecture and 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-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 – POWENG DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

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 and 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): Complete 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): Complete POLICE-900, POLICE-901, POLICE-902, POLICE-906, POLICE-907 and 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): Complete 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): Complete POLICE-900, POLICE-901 and 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): Complete 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 citation 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. 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.

POWENG-333 Credits: 3

Plant Maintenance and HVAC Basics

A hands-on class for repairing, maintaining and troubleshooting equipment found in commercial and industrial settings. Training includes belt drives (alignment, tension and care of belts), chain drives, fans, couplings, motor alignments, bearing removal and installation, lubrication, solenoid valves, packing, gaskets, regulating valves, piping, air compressors, pumps and other mechanical fundamentals.

POWENG-334 Credits: 1

Blueprint Reading for Power Engineering

Building blueprints are studied along with symbols and piping diagrams. Students will be able to locate and identify common building systems. Some mechanical assembly prints also will be covered.

POWENG – PTASST DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

POWENG-335 Credits: 3

Instrumentation and Controls

This course covers a wide variety of boiler and HVAC controls. Thermostats, pneumatic and electronic controls and building automation systems, pressure transmitters, thermocouples and gauges are just some of the instrumentation covered in this class.

POWENG-336 Credits: 1

Math for Power Engineers

This class contains practical applications commonly used in a variety of industries and trades. The class covers math concepts and how they are applied in boiler operation, HVAC, construction and manufacturing. Measuring in whole numbers and fractions is studied. Percentages and word problems are geared toward the everyday situations the working person finds himself/herself in. Weekly quizzes and a comprehensive final exam are part of the learning experience.

POWENG-395 Credits: 3

Electricity for Power Engineering

Basic fundamentals of electricity in the power engineering field of facility maintenance, equipment operation, and repair and power generation.

PSYCH – Psychology (Department: 809)

PSYCH-159 Credits: 3

Abnormal Psychology

The course in Abnormal Psychology surveys the essential features, possible causes, and 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.

PSYCH-188 Credits: 3

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.

PSYCH-199 Credits: 3

Psychology of Human Relations

Explores the relationship between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deepened 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.

PSYCH-230 Credits: 3

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. Prerequisite(s): Complete PSYCH-199 or PSYCH-231 or PSYCH-238.

PSYCH-231 Credits: 3

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.

PSYCH-232 Credits: 3

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): Complete PSYCH-199 or PSYCH-231.

PSYCH-233 Credits: 3

Social Psychology

This course deals with perception, attitudes, values, communication and roles with relation to the community. Various contemporary social problems are examined including racism. Emphasis is given to the sociology and psychology concerned with groups. Prerequisite(s): Complete PSYCH-199 or PSYCH-231.

PSYCH-237 Credits: 3

Child Psychology

Students are introduced to children's behavioral development from conception to adolescence. A comprehensive view of the child at each stage of growth is presented with the main focus on the interaction of heredity, physical constitution, maturation and socioenvironmental factors. Prerequisite(s): Complete PSYCH-199 or PSYCH-231.

PSYCH-238 Credits: 3

Lifespan Psychology

Lifespan Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive and psychosocial changes that affect the individual from conception to

death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others.

PSYCH-240 Credits: 3

Health Psychology

Students examine how psychosocial and behavioral factors influence health and disease processes. They also will analyze the relationship of individual and environmental factors to the development and management of specific diseases. Prerequisite(s): Complete PSYCH-199 or PSYCH-231 or PSYCH-134 or PSYCH-238.

PSYCH-270 Credits: 3

Educational Psychology

Educational Psychology is the study of how students learn, the effectiveness of particular teaching techniques, the dynamics of school populations and the psychology of teaching.

PTASST – Physical Therapy Assistant (Department: 524)

PTASST-139 Credits: 4

PTA Patient Interventions

An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant. Prerequisite(s): Must be admitted to the Physical Therapist Assistant (10-524-1) program.

PTASST-140 Credits: 2

PTA Professional Issues 1

Introduces the history and development of the physical therapy program, legal and ethical issues, the interdisciplinary healthcare team and professional communications skills. Prerequisite(s): Must be admitted to the Physical Therapist Assistant (10-524-1) program.

PTASST-142 Credits: 3

PTA Therapeutic Exercise

Provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt and assess responses to therapeutic exercises. Prerequisite(s): Complete PTASST-156 and either BIOSCI-177 or both BIOSCI-201 and BIOSCI-202.

PTASST-143 Credits: 4

PTA Therapeutic Modalities

Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA. Prerequisite(s): Complete PTASST-139 and PTASST-156.

PTASST-144 Credits: 4

PTA Principles of Neuromuscular Rehabilitation

Integrates concepts of neuromuscular pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): Complete PTASST-139, PTASST-142 and PTASST-157.

PTASST – QETECH DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PTASST-145 Credits: 4

PTA Principles of Musculoskeletal Rehabilitation

Integrates concepts of musculoskeletal pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): Complete PTASST-139 and PTASST-156.

PTASST-146 Credits: 3

PTA Management of Cardiopulmonary and Integumentary Conditions

Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): Complete PTASST-139, PTASST-142 and PTASST-157.

PTASST-147 Credits: 2

PTA Clinical Practice 1

Provides a part-time clinical experience to apply foundational elements, knowledge and technical skills pertinent to physical therapy practice. Prerequisite(s): Completion of or concurrent enrollment in PTASST-139 and PTASST-157.

PTASST-148 Credits: 3

PTA Clinical Practice 2

Provides another part-time clinical experience to apply foundational elements, knowledge and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): Complete PTASST-157.

PTASST-149 Credits: 2

PTA Rehabilitation Across the Lifespan

A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the lifespan. In addition to the PTA's role in health, wellness and prevention; reintegration and physical therapy interventions for special patient populations will be addressed. Prerequisite(s): Complete PTASST-144, PTASST-145, PTASST-146 and PTASST-148.

PTASST-150 Credits: 2

PTA Professional Issues 2

Incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communications strategies. Prerequisite(s): Complete PTASST-140 and PTASST-148.

PTASST-151 Credits: 5

PTA Clinical Practice 3

Provides a full-time clinical experience to apply foundational elements, knowledge and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): Complete PTASST-144, PTASST-145, PTASST-146 and PTASST-148.

PTASST-156 Credits: 4

PTA Applied Kinesiology 1

Introduces basic principles of musculoskeletal anatomy, kinematics and clinical assessment. Students locate and

identify muscles, joints and other landmarks of the lower quadrant in addition to assessing range of motion and strength. Prerequisite(s): Complete BIOSCI-177 or BIOSCI-201 and BIOSCI-202 with minimum grade of a B-. Must be admitted to the Physical Therapy Assistant (10-524-1) program.

PTASST-157 Credits: 3

PTA Applied Kinesiology 2

Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait. Prerequisite(s): Complete PTASST-139, PTASST-140 and PTASST-156.

QETECH – Quality Engineering Technology (Department: 623)

QETECH-116 Credits: 3

Engineering Economic Analysis

Basic financial accounting principles, cost systems, interpretation and use of accounting reports, discounted cash flow techniques, capital budgeting, return on investment, cost/benefit analysis, project selection and opportunity assessment will be covered.

QETECH-118 Credits: 3

Lean Principles

Students will identify and apply Lean tools to streamline business processes. Topic areas include Value Stream Mapping, Layout, 5S Workplace Organization, Point of Use Storage, Visual Controls, Standard Work, Cellular and Flow Concepts, Lean Culture, Pull/Kanban Systems, Error-Proofing, and Total Productive Maintenance.

QETECH-132 Credits: 3

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 problem and metric definition, project management, team dynamics, process mapping, investigative tools, process analysis and capability, and Gage R&R studies. Prerequisite(s): Complete BADM-104 or MATH-260.

QETECH-134 Credits: 3

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): Complete QETECH-132.

QETECH-138 Credits: 3

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): Complete BADM-104 or MATH-260.

QETECH-142 Credits: 3

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): Complete QETECH-132 and QETECH-134.

QETECH-144 Credits: 3

Supplier Quality Assurance

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. Students should be proficient in using the internet and Microsoft Office applications including Word, Excel and PowerPoint in this program. Those students who are not proficient in these applications should take COMPSW-106 or CIVIL-105. Prerequisite(s): Complete BADM-104 or MATH-260.

QETECH-152 Credits: 3

Six Sigma Black Belt Tools and Concepts

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, non-parametric 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): Complete QETECH-132 and QETECH-134.

QETECH-192 Credits: 1

Lean Principles 1

Students will identify and apply Lean tools to streamline business processes. Topic areas include Value Stream Mapping, Layout, 5S Workplace Organization, Point of Use Storage, Visual Controls, Standard Work, Cellular and Flow Concepts, Lean Culture, Pull/Kanban Systems, Error-Proofing, and Total Productive Maintenance.

QETECH-193 Credits: 1

Lean Principles 2

Students will identify and apply Lean tools to streamline business processes. Topic areas include Value Stream Mapping, Layout, 5S Workplace Organization, Point of Use Storage, Visual Controls, Standard Work, Cellular and Flow Concepts, Lean Culture, Pull/Kanban Systems, Error-Proofing, and Total Productive Maintenance.

QETECH-194 Credits: 1

Lean Principles 3

Students will identify and apply Lean tools to streamline business processes. Topic areas include Value Stream Mapping, Layout, 5S Workplace Organization, Point of Use Storage, Visual Controls, Standard Work, Cellular and Flow Concepts, Lean Culture, Pull/Kanban Systems, Error-Proofing, and Total Productive Maintenance.

QLTYIN – Quality Interdisciplinary (Department: 625)

QLTYIN-103 Credits: 1

MSSC – Safety

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 credential.

QLTYIN-104 Credits: 1

MSSC – Quality

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 Credits: 1

MSSC – Process

This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Manufacturing Processes online assessment. The class will concentrate on the specific content covered in the MSSC Manufacturing Processes module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Manufacturing Processes credential.

QLTYIN-106 Credits: 1

MSSC – Maintenance

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 – Radiology Technology (Department: 526)

RADT-149 Credits: 5

Radiographic Procedures 1

This course prepares radiography students to perform routine radiologic 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. Completion of or currently enrolled in BIOSCI-177 or BIOSCI-202.

RADT-158 Credits: 3

Introduction to Radiography

This course introduces students to the role of radiography in healthcare. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences. Prerequisite(s): Must be admitted to the Radiography (10-526-1) program and be CPR certified.

RADT-159 Credits: 3

Radiographic Imaging 1

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 Credits: 2

Radiography Clinical 1

This beginning-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.

RADT-174 Credits: 2

ARRT Certification Seminar

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 Credits: 1

Radiographic Pathology

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): Complete RADT-191.

RADT-190 Credits: 2

Radiography Clinical 5

This fifth-level 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-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): Complete RADT-149, RADT-158, RADT-159 and 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.

<p>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): Complete RADT-170, RADT-191 and RADT-192.</p>	<p>the performance of clinical competencies. Prerequisite(s): Complete RADT-193.</p>	<p>RADT-230 Credits: 2 Advanced Radiographic Imaging Explores the factors that impact image acquisition, display, archiving and retrieval. Guidelines for selecting exposure factors and evaluating images within digital systems are discussed. Principles of digital system quality assurance and maintenance are presented. Prerequisite(s): Complete RADT-149, RADT-158, RADT-159 and RADT-168.</p>	<p>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): Complete RDIAT-321 and HEALTH-101. Completion of or currently enrolled in RDIAT-302.</p>
<p>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.</p>	<p>RADT-231 Credits: 2 Imaging Modalities Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy. Prerequisite(s): Complete RADT-170, RADT-191 and RADT-193.</p>	<p>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): Must be admitted to the Renal Dialysis (31-517-1) program.</p>	
<p>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.</p>	<p>RBUS – Related Business (Department: 105)</p> <p>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.</p>	<p>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): Complete RDIAT-320.</p>	
<p>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): Complete RADT-194, RADT-231 and RADT-199.</p>	<p>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): Complete ENG-152 or any 200-level ENG or SPEECH course.</p>	<p>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): Complete RDIAT-321 and HEALTH-101. Completion of or currently enrolled in RDIAT-304.</p>	
<p>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.</p>	<p>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.</p>	<p>RDIAT-323 Credits: 3 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): Complete RDIAT-321 and HEALTH-101. Completion of or currently enrolled in RDIAT-302, RDIAT-304 and RDIAT-322.</p>	
<p>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</p>	<p>RDIAT – Renal Dialysis (Department: 517)</p> <p>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): Complete RDIAT-321 and HEALTH-101.</p>	<p>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 delivery system procedures in affiliating dialysis units. Prerequisite(s): Complete RDIAT-304 and RDIAT-323.</p>	

RESPC – Respiratory Therapy (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): Must be admitted to the 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 ventilator 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): Complete RESPC-172 and RESPC-175. 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): Complete 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): Must be admitted to the Respiratory Therapist (10-515-1) program. Completion of or currently enrolled in RESPC-111 and BIOSCI-177 or BIOSCI-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): Must be admitted to the Respiratory Therapist (10-515-1) program. Completion of or currently enrolled in RESPC-171.

RESPC-173 **Credits: 3**

Respiratory Pharmacology

Examines basic pharmacology principles, drug dosage and calculations. 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): Complete BIOSCI-177 or BIOSCI-202. 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): Complete BIOSCI-177 or BIOSCI-202. Must be 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 therapeutics, 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): Complete RESPC-111. 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): Complete RESPC-111. Completion of or currently enrolled in RESPC-174.

RESPC-178 **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): Complete RESPC-175.

RESPC-179 **Credits: 3**

Respiratory Clinical 3

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 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): Complete RESPC-178. Must be admitted to the Respiratory Therapist (10-515-1) program.

RESPC-180 Credits: 2

Respiratory Neonatal/Pediatric Care

Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, noninvasive and invasive therapeutic interventions. 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): Must be admitted to the Respiratory Therapist (10-515-1) program. Completion of or currently enrolled in RESPC-113.

RESPC-181 Credits: 3

Respiratory/Cardio Diagnostics

Advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine. 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): Complete RESPC-173. Completion of currently registered for RESPC-113 and RESPC-176. Must be admitted to the Respiratory Therapist (10-515-1) program.

RESPC-182 Credits: 3

Respiratory Clinical 4

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 26 (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): Must be admitted to the Respiratory Therapist (10-515-1) program. Complete RESPC-179. Completion of or currently enrolled in RESPC-113.

RESPC-183 Credits: 3

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): Must be admitted to the Respiratory Therapist (10-515-1) program. Complete RESPC-182.

RLEST – Real Estate (Department: 194)

RLEST-175 Credits: 3

Technical Writing for Home Inspectors

Students will 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.

RLEST-180 Credits: 3

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.

RLEST-181 Credits: 3

Principles of Commercial Real Estate

This course covers the broad area of commercial property, which includes retail facilities, office buildings, mini-storage and 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 building, as a real estate professional and as an investor, will be emphasized.

RLEST-182 Credits: 3

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 Credits: 3

Real Estate Broker Preparation

The course satisfies the educational requirement for the State of Wisconsin Real Estate Brokers Exam. The course 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 Credits: 3

Real Estate Mortgage Processing

The 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 Credits: 3

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 Credits: 3

Broker Management

This course plus 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. Another important area that will be covered in depth is the duties of a broker and ethics. We will look at these components considering industry standards and regulatory requirements.

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, Venting 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 (Department: 809)

SOCSCI-103 Credits: 3

Think Critically and Creatively

This course provides instruction in the vital, realistic and practical methods of thinking, which are in high demand in all occupations of substance today. Decision-making, problem-solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more are considered in depth as the student applies specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic and cultural situations. Classroom instruction is demonstration, discussion, project and teamwork based. Assignments range from short and simple to the detailed and complex. Reality and practicality are the focuses all through the course. These skills are in high demand by employers. Having this course in your background can significantly enhance your appeal as an employee. It certainly will make you a more adept and confident person.

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, 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 worldview.

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.

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 which 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 socioethical implications.

SPEECH (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 – 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): Complete BIOSCI-197 (minimum grade C+). Completion of or currently enrolled in HEALTH-101. Must be admitted to the Surgical Technology (10-512-1) program.

SURGT-126 Credits: 4

Surgical Technology Fundamentals 1

This course focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as the student moves into the scrub role. Lab practice is included. Prerequisite(s): Must be admitted to the Surgical Technology (10-512-1) program. Complete SURGT-125. Completion of or currently enrolled in SURGT-127.

SURGT-127 Credits: 2

Exploring Surgical Issues

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. Completion of or currently enrolled in SURGT-125.

SURGT-128 Credits: 4

Surgical Technology Fundamentals 2

This course focuses on enhancing surgical technology skills while functioning as a sterile team member. Lab and/or clinical practice is included. Prerequisite(s): Complete HEALTH-101 (minimum grade of C), SURGT-126 and SURGT-127. Completion of or currently enrolled in SURGT-129.

SURGT-129 Credits: 2

Surgical Pharmacology

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. Complete BIOSCI-197 (minimum grade of C+) and either BIOSCI-179 or BIOSCI-202 (minimum grade of C+). Completion of or currently enrolled in SURGT-125.

SURGT-130 Credits: 2

Surgical Skills Application

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. Completion of or currently enrolled in SURGT-128.

SURGT-137 Credits: 4

ST Clinical Practice 1

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): Complete SURGT-128 and SURGT-130. Completion of or currently enrolled in SURGT-140.

SURGT-138 Credits: 4

ST Clinical Practice 2

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Prerequisite(s): Complete SURGT-137 and SURGT-140. Completion of or currently enrolled in SURGT-141.

SURGT-139 Credits: 4

ST Clinical Practice 3

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): Complete SURGT-138 and SURGT-141. Completion of or currently enrolled in SURGT-142.

SURGT-140 Credits: 2

Surgical Interventions 1A

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): Complete SURGT-128 and SURGT-130.

SURGT-141 Credits: 2

Surgical Interventions 1B

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): Complete SURGT-140.

SURGT-142 Credits: 4

Surgical Interventions II

Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences and surgical techniques. Prerequisite(s): Complete SURGT-137 and SURGT-141.

SUSTN – Sustainability (Department: 481)

SUSTN-105 Credits: 3

The LEED Rating System

This course explores the LEED rating system, how it is being used to drive sustainable buildings, and helps prepare students for taking the LEED Accredited Professional exam.

SUSTN-154 Credits: 1

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 Credits: 1

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.

TDMKG-361 Credits: 1

Advanced Die Making Technology

This course is a continuation of the previous course, Basic Die Making Technology. This course explores the theories necessary for proper die construction of more advanced progressive, inverted and compound dies. Prerequisite(s): Complete TDMKG-360.

TDMKG-362 Credits: 1

Cavity Die Technology

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.

TDMKG-366 Credits: 1

CNC Programming 2

This course instructs students in the techniques necessary for proper construction and transmission of a computerized numerical control program via a computer-aided graphics system as it is used in the field of tool and die making. Prerequisite(s): Complete MACHTL-304.

TDMKG-367 Credits: 1

Basic CAD/CAM

Students are introduced to the basic components of a CAD/CAM system, drawing creation and editing using CAD, layering and drawing management, CAD and CAM system interface, file transfer and tool path creation using CAD files on a CAM system. Prerequisite(s): Complete TDMKG-366.

TDMKG-371 Credits: 4

Stamping Die Making 1

Skills and knowledge are developed through the production of compound die components. Die clearance, alignment and component function are taught through practical application. Conventional CNC programming skills are introduced and developed. Prerequisite(s): Complete MACHTL-301, MACHTL-304, MACHTL-310, MACHTL-320, MACHTL-322 and MACHTL-325.

TDMKG-372 Credits: 4

Stamping Die Making 2

This course is a continuation of Stamping Die Making 1 with the student mounting their compound die. Students also are required to set up the die and do a trial run in an OBI press. Components for a progressive die are machined while continuing to develop skills in CNC machining, conventional machining and surface grinding. Prerequisite(s): Complete TDMKG-371.

TDMKG-373 Credits: 4

Stamping Die Making 3

Students' knowledge increases as they complete a progressive die. They learn advanced surface grinding along with wire EDM programming, setup and operation. Die mounting skills are enhanced as they align and mount pierce, blank and cutoff punches. Prerequisite(s): Complete TDMKG-372.

TDMKG-381 Credits: 4

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 is introduced. Prerequisite(s): Complete TDMKG-373.

TDMKG-382 Credits: 4

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): Complete TDMKG-381.

TDMKG-383 Credits: 4

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): Complete TDMKG-382.

TRCKDR – Truck Driving (Department: 458)

TRCKDR-341 Credits: 3

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, 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. 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 learner permit (CLP). Student must also be enrolled in TRCKDR-342 and TRCKDR-343.

TRCKDR-342 Credits: 4

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 must also be enrolled in TRCKDR-341 and TRCKDR-343.

TRCKDR-343 Credits: 3

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): Student must be admitted to the Truck Driving (30-458-1) program.

TV – Telecasting (Department: 701)

TV-101 Credits: 4

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. Prerequisite(s): Completion of or currently enrolled in EPROD-150 and TV-181.

TV-104 Credits: 2

TV Studio/Field Set Design

Students learn techniques in planning and creating appropriate settings for digital visual capture. Utilizing MPBS studios, theaters and typical location scenarios, the students will understand how to create a proper visual environment for video. Prerequisite(s): Completion of or currently enrolled in TV-101.

TV-105 Credits: 4

TV/Video Field Production Techniques

Provides the student with a general understanding of equipment and techniques used in field-based video and television, and

their functions in visual communications and broadcasting. Prepares the student for general field, on-location and other remote production assignments. Prerequisite(s): Complete TV-101. Completion of or currently enrolled in TV-112.

TV-106 Credits: 2

Lighting, Gaffing and Gripping

This course explores and provides hands-on experience in the craft of field lighting. Students will focus on the principles, best practices and equipment used for successfully lighting non-studio, field environments for either broadcast or digital video delivery. This includes understanding, choosing and operating portable field lighting kits (both tungsten and LED), as well as learning how to troubleshoot and optimize lighting in the unpredictable environment of the field. Students will practice lighting in a variety of environments and situations, producing projects and participating in field shoots designed to showcase solid, purposeful lighting. Prerequisite(s): Complete TV-105. Completion of or currently enrolled in TV-142.

TV-107 Credits: 3

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): Must be admitted to the Television and Video Production (10-701-1) or eProduction (10-701-3) program. Completion of or currently enrolled in TV-105.

TV-108 Credits: 2

TV Studio Lighting Techniques

Students learn the basic principles and practical applications of television lighting techniques for in-studio production situations. Attention is given to television production enhancement through lighting, understanding the common tools of studio lighting, familiarization with tools, fixtures and lighting boards, the use of settings, and their design. Prerequisite(s): Must be admitted to the Television and Video Production (10-701-1) or eProduction (10-701-3) program. Completion of or currently enrolled in TV-101.

TV-109 Credits: 2

Techniques for Field Audio Acquisition

This course focuses on the principles, best practices and equipment used for successfully acquiring pristine, effective audio for video/TV/digital media production. This includes understanding, choosing and operating field audio acquisition equipment (microphones, booms, mixers, etc.), as well as learning how to troubleshoot and optimize audio in the unpredictable environment of the field. Students will create their own mixes and produce projects designed to showcase solid, impactful sound. Prerequisite(s):

Complete TV-105. Must be admitted to the Television and Video Production (10-701-1) or eProduction (10-701-3) program. Completion of or currently enrolled in TV-142.

TV-110 Credits: 4

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): Complete TV-105, TV-112 and TV-121. Completion of or currently enrolled in TV-119.

TV-112 Credits: 3

Storytelling Via Post-Production

Students are introduced to editing concepts and techniques, and are taught to assess and assemble visual sequences into completed segments. Training is provided in pulse-count and time code editing, backspace and computer-based systems, external triggering, list management and simple programming. Prerequisite(s): Completion of or currently enrolled in TV-105.

TV-115 Credits: 4

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): Complete TV-110 and TV-119.

TV-119 Credits: 3

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): Completion of or currently enrolled in TV-110.

TV-121 Credits: 3

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): Completion of or currently enrolled in TV-105.

TV-122 Credits: 3

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): Complete TV-121.

TV-123 Credits: 3

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): Completion of or currently enrolled in TV-121.

TV-124 Credits: 3

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): Complete TV-123 or instructor waiver.

TV-129 Credits: 1

Avid Editing for Premiere Editors

This course focuses on how to edit media utilizing Avid non-linear editing software for users proficient in editing with Adobe Premiere. Students will explore inputting and organizing media, video editing, audio sweetening, utilizing effects and exporting final products. Concepts and functionality familiar to those in Premiere will be translated into their Avid counterparts allowing for proficient, professional use of both programs. Prerequisite(s): Instructor consent required.

TV-131 Credits: 1

Premiere Editing for Avid Editors

This course focuses on how to edit media utilizing Premiere non-linear editing software for users proficient in editing with Avid. Students will explore inputting and organizing media, video editing, audio sweetening, utilizing effects, integrating Premiere with outside applications and exporting final products. Concepts and functionality familiar to those in Avid will be translated into their Premiere counterparts allowing for proficient, professional use of both programs. Prerequisite(s): Completion of or currently enrolled in TV-142.

TV-132 Credits: 3

Advanced Videotape Editing

This course is designed to build upon the techniques learned in TV-130 and to provide students with hands-on experience in high-end edit systems utilized in both online and offline situations. Techniques and practice include system overview, basic editing, setting transitions, edit/review, EDL management, disk management and self-diagnostics. Prerequisite(s): Complete TV-142.

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 multiversions 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): Complete TV-112.

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): Complete TV-144 or ANIM-156.

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): Complete WEBDEV-102.

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): Complete TV-123 or TV-124 or instructor consent.

TV-181 Credits: 1

Video in Society

This orientation course is designed to familiarize the entering student with some of the employment and career opportunities and skills that he or she would acquire through the Television and Video Production program. Prerequisite(s): Completion of or currently enrolled in TV-101 and EPROD-150.

VICOM – Visual Communication (Department: 206)

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): Complete VICOM-126 and INTRN-796 with minimum grade of C.

WEBDEV – Web Development/ Commercial Art (Department: 201)

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 is 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. Prerequisite(s): Completion of or currently enrolled in WEBDEV-102.

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): Complete WEBDEV-102.

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 capabilities is the goal of this course. Prerequisite(s): Complete VICOM-128 or WEBDEV-114, and VICOM-108 or ITDEV-117.

WEBDEV-132 Credits: 3

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): Completion of or currently enrolled in WEBDEV-114, WEBDEV-119 and 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): Complete WEBDEV-114.

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): Complete WEBDEV-114, VICOM-128 or ITDEV-160.

WEBDEV-135 Credits: 3

User Experience for the Web

This course provides a conceptual and practical overview of the processes of creating a user centered design by focusing on the research, content strategy and design phases specific to implementing a user friendly solution for web design. Students will engage in the research phase to understand business and user needs, goals and tasks by utilizing various research

methods to develop a solid content strategy and interactive prototype to deliver a compelling user experience.

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): Complete WEBDEV-114.

WEBDEV-143 Credits: 3

User Experience – UE 2.0

This course will focus on “User Experience” (UE) in determining the level of successful communication and retention realized by the consumer and client; whether it be web interface, exhibit design, 3D environment, mobile platform, etc.

WEBDEV-199 Credits: 3

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): Completion of or currently enrolled in WEBDEV-133, WEBDEV-134, VICOM-126 or INTRN-796.

WELD – Welding (Department: 442)

WELD-300 Credits: 1

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 Credits: 2

General Arc Welding

This course involves welding in multiple positions on carbon steel using E6013, E6010 and E701B electrodes. Emphasis is on following written directions for exercises and learning to visually assess your performance to AWS standards. Prerequisite(s): Complete WELD-300.

WELD-302 Credits: 2

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, testing and evaluation of coupons which pertain to structural codes are covered. Prerequisite(s): Complete WELD-301.

WELD-305 Credits: 1

Fundamentals of Oxyfuel 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 oxyfuel torch cutting will be used.

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 Credits: 2

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): Complete 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 oxy-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.

WELD-316 Credits: 5

Layout and Setup Practices

Provides a focus on the development of layout and basic fabrication skills through a sequence of industrial and AWS SESE weldments that involve the use of GMAW, GTAW, FCAW and SMAW. Students will learn to utilize industrial equipment, power tools, band tools and layout tools. Students will apply advanced welding skills. Students apply safety according to industrial 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. Layout and Setup Practices is the final area of concentration in the one-year welding diploma program.

WELD-326 Credits: 1

Fundamentals of Semi-Automatic Wire Welding

The student develops fundamental knowledge and skill in the safe use of semi-automatic wire welding equipment. Topics discussed include joint details and distortion control, GMAW weld faults, welding, metallurgy and weld symbol interpretation.

WELD-327 Credits: 2

Specialized Semi-Automatic Wire Welding

Welding skills are developed through the use of the semi-automatic solid and cored wire welding processes such as gas metal arc, flux cored and submerged arc. Prerequisite(s): Complete WELD-326.

WELD-328 Credits: 2

Flux Cored Arc Welding

This is a continuation of the concepts and skills in wire welding learned in WELD-327. Emphasis is on out-of-position welding on common joints. Prerequisite(s): Complete WELD-327.

WELD-340 Credits: 2

Welding for Auto Body Technicians

Skills for the auto body shop are stressed during instruction on the use of the oxyacetylene torch and arc and wire welding equipment to complete bead, butt, lap and fillet welds.

WELD-350 Credits: 1

GTAW Processes

Safe working habits in handling oxyfuel and gas tungsten arc equipment are developed. The principles for applying oxyfuel on different types and sizes of materials in various joint configurations are stressed. Commercial production, handling and storage of compressed gases that are used in GTA and oxyfuel processes are discussed. Introduction to metallurgy is given.

WELD-351 Credits: 1

Shielded Metal Arc Welding Processes

Instruction is offered in the principles of shielded metal arc welding as applied to different types and thicknesses of metals in various joint configurations. The principles of various testing methods for assuring weld quality also are presented, along with the proper techniques and applications of the SMAW process. Introduction to the weldability of metals is given.

WELD-352 Credits: 1

Gas-Shielded Arc Welding Processes

The principles and theory of the semi-automatic wire welding processes as applied to different types and thicknesses of metals in various joint configurations are emphasized. Various testing methods used for assuring weld quality are covered.

WELD-354 Credits: 2

Layout and Print Reading Practices

Develops advanced skills in print reading through utilization of complex industrial prints that feature AWS welding symbols, ISO welding symbols, American Standard dimensions, SI Metric dimensions, isometric drawings, section drawings, material lists and assembly drawings. Students get hands-on experience working with prints related to the work environment for welding. Students will learn to create drawings by utilizing dividers, square, scales and protractors from existing drawings, written directions and sample mockups. The skills in this course transfer to the Layout and Setup course in the lab. Prerequisite(s): Complete WELD-360 or WELD-361 and WELD-362 and WELD-380.

WELD-360 Credits: 2

Blueprint Reading for Welders

Develops fundamental skills in print reading through the use of basic lines and views, basic sketching, dimensioning techniques, title block, notes, sections and details and types of prints. Emphasis is placed on orthographic projection and isometric views to help the learner develop the visual relationship between an object and a print in the first weeks of the course. Students get hands-on experience with prints for analysis of dimensions, welding symbols, material list, parts of a print, and all the conventions used in the workplace. Students will learn basic weld joints, welding symbols and knowledge of AWS standards for welding symbols.

WELD-380 Credits: 1**Welding Trades Mathematics**

Provides a focus on mathematics used in industry including fractions, decimals, percent, tolerance, various measurements, the metric system and geometry. Students apply contextual word problems while learning numeric functions. Basic mathematical processes and use of a calculator should be known prior to taking this course.

WELDTC – Welding Technology (Department: 621)**WELDTC-101 Credits: 2****Welding Theory 1**

This course covers the theory and application of the gas tungsten arc welding and oxyfuel welding and cutting processes. The major safety standard, ANSI Z49.1 Safety Welding and Cutting, is studied in detail.

WELDTC-102 Credits: 3**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 Credits: 3**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 structure and to perform satisfactorily in 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 currently enrolled in WELDTC-102.

WELDTC-107 Credits: 3**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 Credits: 4**Welding Practice 1**

The purpose of this course is to give students hands-on experience in the setup and operation of the oxyfuel, gas tungsten arc and shielded metal arc processes to weld the basic joints in all positions. Prerequisite(s): Completion of or currently enrolled in WELDTC-101.

WELDTC-112 Credits: 4**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 currently enrolled in WELDTC-102.

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): Complete 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): Complete 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): Complete WELDTC-112. Completion of or currently 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.

COMMUNITY EDUCATION

Adult High School

Earn a high school diploma at MATC

If you are age 16 or older and want to earn your high school diploma, MATC's Adult High School is the place. Our comprehensive high school is accredited by Cognia (9115 Westside Parkway, Alpharetta, GA 30009; 1-888-413-3669), and offers a full range of academic and student support services. Courses meet face-to-face on the Downtown Milwaukee Campus and are offered online.

Students with no previous high school experience complete 46 credits* of coursework. Students who have earned credits at other schools get advanced standing and complete the remaining credits needed for graduation. At least six credits must be taken at MATC.

*Each Adult High School credit is equal to one-half of a Carnegie Unit, which is the credit system most commonly used by U.S. high schools. Classes are 76-80 hours per quarter or semester.

See matc.edu and search **Adult High School** for information on getting started.

Additional MATC Adult High School opportunities for teens and adults

Credit recovery

High school students ages 16 and older may register for classes to make up high school credits.

College prerequisites

High school graduates who need high school credits in biology, algebra, geometry or chemistry as prerequisites for college programs can take these courses through Adult High School.

Emerging Scholars program

Through this program, students age 16 years or older who meet certain requirements may take classes leading to a high school diploma at MATC.

For more information about the Adult High School, call 414-297-8661.

Adult High School: 46 credits

COMMUNICATIONS	8
(One course must be a writing course)	
MATHEMATICS	6
(Two credits must be in algebra)	
SOCIAL STUDIES	6
(Two credits must be in American history/ government)	
SCIENCE	6
COMPUTERS	1
CAREER EDUCATION	1
TECHNICAL/OCCUPATION	1
SUCCESS STRATEGIES	1
FINANCIAL LITERACY	1
PHYSICAL EDUCATION/HEALTH	3
ELECTIVES	12
TOTAL CREDITS	46

COMMUNITY EDUCATION

Prepare for the GED/HSED

MATC offers bilingual (Spanish) programs, see page 313

If you need preparation before taking the General Educational Development (GED) tests, MATC offers many opportunities to help you learn what you need to know.

Basic Skills courses and classes at MATC's Adult High School can help you catch up on English, mathematics, science and social studies, no matter what your skill level. There are also specific GED preparation classes offered at MATC campuses during the day, evening and online. MATC also has classes at community-based organizations (CBOs).

See matc.edu and search **GED** for details on getting started.

To earn a High School Equivalency Diploma (HSED), you will complete all of the steps for the GED certificate, plus:

Complete a health requirement by either passing a test, completing half of a credit in health while in high school, or completing an MATC Adult High School health course.

Complete MATC's Employability Skills course.

There are more methods of earning a HSED too. Call 414-297-7471 for more information.

MATC HSED 5.09 – High school completion option program

This competency-based high school completion option is designed to be completed in one to two semesters and awards a Wisconsin HSED. In addition, students have the opportunity to waive courses based on prior learning (such as test-out options and high school credits).

Students will demonstrate mastery of competencies identified by the Wisconsin Technical College System in the areas of communication, social studies, science, math, health, civics, and employability along with six additional competencies added by MATC designed to prepare students for college or the workforce.

HSED 5.09 program requirements:

- At least age 18½ years old
- Good attendance history
- Completion of the TABE 11/12 test with a scale score of 519 in reading
- Need for an alternative to the GED 2014 test
- Face-to-face interview

For more information, contact: Holly Thielen, West Allis Campus: thielenh@matc.edu, 414-456-5399.

Bridge to Pathway programs

Bridge programs are designed for students who are enrolled in Adult High School or GED/HSED courses. Students will take college credit courses leading to a college credential while enrolled in Adult High School, GED or HSED programs. Students may choose from several Bridge programs. See matc.edu and search **Bridge to Pathway** for current programs.

Basic Skills

Basic Skills instruction is geared to those who do not have a high school diploma. Instruction levels range from grades 0-12. Courses are useful for those who plan to enter an associate degree or technical diploma program at MATC, pass the GED test, or enter MATC's Adult High School program and earn a high school diploma.

Basic Skills subjects include reading, mathematics, science and writing. Courses are offered at MATC campuses and at community-based organizations (CBOs) throughout metro Milwaukee. Spanish-language and Southeast Asian-language courses are offered at some locations. For information, email veleza@matc.edu or call 414-297-7923.

English as a Second Language

Learn English: English as a Second Language (ESL)/English Language Learners (ELL) programs

MATC's programs help students learn English so they may function more effectively at work, at home and in the community. The ESL program also prepares students for college coursework.

MATC provides English language instruction to a linguistically diverse (25 language groups) and culturally diverse (50 countries) population. The student population comes from all educational and ethnic backgrounds. The program serves students living in Milwaukee and includes resident aliens, refugees and U.S. citizens.

ESL/ELL students learn in a variety of ways including group or individualized, computer-assisted language learning, weekend classes and online.

A student may choose courses in oral language development, vocabulary improvement, reading and writing skills, pre-employment English, and computer skills. Students also can get help in preparing for citizenship.

Outreach programs for business and industry are available.

COMMUNITY EDUCATION

ESL/ELL contact information

Downtown Milwaukee Campus

700 West State Street
414-297-6578
eslmilw@matc.edu

Mequon Campus

5555 West Highland Avenue
262-238-2238
eslmequon@matc.edu

Oak Creek Campus

6665 South Howell Avenue
414-571-4503
esloakcreek@matc.edu

West Allis Campus

1200 South 71st Street
414-456-5302
eslwest@matc.edu

Community outreach sites

English as a Second Language classes are offered at various community-based organizations (CBOs) in the Milwaukee area. Visit matc.edu/ESL.

Office of Bilingual Education

If your first language is not English, or if you are fluent in English and Spanish or English and Hmong, MATC offers bilingual programs and services to help you reach your academic and personal goals.

MATC can help you improve your English skills, obtain your GED in Spanish, enroll in a degree or diploma program, and more. Bilingual services are offered at MATC campuses as well as community-based organizations.

The Office of Bilingual Education provides the following ongoing services to bilingual students:

- Test proctoring
- Admission screening
- Program information
- Financial aid information, advising and referral
- Counseling referrals
- Career exploration
- Registration assistance
- Student advocacy
- Case management
- Tutorial support

Bilingual classes and programs

To meet employer and community needs of the growing Hispanic and Hmong populations within the Milwaukee area, MATC offers courses and programs taught in Spanish/Hmong and in English.

For example, classes assist students who are obtaining their GED in Spanish. Occupational English-language-acquisition courses help students acquire the English language skills needed to transition into MATC's bilingual diploma and certificate programs. Bilingual courses also are offered in business, health, liberal arts, childhood education and other areas.

For the list of bilingual classes offered in a semester, see selfservice.matc.edu.

For information about bilingual programs, call 414-297-8882. For GED exam classes and information in Spanish, call 414-297-8527.

700-LEVEL COURSES

Alphabetical List of Subjects (department numbers are in parentheses)

AUTO1 Automotive Maintenance (404)	MATHB4 Math/Basic Skills Level 4 (854)
BIOSCI Biological Science (809)	MATHB5 Math/Basic Skills Level 5 (854)
CAREER Career Education (862)	MATHB6 Math/Basic Skills Level 6 (854)
COMMB1 Communications/Basic Skills Level 1 (851)	MATHCR Mathematics Co-Requisite (854)
COMMB2 Communications/Basic Skills Level 2 (851)	MATHHS Math – Adult High School (854)
COMMB3 Communications/Basic Skills Level 3 (851)	MATHPH Math – Post High School (854)
COMMB4 Communications/Basic Skills Level 4 (851)	OFFTEC Office Technology (862)
COMMB5 Communications/Basic Skills Level 5 (851)	READB1 Reading/Basic Skills Level 1 (858)
COMMB6 Communications/Basic Skills Level 6 (851)	READB2 Reading/Basic Skills Level 2 (858)
COMMHS Communications – Adult High School (851)	READB3 Reading/Basic Skills Level 3 (858)
COMPUB Computer Basics – Adult Basic Education/ABE (860)	READB4 Reading/Basic Skills Level 4 (858)
ENG, ENGCR, ENGE English, English Co-Requisite, English Enhanced (851)	READB5 Reading/Basic Skills Level 5 (858)
ESL English as a Second Language (861)	READB6 Reading/Basic Skills Level 6 (858)
HISTHS History – Adult High School (853)	READPH Reading – Post High School (858)
HLTHHS Health – Adult High School (857)	RLGED Reading and Language Arts for GED (858)
INTRN Internship (862)	SCIGED Science for GED (856)
MATH Mathematics (854)	SCIHS Science – Adult High School (856)
MATHB1 Math/Basic Skills Level 1 (854)	SCIPH Science – Post High School (856)
MATHB2 Math/Basic Skills Level 2 (854)	SOCGED Social Science for GED (859)
MATHB3 Math/Basic Skills Level 3 (854)	SOCBS Social Science – Adult High School (859)

In this catalog, a course is identified by a grouping of two to six letters or letters and a numeral, followed by a hyphen and three numbers. For example, CAREER-710: The letters CAREER form the alphabetical code to identify the course's subject: Career Education.

700-LEVEL COURSE DESCRIPTIONS

AUTOMOTIVE MAINTENANCE (DEPARTMENT: 404)

AUTO1-745 Credits: 1

Automotive Electrical Systems

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 Credits: 1

Automobile Minor Service (Chassis)

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 Credits: 1

Automobile Engine Servicing

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 Credits: 1

Automotive Electrical Systems (Advanced)

This course provides students the opportunity to enhance skills learned in Automotive Electrical Systems through repetition and further independent study. Prerequisite(s): Complete AUTO1-745.

AUTO1-766 Credits: 1

Automobile Minor Service (Chassis - Advanced)

This course provides a student the opportunity to enhance skills learned in Automobile Minor Service through repetition and more detailed work with alignments. Prerequisite(s): Complete AUTO1-746.

AUTO1-768 Credits: 1

Automobile Engines (Advanced)

This course provides students the opportunity to enhance skills learned in Auto Engine Servicing through repetition and more hands-on experience. Prerequisite(s): Complete AUTO1-748.

BIOLOGICAL SCIENCE (DEPARTMENT: 809)

BIOSCI-700 Credits: 1

A & P Prep Course

This course prepares students for entrance to and success in General Anatomy & Physiology (BIOSCI-177) and Anatomy & Physiology I (BIOSCI-201) by offering a general review of study skills, basic math, chemistry, cell biology and terminology, all concepts essential to success in anatomy and physiology.

CAREER EDUCATION (DEPARTMENT: 862)

CAREER-710 Credits: 1

Exploring Technical Careers

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.

700-LEVEL COURSE DESCRIPTIONS

CAREER-719 Credits: 1

Healthcare Concepts and Careers

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 Credits: 1

Career Exploration Seminar

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 Credits: 1

Success Strategies for School

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 Credits: 1

Career Preparation and Exploration

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-750 Credits: 0.1

GED Orientation Career Planning

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/HSED 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 Credits: 0.1

GED 2 Employability Skills

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 Credits: 1

The Promise of Community

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-799 Credits: 1

The Path to College Success

The Path workshop is a psychosocial workshop created by the MATC counselors to provide an intervention for students who are suspended from college. Helps students identify their goals and passions, identify the barriers to reaching these goals, identify resources and action which will address their barriers. Student fills out a contract for success and this is included in their academic appeal.

COMMUNICATION (DEPARTMENT: 851)

COMMUNICATION – BASIC SKILLS LEVEL 1

COMMB1-711 Credits: 4

Basic Communications 1

Level 1 Communication emphasizes writing simple notes and messages on familiar situations. Learners who successfully complete Level 1 Communication achieve beginning basic education benchmarks according to NRS guidelines.

COMMUNICATION – BASIC SKILLS LEVEL 2

COMMB2-721 Credits: 4

Basic Communications 2

Level 2 Communication 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- and peer-edit for spelling and punctuation. Learners who successfully complete Level 2 Communication achieve low intermediate education benchmarks according to NRS guidelines.

COMMUNICATION – BASIC SKILLS LEVEL 3

COMMB3-731 Credits: 4

Basic Communications 3

Level 3 Communication 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 Communication achieve high intermediate education benchmarks according to NRS guidelines.

COMMUNICATION – BASIC SKILLS LEVEL 4

COMMB4-741 Credits: 4

Basic Communications 4

Level 4 Communication 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 Communication achieve low adult secondary education benchmarks according to NRS standards.

COMMUNICATION – BASIC SKILLS LEVEL 5

COMMB5-751 Credits: 4

Basic Communications 5

Level 5 Communication emphasizes using varied and complex sentence structure with few mechanical errors. Learner's writing is cohesive with clearly expressed ideas supported by relevant detail. Learners who successfully complete Level 5 Communication achieve high adult secondary education benchmarks according to NRS guidelines.

COMMUNICATION – BASIC SKILLS LEVEL 6

COMMB6-761 Credits: 4

Basic Communications 6

Level 6 Communication 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 Communication are prepared to enter postsecondary education and/or obtain and maintain employment.

COMMUNICATIONS – ADULT HIGH SCHOOL

COMMH5-700 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.

700-LEVEL COURSE DESCRIPTIONS

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-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-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 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 Credits: 1

Composition

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-730 Credits: 1

Language Arts Communication 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 Credits: 1

Language Arts Communication 2

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 Credits: 1

English Review and Mastery

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 Credits: 1

Communications Via the Media

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 Credits: 1

Speak for Yourself

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 Credits: 1

The Internet and Communication

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 (DEPARTMENT: 860)

COMPUB-701 Credits: 1

Computer Basics – Adult Basic Education

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 Credits: 3

Digital Literacy for GED

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 Credits: 1

Online Student Readiness

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, Self-Service, 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.

700-LEVEL COURSE DESCRIPTIONS

ENGLISH

(DEPARTMENT: 851)

ENG-740

Credits: 2

Communication and Interaction in Customer Service

This course is designed to improve the student's customer service communication skills through practical reading, customer-focused writing, active listening, and oral interaction assignments. Students will learn a wide range of strategies to enhance their customer service communication skills including: the examination of customer service behaviors, the application of customer-focused active listening and nonverbal communication skills, the analysis of the role of diversity and equity in customer service, and the prevention of customer service communication breakdowns and the implementation of recovery strategies. Special attention will be paid to the creation of an individual customer service communication and interaction philosophy.

ENGCR/ENGE

ENGCR-703

Credits: 2

English Foundations 1CR

This is a 64-contact hour Developmental Education course designed to help students strengthen their college-level reading, communication and writing skills. This is a reading- and writing-intensive co-requisite course that prepares students to succeed in ENG-195. This course focuses on building and enhancing reading, communication and writing skills with an emphasis on critical thinking and analysis, and facilitating competence in English grammar and paragraph development. Prerequisite(s): Student must be registered in ENGCR-195.

ENGCR-704

Credits: 2

English Foundations 2CR

The English Foundations 2CR is a 64-contact hour Developmental Education course designed to help students strengthen their college-level reading, communication and writing skills. This is a reading- and writing-intensive co-requisite course that prepares students to succeed in ENG-201. This course focuses on building and enhancing reading, communication and writing skills with an emphasis on critical thinking and analysis, and facilitating competence in English grammar and paragraph development. Prerequisite(s): Student must be registered in ENGCR-201.

ENG-701

Credits: 1

English Foundations 1

This course is designed to help students strengthen their college-level reading, communication and writing skills. This is a reading- and writing-intensive co-requisite

course that prepares students to succeed in ENG-195. This course focuses on building and enhancing reading, communication and writing skills with an emphasis on critical thinking and analysis, and facilitating competence in English grammar and paragraph development. Prerequisite(s): Student must be registered in ENGE-195.

ENGE-702

Credits: 1

English Foundations 2E

The English 201-E CR session is designed to help students strengthen their college-level reading and writing skills. This is a reading- and writing-intensive co-requisite 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. Prerequisite(s): Students must be registered in ENGE-201.

ENGLISH AS A SECOND LANGUAGE

(DEPARTMENT: 861)

ESL-700

Credits: 3

ESL Workshop

The ESL Workshop provides students with an opportunity to improve their English skills by working one-on-one with an instructor and independently at their own pace. Students can be placed in CALL (computer-assisted language learning) programs in which they can work on listening, speaking and pronunciation, grammar, reading, writing, or integrated skills.

ESL-711

Credits: 5

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.

ESL-721

Credits: 5

Low Beginning ESL

This course is designed for those students who have minimal proficiency in oral or written English.

ESL-731

Credits: 5

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.

ESL-751

Credits: 5

Low Intermediate ESL

Individualized instruction and group study options offer opportunities for improvement in oral and written English for nonnative speakers of the language. A pre-employment and/or pre-academic focus is offered using a variety of instructional strategies.

ESL-771

Credits: 5

High Intermediate ESL

This course is designed for students who function independently in oral and written English but need more consistency in the control of language skills.

ESL-791

Credits: 5

Advanced ESL

Individualized and group study options offer opportunities for improvement of oral and written English for more advanced nonnative speakers of English.

ESL-792

Credits: 3

Citizenship Preparation

This course is structured for those who wish to become U.S. citizens. Instruction will focus on important events in U.S. history and on the organization and functions of federal, state and local governments. There will be practice in writing basic English sentences needed for the citizenship test.

HISTORY – ADULT HIGH SCHOOL (DEPARTMENT: 853)

HISTHS-705

Credits: 1

American History 1

The history of the American people from 1400 to 1876 is covered. The course includes a careful study of the sectional controversy and the Reconstruction period that followed the Civil War.

HISTHS-706

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

Credits: 1

World History

This 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.

HLTHHS/HEALTH – ADULT HIGH SCHOOL (DEPARTMENT: 857)

HLTHHS-700

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.

700-LEVEL COURSE DESCRIPTIONS

HLTHHS-744 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.

INTERNSHIP

(DEPARTMENT: 862)

INTRN-796 Credits: 1

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 a practice interview.

MATHEMATICS

(DEPARTMENT: 854)

MATH-700 Credits: 1

Math Fundamentals in Context

This course is designed to prepare students for successful completion of entry-level college math courses and will provide a hands-on, contextualized approach to learning mathematics that will help students improve their math skill.

MATH-703 Credits: 1

Math Success Skills

This class is for students who would like to brush up on their basic math skills in order to be more successful in math courses or courses in areas where math is used extensively. Fractions, decimals, percents and unit conversions are covered.

MATHEMATICS – BASIC SKILLS

LEVEL 1

MATHB1-714 Credits: 4

Basic Arithmetic 1

Level 1 Mathematics develops number concepts, mathematical language and whole number topics. Participants learn to count, add and subtract three-digit numbers, and perform multiplication through 12. Learners identify simple fractions and perform other simple arithmetic operations. Learners achieve beginning basic education benchmarks according to NRS guidelines.

MATHEMATICS – BASIC SKILLS

LEVEL 2

MATHB2-724 Credits: 4

Basic Arithmetic 2

Level 2 Mathematics emphasizes the four basic math operations, using whole numbers up to three digits. Learners can identify and use all basic mathematical symbols. Learners use critical thinking skills to problem solve, perform computations, estimate results, and apply mathematics to real-world situations. Learners achieve low intermediate basic education benchmarks according to NRS guidelines.

MATHEMATICS – BASIC SKILLS

LEVEL 3

MATHB3-734 Credits: 4

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 Credits: 4

Basic Arithmetic 4

Level 4 Mathematics emphasizes all basic math functions and introduces simple algebraic equations. Learners can perform 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 Credits: 4

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.

MATHEMATICS – BASIC SKILLS

LEVEL 6

MATHB6-764 Credits: 4

Basic Arithmetic 6

Level 6 Mathematics emphasizes analyzing non-routine problems and arriving at a solution by various means. Learners apply algebraic, geometric and trigonometric functions to solve problems.

MATHCR

MATHCR-701 Credits: 2

Math Foundations 1

This course is designed as additional support for students taking a specific section of a 100-level math class and is required for students taking co-requisite sections of 100-level math classes. Students learn the skills needed for success in math. Prerequisite(s): Student must register in MATH-107.

MATHCR-702 Credits: 2

Math Foundations 2

This course is designed as additional support for students taking a specific section of a 200-level math class and is required for students taking co-requisite sections of 200-level math classes. Students learn the skills needed for success in math. Prerequisite(s): Student must register in MATH-200.

MATHEMATICS – ADULT HIGH SCHOOL

MATHHS-705 Credits: 1

Survey of Math Concepts

Are you experiencing difficulty remembering your basic (but important) math skills? If so, this course is for you. Topics covered include a review of the properties of the operations on whole numbers, decimals and fractions. Ratios, proportions and percents are reviewed. Also covered are some algebraic topics such as algebraic terminology, exploration of exponents, practice with the order of operations, and an introduction to simple linear equations. Top it all off with applications of these tools to daily life situations.

MATHHS-707 Credits: 1

Consumer Math

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.

700-LEVEL COURSE DESCRIPTIONS

MATHHS-716 Credits: 1

Algebra 1A

This course is equivalent to the first semester of first-year algebra. It begins with performing the basic operations (addition, subtraction, multiplication and division) on signed (+ and -) numbers. The course covers basic algebraic terminology, evaluating expressions, solving equations and inequalities with one variable (letter), and performing the basic operations on expressions.

MATHHS-717 Credits: 1

Algebra 1B

This course is equivalent to the second semester of first-year algebra. It begins with the different methods of factoring and applying these methods to solve quadratic equations and work with rational expressions (algebraic fractions). This work includes simplifying (reducing) them, setting up and solving proportions, and performing the basic operations of addition, subtraction, multiplication and division on them. Prerequisite(s): Complete MATHHS-716.

MATHHS-721 Credits: 1

Geometry 1

Geometric concepts covered include: Points, Lines, Planes, Conditional Statements, Angles, Symbols, Triangles and Proof Writing. Tools, techniques and procedures covered include: Algebraic Properties, Deductive Reasoning, Inductive Reasoning, Definitions, Theorems, and Postulates. Prerequisite(s): Complete MATHHS-717.

MATHHS-722 Credits: 1

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 Credits: 1

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 Credits: 1

Advanced Algebra 1B

This course is equivalent to the second semester of the second year of 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.

MATHEMATICS – POST HIGH SCHOOL

MATPH-705 Credits: 1

Survey of Math Concepts

Are you experiencing difficulty remembering your basic (but important) math skills? If so, this course is for you. Topics covered include a review of the properties of the operations on whole numbers, decimals and fractions. Ratios, proportions and percents are reviewed. Also covered are some algebraic topics such as algebraic terminology, exploration of exponents, practice with the order of operations, and an introduction to simple linear equations. Top it all off with applications of these tools to daily life situations.

MATPH-707 Credits: 1

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.

MATPH-716 Credits: 1

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.

MATPH-717 Credits: 1

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): Complete MATHHS-716 or MATPH-716.

MATPH-721 Credits: 1

Geometry 1

A Euclidean geometry 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): Complete MATHHS-717.

MATPH-722 Credits: 1

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.

MATPH-745 Credits: 1

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.

MATPH-755 Credits: 1

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.

MATPH-772 Credits: 5

MATPH2: Basic Pre-Algebra

This course is designed for students who have graduated from high school, or earned 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).

OFFICE TECHNOLOGY (DEPARTMENT: 862)

OFFTEC-735 Credits: 1

Keyboard, Keypad and Windows

This is a competency-based course for learning the alphabetic 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.

OFFTEC-737 Credits: 3

Business Operations Co-Op Part 2

Class time consists of a variety of work-related sections designed to improve skills necessary for work with portfolio. Areas covered include database, spreadsheets, math concepts and financial record-keeping. Prerequisite(s): Complete OFFTEC-735.

OFFTEC-738 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.

700-LEVEL COURSE DESCRIPTIONS

OFFTEC-739 Credits: 3

Business Operations Co-Op Part 1

Class time consists of a variety of work-related sections designed to improve skills necessary for work with portfolio. Areas covered include interpersonal relationships and concepts, technology, and international business.

OFFTEC-742 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): Complete OFFTEC-738.

OFFTEC-743 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): Complete OFFTEC-742.

OFFTEC-744 Credits: 2

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): Complete OFFTEC-743.

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

Reading Post High School 1 is designed for students who have graduated from high school or have earned a GED or HSED. This course 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 Reading Post High School 1 achieve high adult secondary education benchmarks according to NRS guidelines.

READPH-772 Credits: 5

READPH2: Advanced Comprehension

The Reading 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 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 the course are prepared to enter postsecondary education and/or obtain and maintain employment. The class assumes competence in use of basic reading strategies.

700-LEVEL COURSE DESCRIPTIONS

RLGED – READING AND LANGUAGE ARTS FOR GED

RLGED-768 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. Prerequisite(s): Eighth-grade reading level.

SCIENCE (DEPARTMENT: 856)

SCIENCE FOR GED

SCIB3-798 Credits: 2
Science for GED

Students apply scientific terminology and concepts to develop job skills and learning skills, and integrate the scientific method to aid in the discovery of specific science content of biology, earth science, chemistry and physics, as well as prepare the student for the GED Science test. The student's observation and practical skills will be enhanced through lab and hands-on experience.

SCIGED-768 Credits: 2.5
Science for GED

This course introduces foundational skills crucial to your success on the GED Science text. 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): Complete 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): Complete SCIHS-705 or SCIPPH-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.

SCIENCE – POST HIGH SCHOOL

SCIPH-703 Credits: 1
Biology 1

Students will 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.

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): Complete 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): Complete SCIHS-705 or SCIPPH-705.

SCIPH-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.

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.

700-LEVEL COURSE DESCRIPTIONS

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

World Geography I 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. World Geography 1 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

World Geography II 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. World Geography II will study the geography of the following regions of the world: Asia, Africa, Australia, Europe and Antarctica.

SOCHS-714 **Credits: 1**

Personal Economics

Personal Economics will utilize the appropriate resources to research, plan, implement and assess a learner's individual short-term and long-term personal economic future. Learners will focus on practical skills that can be applied to improving their personal finances.

SOCHS-715 **Credits: 1**

Introduction to the Social Sciences

This course provides an introduction to the basic concepts of the seven major social sciences: psychology, sociology, anthropology, geography, history, political science and economics. Additional course content deals with developing effective thinking and study skills.

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.

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DIRECTORY OF CREDENTIAL INFORMATION

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Machine Shop, Apprenticeship; A.A.S., Milwaukee Area Technical College; Tool Room Machinist Journeyman.

Roscizewski, Aaron M.

Sprinkler Fitting, Apprenticeship; Journeyman Sprinkler Fitter.

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Sheet Metal, Apprenticeship; Sheet Metal Journeyman.

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Auto Collision Repair/Refinish, Diploma, Milwaukee Area Technical College; ASE Certified Collision Repair Technician.

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Electricity, A.A.S., Milwaukee Area Technical College; Apprenticeship; Journeyman Electrician.

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Automobile-Mechanical, A.A.S., Milwaukee Area Technical College; Ford Senior Master Technician Certification; ASE Master Automobile Technician.

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Air Conditioning and Refrigeration Technology, Apprenticeship; Journeyman Steamfitter.

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Schuttke, Mitchell A.

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Silverstein, Sue

Welding, B.S., University of Wisconsin – Milwaukee; M.Ed., Cardinal Stritch University; Apprenticeship; Sheet Metal Journeyman; AWS CWE Certified Welding Educator; AWS CWI Certified Welding Inspector; Certified Weld Test Conductor.

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Skattebo, Mark A.

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Stich, Daniel J.

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White, Delisa J.

Horticulture, B.S., Purdue University; I.S.A. Certified Arborist.

DIRECTORY

DIRECTORY OF CREDENTIAL INFORMATION

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Welding, B.S., University of Wisconsin – Stout; Apprenticeship; Journeyman Pipefitter; AWS Certified Welding Inspector; AWS CWE Certified Welding Educator; Licensed Welder; Certified Weld Test Conductor; OSHA Authorized Construction Trainer; OSHA 510 Certified; NCCER Pipefitting Instructor.

Wilinski, Theodore J.

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Bannon, Bernard J.

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Beyerl, Paul J.

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Buschhaus, Karl R.

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Gaskin, Karen

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Hacker, Michael A.

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Heraly, Thomas P.

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Electronic Technology, A.A.S., Milwaukee Area Technical College; Certified Biomedical Equipment Technician.

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Electronic Technology, B.S., University of Wisconsin – Stout.

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Electronic Technology, A.A.S., B.S., Milwaukee School of Engineering; M.B.A., Marquette University.

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Thompson, James

Mechanical Technology, B.S., University of Wisconsin – Milwaukee.

Credentialing information is as of March 5, 2021. Full-time and limited-term faculty are listed.

MATC District Board of Directors

The Milwaukee Area Technical College District is governed by a nine-member volunteer Board of Directors.
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Ann Wilson

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Manager, Hillside Family Resource Center

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