APPENDIX D:

ACADEMIC NEEDS ASSESSMENT

Milwaukee Area Technical College

Space Needs Analysis
September 2013

Comprehensive Facilities Planning, Inc.

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Space Assessment Detail

Overview

The study included an assessment of the academic and support space for the Milwaukee Area Technical College Downtown Campus and the three Regional Campuses to provide data and information for the development of the Facility Master Plan conducted by BRAILSFORD & DUNLAVEY.

- Quorum Architects developed a detailed room space inventory for the four campuses that provides the base space data for the space analysis.
- The Schedule of Classes, Course Offerings, College Personnel, Student Enrollment and Student Credit Hours of Instruction for Fall 2011 was provided by the College.
- College data provided the basic input to determine current utilization rates, efficiency of current space use and space deficits and surpluses.
- Long term space needs were based on enrollment projections derived from the Spring 2012 Environmental Scan conducted by FANNING-HOWEY and BRAILSFORD & DUNLAVEY.

General Planning Assumptions

1. The scope of this study includes academic and support space located on the Downtown Campus and the three regional campuses: Oak Creek, Mequon and West Allis campuses. Building support facilities (e.g. mechanical rooms, toilets, etc.) and other non-assignable space such as circulation are excluded from this study. Also excluded are the Union 212 Building and the Milwaukee Enterprise Center.
2. Fall 2011 data was used as the baseline for this study.
   a. Quorum Architects developed the facilities inventory for the four campuses that provided the space data for this analysis.
   b. The College provided the class schedule, personnel, enrollment, and student credit hours of instruction that provided the basic data to determine current utilization rates, efficiency of current room use, and space deficits and surpluses.
3. The space needs calculations are based on space planning guidelines adopted by many state governance boards, and the applied experience of the consultants. When necessary, these guidelines were adjusted to fit the College culture.
4. This study is a quantitative assessment that compares the modeled space needs to the current space allocations. All existing space was included regardless of its condition and quality.
5. The planning period for this study is 10 years or to the year 2022.
6. Office space need is calculated by applying a position appropriate module to the number of personnel by position. The college provided a list of all personnel with an appointment for Fall 2011 that was used as the base year data for the office need calculation. The office space planning modules included in this modeling process are identified in Table 6.

Table 1: Office Modules

Position Type	ASF Module
President	250
Vice President	225
Dean	200
Principal Administrators	180
Manager/Asst. Director	160
Instructor	130
Instructors- Part Time	35
Staff	130
Clerical/Technical Staff	120
Student Worker	25

The following assumptions/factors specifically pertain to office space needs:

    a. Conference room space is allocated at 18 square feet per FTE faculty and administrative staff.

    b. Office lounge space is allocated at 5 square feet per FTE for all personnel.

    c. Office service is allocated at 10% to 20% of total office space for most departments. Depending on their functional needs, certain offices are provided a supplemental allocation for reception/waiting space, processing space, and additional departmental storage.

7. General Purpose Classrooms are suitable for lecture/recitation type instruction for any discipline and are generally equipped with tables and chairs or tablet arm chairs. The station module for classrooms generally ranges from about 18 square feet to 30 square feet per station.

    a. Typical utilization guidelines for general purpose classrooms suggest they be used between 60% and 70% of the available weekly hours with 65% to 70% of the seats occupied.

8. Computer Classrooms are geared for general instruction where a computer is required. The basic difference between a Classroom and Computer Classroom is the presence of a computer at each student station. The station module for Computer Classrooms generally ranges from about 30 square feet to 45 square feet per station.

    a. Note: a computer lab that is discipline specific is coded and analyzed as a class lab.

    b. Computer Classroom utilization guidelines are the same as for classrooms, (they should be used between 60% and 70% of the available weekly hours with about 80% of the seats occupied).

9. Laboratories and Shops are discipline specific and generally have specialized equipment and teaching station modules that vary with equipment and discipline. In some cases the lab or shop includes a dedicated classroom as part of the instructional suite. For the purpose of this analysis these classrooms are included as part of the total laboratory or shop space required for the program.

    a. Because laboratories generally have an instructional capacity of less than 30 students, station occupancy for labs is higher than for GP classrooms. Station occupancy of 80% is specified in most guidelines.

    b. Weekly Room Hour use expectations is lower than for Classrooms to account for set up time and/or open lab time. Weekly Room Hour expected use is also discipline specific.

10. Library space includes study rooms, stacks, open stack rooms, processing areas and administrative and service rooms. Space needs are dependent on the number of book volumes and volume equivalents, students and staff that typically use the library at peak times during the day or evening and any specialized space such cafes/lounges, training rooms, etc.
11. Athletic/Recreation/Physical Education Space are determined by the type of institution, the number of students and types of athletic programs offered.
12. Other campus wide space such as Assembly, Foodservice, Student Lounge, Merchandising and meeting rooms is dependent on student FTE and in some cases supplemented by a minimum core.

Enrollment Assumptions

Fall 2011 Enrollments

The College reported the following headcount and FTE enrollments for each campus for Fall 2011.

Table 2: Fall 2011 Headcount and FTE by Campus

Campus	Student Headcount	Student FTE
Milwaukee	28,128	7,757
Oak Creek	12,506	2,976
West Allis	10,654	2,289
Mequon	6,331	1,354
Totals	**57,619**	**14,376**

Table 8 summarizes the **Student Credit Hours (SCH)** for each campus as derived from the 2011 Class Schedule provided by the College. Classroom and lab utilizations are generally calculated for a typical enrollment week during the Fall term. However, there are a number of classes that meet off campus, on line, or in other locations that do not use on-campus classrooms, labs or shops. In addition there are other classes that meet in Term 2 or start and end before the typical enrollment week.

Table 3: Fall 2011 SCH by Campus

	On Campus		Other				
Campus	Typical Week Term 1	Term 2 or Other	Online	Off Campus	Hospital	Unknown	Totals
Milwaukee	75,572	6,988	13,077	1,449	1,315	1,925	100,326
Oak Creek	30,508	2,641	5,548	291	0	74	39,062
West Allis	23,934	742	4,429	1,018	84	8	30,215
Mequon	11,549	707	4,135	536	259	4	17,190
Totals	**141,563**	**11,078**	**27,189**	**3,294**	**1,658**	**2,011**	**186,793**
Percent of Total	75.79%	5.93%	14.56%	1.76%	0.89%	1.08%	100.00%

- For Fall 2011, 75.8% of the Student Credit Hours were generated during the typical week used in this analysis.

- Nearly 15% of the SCH were generated in online courses.

Projected Enrollments

Based on the planning assumptions, the campus will grow in selected programs over the next 10 years. Enrollment projections used in this analysis were derived from the Spring 2012 Environmental Scan prepared by FANNING-HOWEY and BRAILSFORD & DUNLAVEY which aligns the MATC program offerings with the future workforce needs. The percentage increases in enrollments used for the 10 year planning period for programs that are expected to grow based on future workforce needs *OR* because they have new program initiatives are identified below:

Downtown Campus
- School of Health: + 20%
- School of Media and Arts
  - Animation: + 10% includes new program growth
  - Music: + 10% includes new program growth
  - Visual Communication:+ 10% includes new program growth
- School of Business
  - Barber/Cosmetology: + 10%
- School of Technology & Applied Sciences
  - Police (Criminal Justice): + 10%

Oak Creek
- EMS: + 10% includes new initiatives
- Fire: + 10%
- HVAC/Sheet Metal: + 15%
- Nursing: + 20%
- Police (Criminal Justice): + 10%
- Truck Driving School and Diesel Mechanic Program new initiatives: + 10%
- Auto/Diesel: Wait List + 10%

Mequon
- Nursing: + 20%

West Allis
- Dietetics: + 15%
- Nursing: + 20%

In addition a 3% contingency/growth factor was applied to the current enrollments for all programs to account for unforeseen ebbs and flows of enrollments by program over the 10 year planning period.

Current Space Summary

The following tables and charts summarize the current space for each campus by major room type.

Downtown Campus

Table 4: Downtown Campus - Current Assignable Square Feet by Room Type

Room Type	ASF	Percent of Total
Unclassified Facilities	1,930	0%
Classrooms	74,846	6%
Laboratories	283,023	22%
Office Areas	175,025	14%
Study Facilities	20,642	2%
Special Use Facilities	57,260	4%
General Use Facilities	81,781	6%
Support Services Facilities	118,509	9%
Building Support	470,552	37%
Total ASF	**1,283,568**	**100%**

Assignable Square Feet
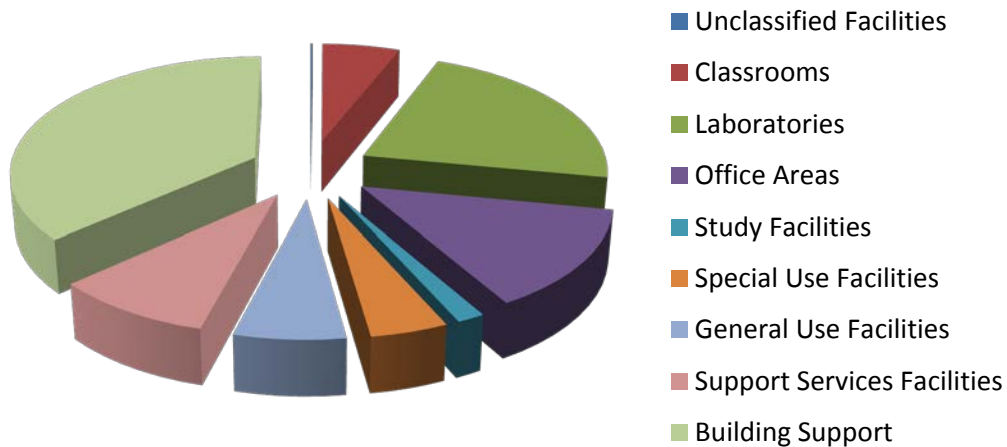
- Unclassified Facilities
- Classrooms
- Laboratories
- Office Areas
- Study Facilities
- Special Use Facilities
- General Use Facilities
- Support Services Facilities
- Building Support

Oak Creek Campus

Room Type	ASF	Percent of Total
Classrooms	34,996	11%
Laboratories	157,503	49%
Office Areas	20,233	6%
Study Facilities	8,738	3%
Special Use Facilities	3,743	1%
General Use Facilities	17,830	6%
Support Services Facilities	6,717	2%
Building Support	68,908	22%
Total ASF	**318,668**	**100%**

Assignable Square Feet

- Classrooms
- Laboratories
- Office Areas
- Study Facilities
- Special Use Facilities
- General Use Facilities
- Support Services Facilities
- Building Support
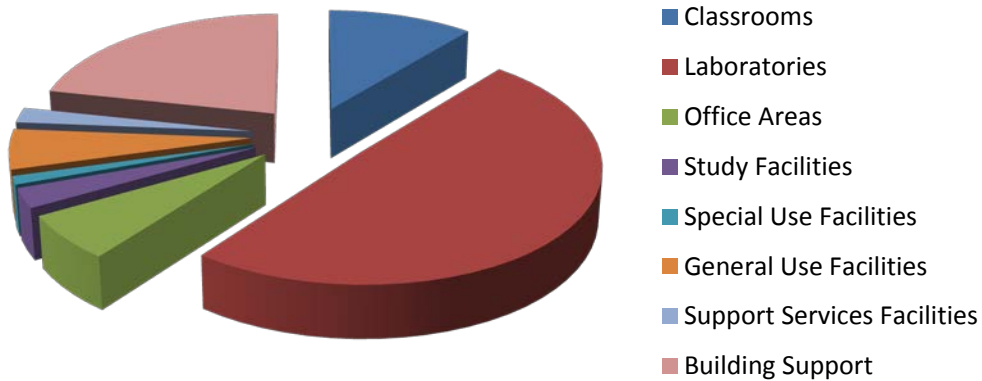
Mequon Campus

Table 6: Mequon Campus - Current Assignable Square Feet by Room Type

Room Type	ASF	Percent of Total
Classrooms	25,079	13%
Laboratories	46,160	25%
Office Areas	17,510	9%
Study Facilities	5,561	3%
Special Use Facilities	12,789	7%
General Use Facilities	14,096	8%
Support Services Facilities	15,758	8%
Building Support	50,526	27%
Total ASF	**187,479**	**100%**

Assignable Square Feet
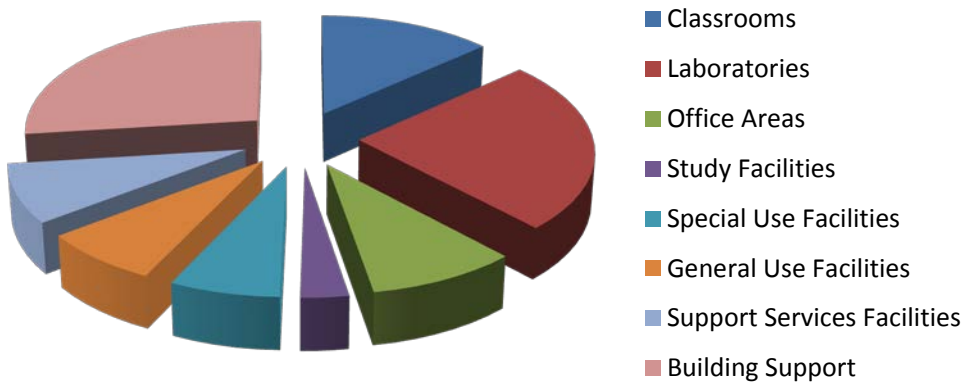
- Classrooms
- Laboratories
- Office Areas
- Study Facilities
- Special Use Facilities
- General Use Facilities
- Support Services Facilities
- Building Support

West Allis Campus

Room Type	ASF	Percent of Total
Classrooms	24,433	18%
Laboratories	35,461	26%
Office Areas	18,823	14%
Study Facilities	5,467	4%
Special Use Facilities	4,935	4%
General Use Facilities	11,767	9%
Support Services Facilities	2,592	2%
Building Support	33,337	24%
Total ASF	**136,815**	**100%**

Assignable Square Feet

- Classrooms
- Laboratories
- Office Areas
- Study Facilities
- Special Use Facilities
- General Use Facilities
- Support Services Facilities
- Building Support
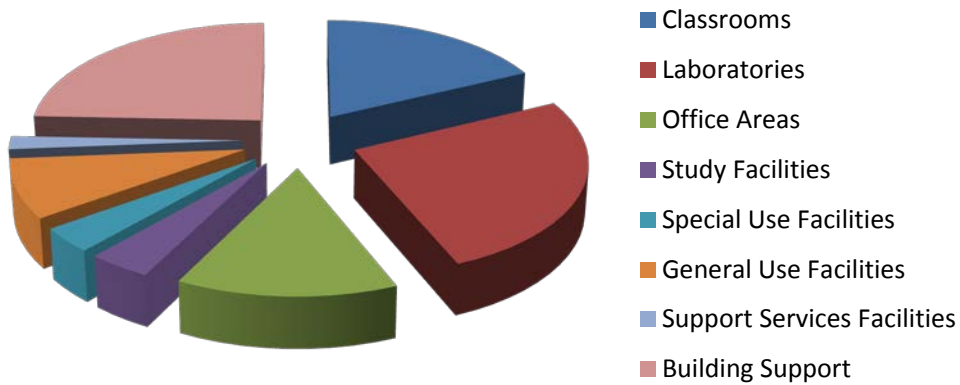
Classroom and Laboratory Assessment

The classroom and class lab assessment included the following process:

- Examine the utilization of the classrooms from the Fall 2011 class file and compare the utilization to national guidelines.
- Assess the Instructional Capacity: identify enrollment growth potential of the current classroom supply based on utilization assumptions appropriate for MATC.
- Determine how well the current class laboratories and shops are being utilized and identify the growth potential of the various class laboratories and shops and those that are at enrollment capacity or have limited enrollment growth opportunities.

Definition of Terms	
WRH	Weekly Room Hours – Total hours a room is scheduled per week
Avg WRH	Average WRH – Average of hours scheduled per week per room
SO	Station Occupancy – How well seats are filled while a room is in use
ASF	Assignable Square Feet
WSCH	Weekly Student Contact Hours (Hours in class times students)

Classrooms and Computer Classrooms

Utilization Measures

Classroom utilization is measured by the average number of hours the classrooms are used for a typical week (WRH) and the percent of seats occupied when the classroom is in use. For this analysis the week of September 18, 2011 was selected as a 'typical' week for scheduled classroom use.

- Weekly Room Hours (WRH) – Typical national guidelines suggest classrooms should be used 60% to 70% of the time available, with 70% considered maximum capacity. In order to derive a WRH rate; these percentages need to be applied to a time frame.
  - For example; taking the available 45 hours (8 AM to 5 PM, M-F, daytime) multiplied by classroom national percentages will yield an expectation of 27.0 (60%) to 31.5 (70%) Average WRH (i.e., on average classrooms should be used between 27.0 to 31.5 hours per week during the day).
- Station Occupancy (SO) – Typical national guidelines are 65% to 70% for classrooms. This is a measure of how many seats are filled while in use. For smaller capacity rooms such as computer classrooms the station occupancy should approach 80%.

In the analysis for each campus, the classroom utilization is examined for 4 time frames:

1. All Day – 8 AM to 10 PM Monday through Thursday and 8 AM to 5 PM on Friday, a total of 65 available hours.
2. Daytime – 8 AM to 5 PM Monday through Friday, a total of 45 available hours.
3. Evening – 5 PM to 10 PM Monday through Thursday, a total of 20 available hours.
4. Prime Time – 9 AM to 2 PM Monday through Friday, a total of 25 available hours.

Downtown Campus Classroom Summary

Table 13 identifies the classroom supply as of Fall 2011 used in the analysis as a basis for demand, current utilization rates and enrollment capacity analysis.

Table 8: Classroom Supply – Downtown Milwaukee

	Room Type	Count	ASF	Capacity	Avg. ASF	Avg. Station
110	GP Classroom	93	64,017	2,842	688	22.5
140	Computer Classroom	9	8,308	213	923	39.0

Three classrooms in Building F totaling 1,676 ASF with 59 seats were excluded from the study since they were not used for classes in Fall 2011.

Table 9: Excluded Classrooms

Bldg	Room	ASF	Capacity
F	F212	570	17
F	F208	546	17
F	F206	560	25
Totals		1,676	59

- The average station size of 22.5 ASF for the Classrooms is within the expected range of 18 to 30 ASF per station.
- The average station size of 39 ASF for the Computer Classrooms is within the expected range of 30 to 45 ASF per station.

Current Classroom Utilization

Utilization Measures

Utilization for the 93 Classrooms is identified in Table 15.

Table 10: Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg. WRH	% Avail Hours	% SO
1. All Day	65	2,172	23.4	35.9%	68.8%
2. Daytime	45	1,700	18.2	40.4%	68.1%
3. Evening	20	472	5.1	25.3%	71.0%
4. Prime Time	25	1,300	14.0	55.9%	68.5%

- While the **% SO** is well within the guideline range of 65% to 70% of the seats occupied, the **Average WRH** use as percent of **Available Hours** is well below guideline expectations of 60% to 70% for all time frames.

Utilization for the 9 GP Computer Classrooms is identified in Table 16.

Table 11: Computer Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg. WRH	% Avail Hours	% SO
1. All Day	65	239	26.5	40.8%	76.1%
2. Daytime	45	212	23.6	52.4%	78.5%
3. Evening	20	27	3.0	14.8%	57.5%
4. Prime Time	25	150	16.6	66.5%	79.6%

- While the **% SO** for most time frames is near guideline expectations, the **Average WRH** use as percent of **Available Hours** is well below guideline expectations of 60% to 70% for all time frames **except during Prime Time.**

Classrooms in Use by Hour and Day

Chart 1 illustrates the percent of classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 1: Classrooms Used by Hour and Day
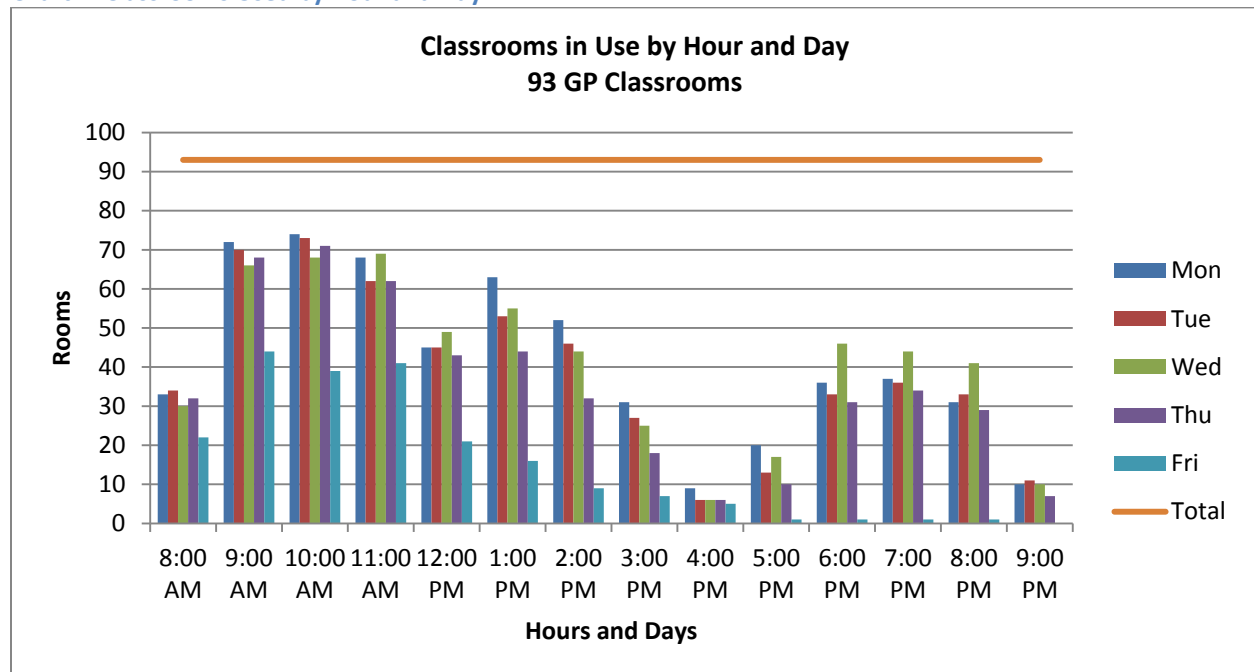
- The classrooms are heavily scheduled from 9 AM to Noon, Monday through Thursday.
- Less than 50% of the classrooms are used from 8 AM to 9 AM, after 3 PM or on Friday.

Prime Time Use

The following 11 GP classrooms were used **more than** 20 hours of the 25 available Prime Time hours.

Table 12: Classrooms Used More than 20 Hours in Prime Time

Bldg	Room	Capacity	WRH	Bldg	Room	Capacity	WRH
C	C266	22	22.00	M	M512	36	22.00
C	C314	83	20.00	M	M515	58	20.00
C	C324	30	25.00	M	M517	50	20.00
C	C326	23	25.00	M	M673	36	20.50
C	C336	24	20.00	T	T242	27	20.00
C	C402	50	21.08				

The following 16 Classrooms were used **less than** 10 hours of the 25 available in Prime Time hours.

Table 13: Classrooms Used Less than 10 Hours in Prime Time

Bldg	Room	Capacity	WRH	Bldg	Room	Capacity	WRH
C	C258	24	8.00	M	M477	28	9.50
C	C291	24	2.00	M	M528	17	4.50
C	C381	26	8.00	M	M530	22	8.00
C	C384	24	8.00	M	M534	30	0.00
M	M337	31	3.00	M	M538	30	0.00
M	M338	17	9.00	T	T307	18	4.00
M	M344	16	4.00	T	T412	24	4.00
M	M470	24	7.50	T	T440	24	6.50

Computer Classrooms Used by Hour and Day

Chart 2 illustrates the percent of computer classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Computer Classrooms in Use by Hour and Day
9 Rooms
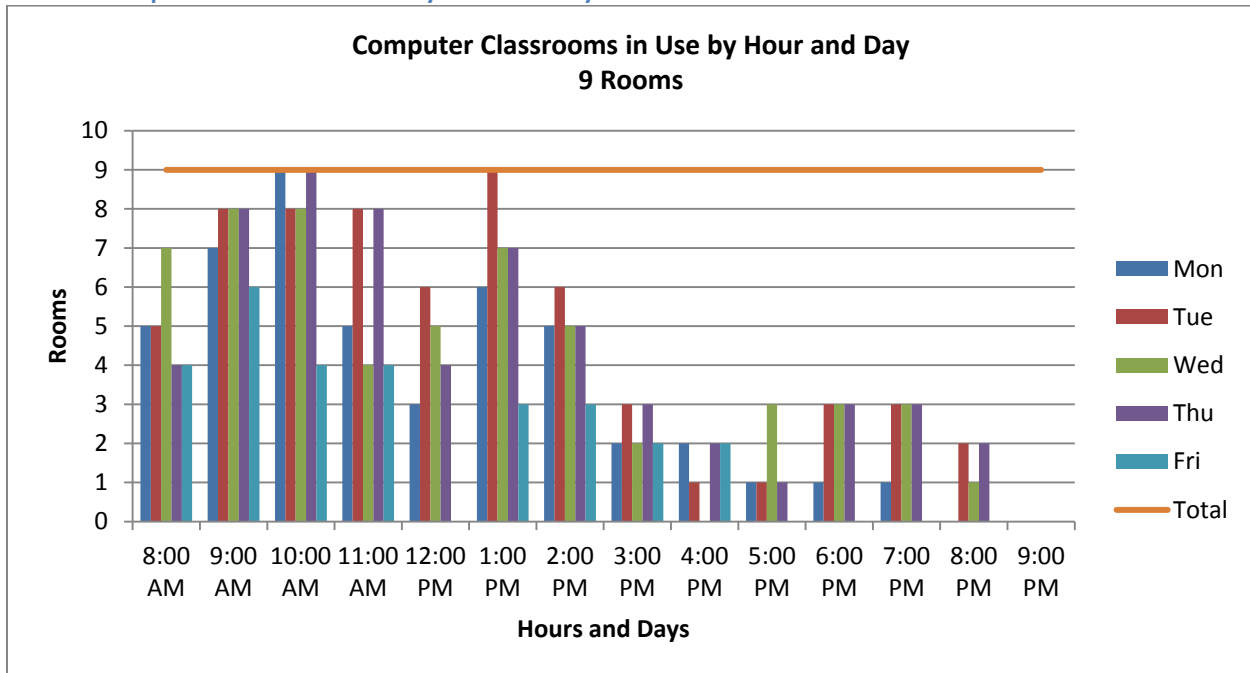
- There are several hours where all computer classrooms are in use.
- Computer lab use is low on Friday and after 3 PM.

Classroom Needs

Current Classroom Needs Summary

- Tables 19 & 20 on the next page identify the **Weekly Room Hour (WRH)** utilization for four time frames as defined earlier for 93 General Purpose Classrooms and 9 Computer Classrooms.
- The **Average WRH** is calculated by dividing the **Total WRHs** by the current rooms.
- The **% Available Hours** column divides the **Average WRH** by the **Available Hours**.
- The **WRH Guideline %** column specifies the **% of Available Hours** the classrooms should be scheduled according to national utilization guidelines. These guidelines are the minimum suggested rates.
- The **WRH Guideline** column is the **WRH Guideline %** multiplied by the available hours. The **Required Rooms** is the **Total WRH** divided by the **WRH Guideline**.
- The **Surplus** column is the difference between the current rooms and the **Required Rooms**.

Current GP Classrooms = 93 Rooms

Table 14: Required Classrooms at Guideline Utilization

Time Frames	Available Hours	Total WRH	Avg. WRH	% Avail Hours	WRH Guideline %	WRH Guideline	Required Rooms	Surplus
1. All Day	65	2,172	23.4	35.9%	60%	39	55.7	37.3
2. Daytime	45	1,700	18.7	41.5%	60%	27	63.0	30.0
3. Evening	20	472	5.2	25.9%	60%	12	39.3	53.7
4. Prime Time	25	1,300	14.3	57.1%	70%	17.5	74.3	18.7

Current Computer Classrooms = 9 Rooms

Table 15: Required Computer Classrooms at Guideline Utilization

Time Frames	Available Hours	Total WRH	Avg. WRH	% Avail Hours	WRH Guideline %	WRH Guideline	Required Rooms	Surplus
1. All Day	65	239	26.5	40.8%	60%	39	6.1	2.9
2. Daytime	45	212	23.6	52.4%	60%	27	7.9	1.1
3. Evening	20	27	3.0	14.8%	60%	12	2.2	6.8
4. Prime Time	25	150	16.6	66.5%	70%	17.5	8.5	0.5

Findings for General Purpose Classrooms:

1. If Prime Time (9 AM to 2 PM) utilization is increased to 70%, from 14.3 WRHs to 17.5 WRHs then only 75 classrooms would be needed (18 fewer than the current 93 rooms).
2. If the classroom supply was reduced to 75 rooms, the Daytime utilization would increase to 22.7 WRH's which is still below the guideline suggestion of 27 WRHs.
3. These utilization levels could be achieved without increasing the use of the 8 AM hour and the late afternoon times.
4. While the classroom supply could be reduced further and still be within the utilization guidelines, the use of non- prime time hours would need to increase.

Findings for the Computer Classrooms

- During Prime Time the Computer Classrooms are scheduled near the enrollment capacity.

Enrollment Growth

While the Fall 2011 schedule demand could be met in fewer classrooms, a more important question is: How many more students could the current classrooms support if utilization rates were increased to meet guidelines?

- Typically enrollment growth is met by a combination of increases in average section size (more students in each class) and more classes being offered. However, while the average station occupancy for the Downtown Campus classrooms are well within the range of guideline expectations, there is little or no flexibility to increase section enrollments.

Enrollment Growth Findings

If the Prime Time WRH utilization is increased from 14.3 WRHs to 16.5 WRHs (66% of the available hours) then the 93 classrooms could handle 18% more students assuming no change in section sizes.

- Assuming the contact hours per section remain the same then 86 more sections would be needed to handle this increase in enrollment.
- If Daytime WRH utilization is increased from 18.7 WRHs to 27 WRHs (60% of the available hours) then the 93 classrooms could handle 47% more students assuming no change in section sizes.
- Assuming the contact hours per section remain the same then 240 more sections would be needed to handle this increase in enrollment.
- Increased use of non-prime time hours would also be required.
- At Prime Time the Computer Classrooms have almost no growth capacity.

Oak Creek Campus

Classroom Summary

There are 33 rooms at Oak Creek classified as General Purpose Classrooms. The following four rooms are excluded from the classrooms analysis:

- The classrooms in the Aviation Building: AC 203 and AC 213.
- The Distance Learning Room A201 and the Telepresence Room A119, which was under construction at the time of this study.

Table 21 identifies the 29 classrooms, as of Fall 2011 used in this study as a basis for demand, current utilization rates and enrollment capacity analysis.

Table 16: Classroom Supply - Oak Creek

	Room Type	Count	ASF	Capacity	Avg ASF	Avg Station
110	GP Classroom	29	25,039	907	863	27.6
140	Computer Classroom	7	7,722	150	1,103	51.5

- The average station size of 27.6 ASF for the GP Classrooms is within the expected range of 18 to 30 ASF per station.
- The average station size of 51.5 ASF for the Computer Classrooms is above the expected range of 30 to 45 ASF per station.

Current Classroom Utilization

Utilization Measures

Table 22 identifies the utilization rates for the 29 Classrooms.

Table 17: Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	947	32.6	50.2%	67.2%
2. Daytime	45	660	22.8	50.6%	68.6%
3. Evening	20	287	9.9	49.4%	64.0%
4. Prime Time	25	480	16.5	66.2%	70.2%

- While the **% SO** is well within the guideline range of 65% to 70% of the seats occupied, the **Average WRH** use as percent of **Available Hours** is below guideline expectations of 60% to 70% for all time frames **except during Prime Time**.
- The classrooms are used near capacity during Prime Time hours of 9 AM to 2 PM.

Utilization for the 7 Computer Classrooms is identified in Table 23.

Table 18: Computer Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	218	31.1	47.9%	82.8%
2. Daytime	45	156	22.3	49.6%	84.9%
3. Evening	20	61	8.8	43.9%	77.4%
4. Primetime	25	111	15.8	63.2%	84.4%

- While the **% SO** is well within the guideline range for all time frames, the **Average WRH** use as percent of **Available Hours** is well below guideline expectations of 60% to 70% for all time frames **except during Prime Time.**
- The computer classrooms are used near capacity during Prime Time hours of 9 AM to 2 PM.

Classrooms in Use by Hour and Day

Chart 3 illustrates the number of classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 3: Classroom Used by Hour and Day
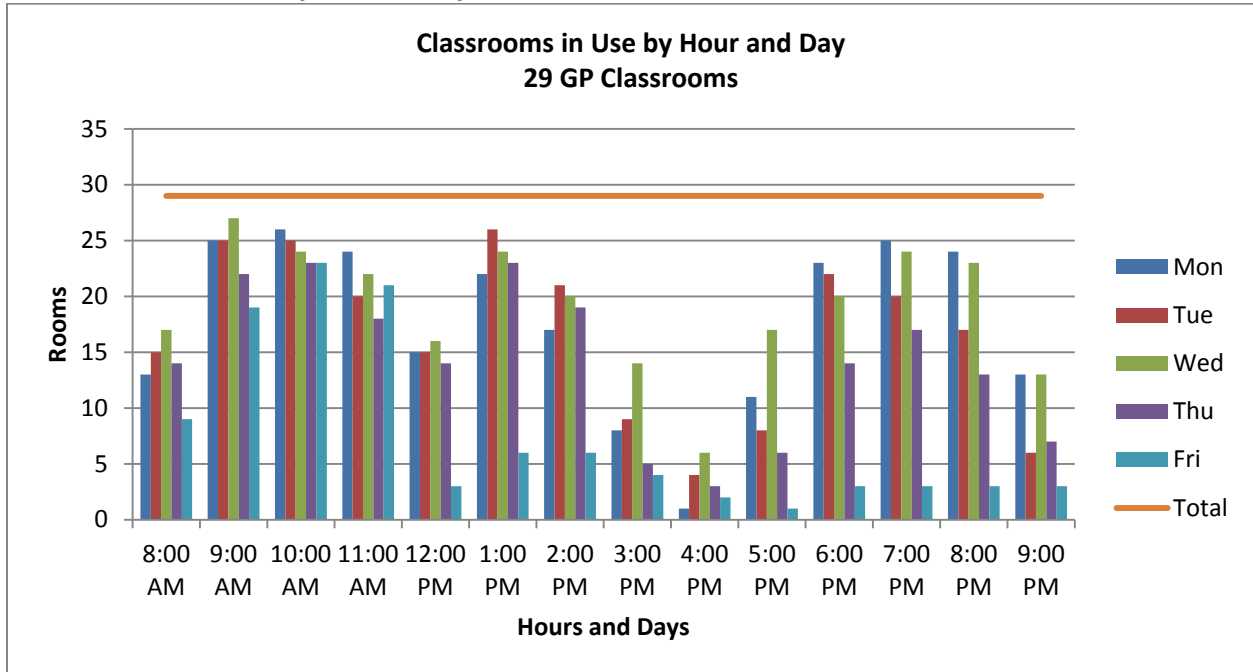
- The classrooms are heavily scheduled from 9 AM to Noon, Monday through Thursday, in the early afternoon and most evenings.
- Use is low at 8 AM, 8:30 AM, 3 PM to 6 PM and on Friday.

Computer Classrooms in Use by Hour and Day

Chart 4 shows the number of computer classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 4: Computer Classrooms by Hour and Day
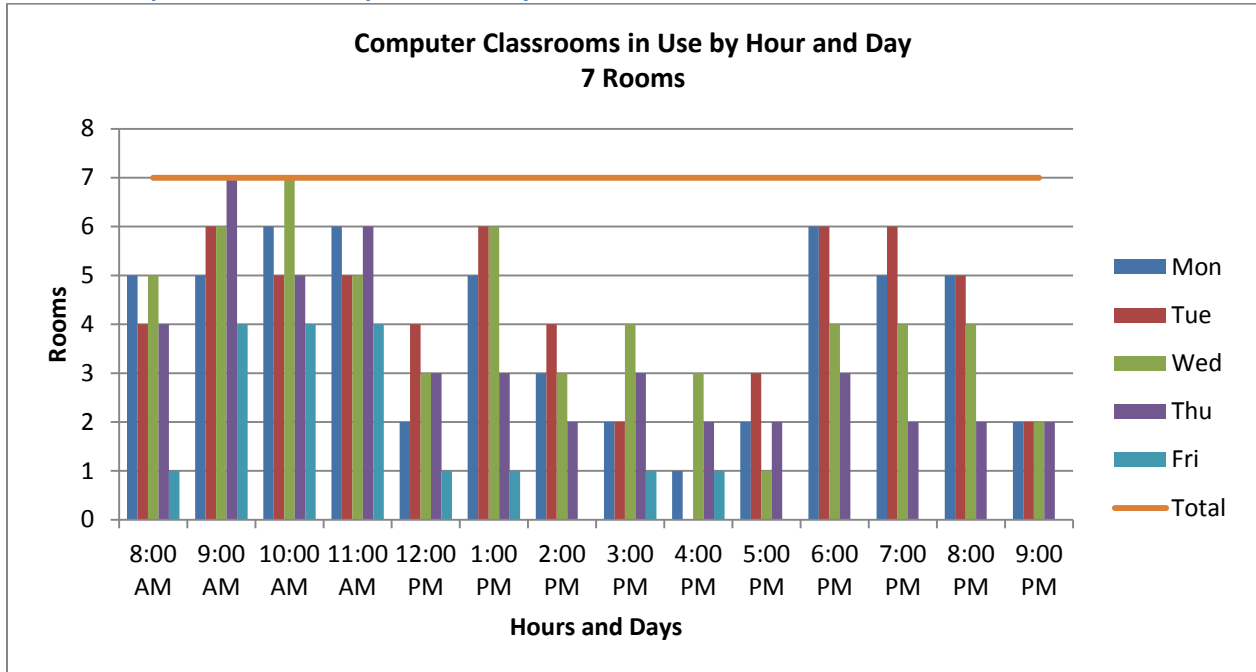
- There are several hours where all computer classrooms are in use.
- Computer lab use is low on Friday and between 3 PM and 6 PM.

Room Needs and Enrollment Growth

Typically enrollment growth is met by a combination of increases in average section size (i.e., more students in each class) and more classes being offered. However, the average station occupancy for Oak Creek classrooms is well within the range of guideline expectations. Therefore there is little or no flexibility to increase section enrollments.

Prime Time

While it is possible to add a few sections during prime time, based on current scheduling practices both the Classrooms and the Computer Classrooms are used near capacity during the prime time hours.

Daytime Enrollment Capacity

While the current classrooms can support additional enrollments, most of the growth will need to be accommodated by increased use of the 8 AM time slot and more sections after 2 PM.

- If Daytime WRH utilization is increased from 22.8 WRHs to 27 WRHs (60% of the available hours), then the 29 classrooms could handle 18% more students assuming no change in section sizes.

- Assuming the contact hours per section remains the same then 40 more sections would be needed to handle this increase in enrollment.
- Increased use of <u>non-prime time hours</u> would also be required.
- At Prime Time the Computer Classrooms could at most absorb about 10% growth. Increasing the non-prime time hours to 27 WRHs (60% of the available hours), could handle enrollment growth of about 20%.

Mequon Campus

Classroom Summary

There are 21 rooms at Mequon classified as General Purpose Classrooms. Excluded are two video conference rooms: A131 and B217.

Table 24 identifies the 21 classrooms, as of Fall 2011, that were used as a basis for demand, current utilization rates and enrollment capacity analysis. The former Interior Design space A209 will be converted to a classroom but is excluded from the utilization summary since it was not in use as a classroom in Fall 2011.

Table 19: Classroom Supply - Mequon

Room Type		Count	ASF	Capacity	Avg ASF	Avg Station
110	GP Classroom	21	20,401	686	971	29.7
140	Computer Classroom	3	3,266	68	1,089	48.0

- The average station size of 29.7 ASF for the GP Classrooms is at the upper end of the expected range of 18 to 30 ASF per station.
- The average station size of 48 ASF for the Computer Classrooms is just above the expected range of 30 to 45 ASF per station.

Current Classroom Utilization

Utilization Measures

Table 25 identifies the utilization for the 21 Classrooms.

Table 20: Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	528	25.2	38.7%	53.9%
2. Daytime	45	388	18.5	41.0%	55.5%
3. Evening	20	141	6.7	33.5%	49.6%
4. Prime Time	25	282	13.4	53.6%	57.9%

- The **Average WRH** use as percent of **Available Hours** is below guideline expectations of 60% to 70% for all time frames.
- The **% SO** is also below guideline expectations for all time frames.

Table 26 identifies the utilization for the 3 Computer Classrooms.

Table 21: Computer Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	31	10.3	15.9%	71.6%
2. Daytime	45	18	6.0	13.3%	75.0%
3. Evening	20	13	4.3	21.7%	66.9%
4. Prime Time	25	13	4.3	17.3%	75.7%

- While the **% SO** is well within the guideline range for all time frames, the **Average WRH** use as percent of **Available Hours** is well below guideline expectations of 60% to 70% for all time frames.

Classrooms in Use by Hour and Day

Chart 5 illustrates the number of classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 5: Classrooms in Use by Hour and Day
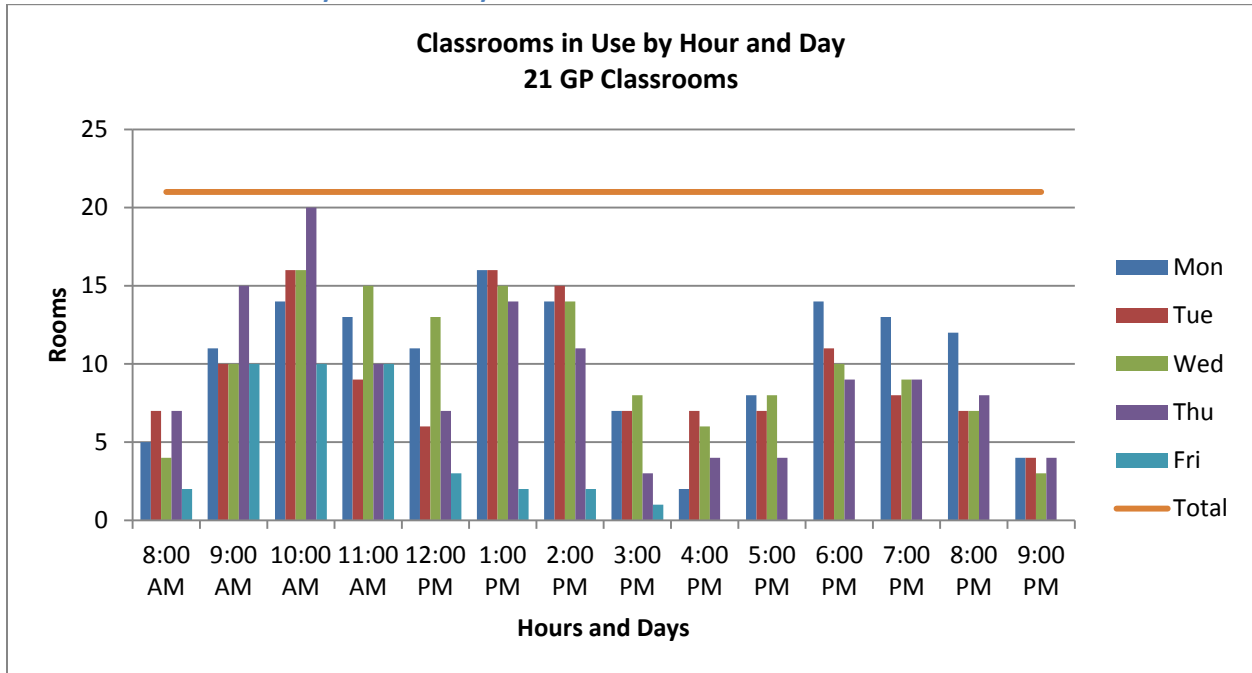
- Peak usage is between 10 AM and 11 AM on Thursdays.
- Less than half of the rooms are in use for many hours during the week.

Computer Classrooms in Use by Hour and Day

Chart 6 illustrates the number of computer classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 6: Computer Classrooms in Use by Hour and Day
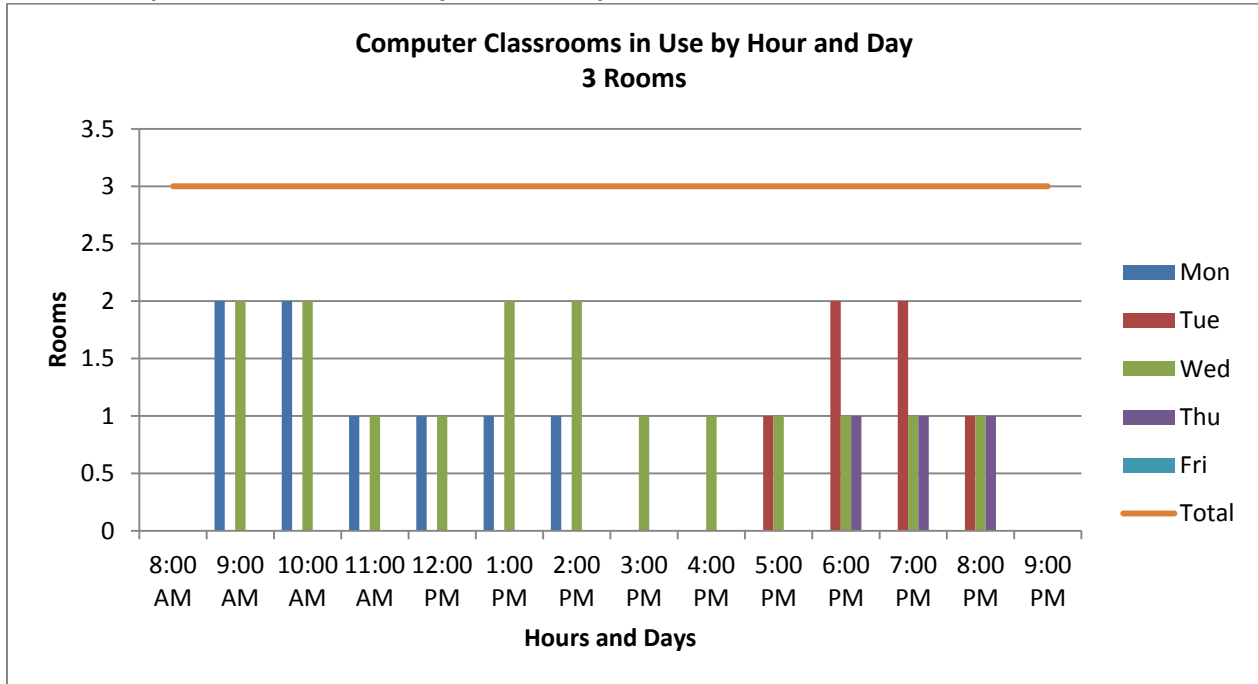
Room Needs and Enrollment Growth

Typically enrollment growth is met by a combination of increase in average section size (i.e., more students in each class) and more classes being offered.

Prime Time Enrollment Capacity

Currently the 21 GP classrooms were scheduled on average 13.4 Weekly Room Hours (WRH) with about 57% of the seats in use. Guidelines suggest that the classrooms should be used at least 16.5 WRHs with 65% of seats occupied.

- The current 21 classrooms could accommodate nearly 40% more students in prime time hours if they are utilized at the suggested guidelines.
    - o Assuming the contact hours per section remain the same then 43 more sections would be needed to handle this increase in enrollment.
- Conversely at current enrollment levels the current demand at prime time could be met with 5 fewer classrooms.
- The 3 computer classrooms should be sufficient to handle additional demand.

Daytime Enrollment Capacity

The 21 classrooms were scheduled on average 18.5 Weekly Room Hours (WRH) with about 55.5% of the seats in use. Guidelines suggest that the classrooms should be used at least 27 WRHs with 65% of seats occupied.

- The 21 classrooms could accommodate nearly 70% more students in daytime hours if they are utilized at the suggested guidelines. This would require additional use at 8 AM and after 2 PM.
- Assuming the contact hours per section remain the same, 89 more sections would be needed to handle this increase in enrollment.
- Increased use of <u>non-prime time hours</u> would also be required.

West Allis Campus

Classroom Summary

There are 24 rooms at West Allis classified as General Purpose Classrooms for Fall 2011. Room M222 was converted to PE and is excluded from the current classrooms supply, but the schedule demand is included in the utilization analysis. Also excluded is room M161 which has been converted to a Telepresence room, A 114 which is now assigned to ESL and M362 which is dedicated to Dietetics.

The Classroom Summary table shows the 20 classrooms, as of Fall 2011 (excluding M222), that were used in this study as a basis for demand, current utilization rates and enrollment capacity analysis.

Table 22: Classroom Supply - West Allis

Room Type		Count	ASF	Capacity	Avg ASF	Avg Station
110	GP Classroom	20	15,923	634	796	25.1
140	Computer Classroom	6	5,673	130	946	43.6

- The average station size of 25.1 ASF for the GP Classrooms is within the expected range of 18 to 30 ASF per station.
- The average station size of 43.6 ASF for the Computer Classrooms is also within the expected range of 30 to 45 ASF per station.

Current Classroom Utilization

Utilization Measures

Table 28 identifies the utilization for the 20 Classrooms:

Table 23: Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	606	30.3	46.6%	64.0%
2. Daytime	45	369	18.5	41.0%	64.4%
3. Evening	20	237	11.9	59.3%	63.5%
4. Primetime	25	292	14.6	58.5%	63.6%

- The **Average WRH** use as percent of **Available Hours** is near guideline expectations of 60% to 70% for all prime time and evening hours.
- The **% SO** is near the guideline expectations for all time frames.

Table 29 identifies the utilization for the 6 GP Computer Classrooms.

Table 24: Computer Classroom Utilization Summary

Time Frames	Available Hours	Total WRH	Avg WRH	% Avail Hours	% SO
1. All Day	65	143	23.8	36.7%	84.9%
2. Daytime	45	93	15.5	34.4%	87.9%
3. Evening	20	50	8.3	41.7%	79.3%
4. Primetime	25	76	12.7	50.7%	89.9%

- While the **% SO** is well within the guideline range for all time frames, the **Average WRH** use as percent of **Available Hours** is well below guideline expectations of 60% to 70% for all time frames.

Classrooms in Use by Hour and Day

Chart 7 identifies the number of classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Chart 7: Classrooms Used by Hour and Day
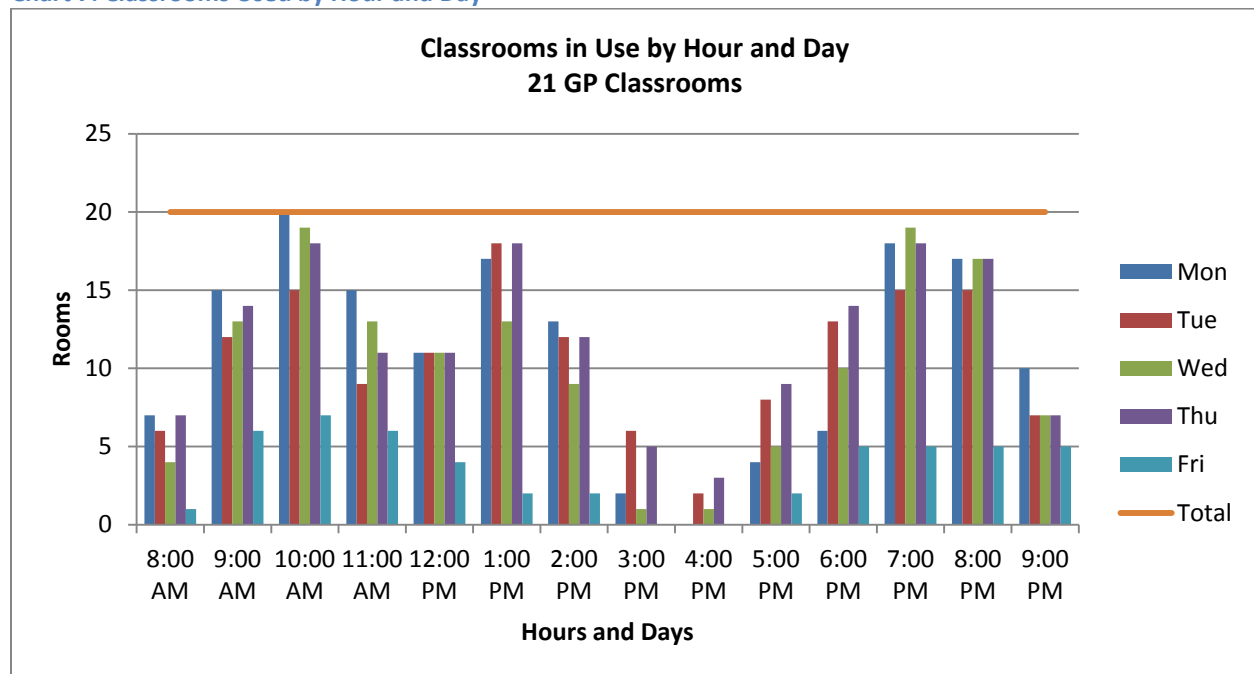
- This is a typical usage pattern of low use at 8 AM and after 2 PM until 6 PM when use increases.
- All rooms are in use on Monday at 10 AM.
- Also typical is low use on Friday.

Computer Classrooms in Use by Hour and Day

Chart 8 identifies the number of computer classrooms in scheduled use for every half hour each day of the week between 8 AM and 10 PM.

Computer Classrooms in Use by Hour and Day
6 Rooms
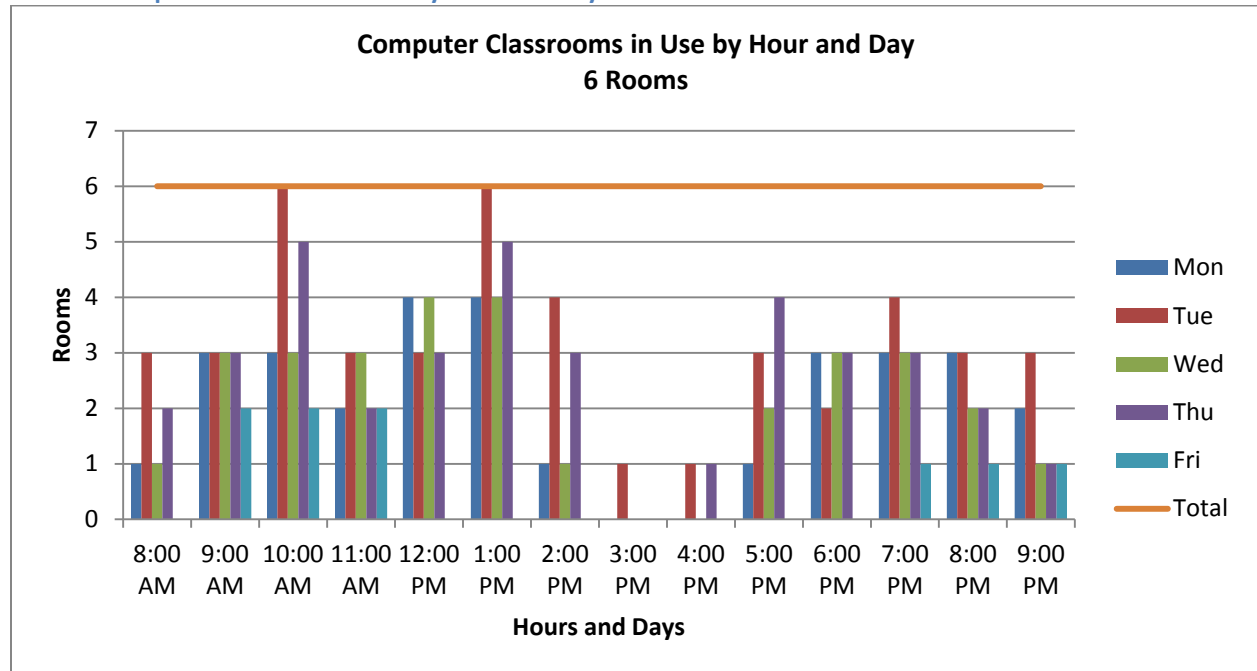
- There are several hours when all computer labs are in use.

Room Needs and Enrollment Growth

Typically enrollment growth is met by a combination of increase in average section size (more students in each class and more classes being offered).

Prime Time Enrollment Capacity

The 23 classrooms were scheduled on average 13.5 Weekly Room Hours (WRH) with about 61.4% of the seats in use. Guidelines suggest that the classrooms should be used at least 16.5 WRHs with 65% of seats occupied.

- The 23 classrooms could accommodate nearly 30% more students in primetime hours, if they are utilized at the suggested guidelines.
    - Assuming the contact hours per section remain the same then 34 more sections would be needed to handle this increase in enrollment.
- The 6 computer classrooms were scheduled on average 12.7 WRHs with about 90% of the seats in use. Guidelines suggest that the classrooms should be used at least 16.5 WRHs with 80% of seats occupied.
- The 6 computer classrooms could accommodate nearly 30% more students in prime time hours if the WRH use rate is increased to 16.5 and the % SO remains at 90%. If the % SO is decreased to 80% then the growth potential for these rooms drops to about 15%.

Day Time Enrollment Capacity

The 23 GP classrooms were scheduled on average 17.5 WRHs with about 61.7% of the seats in use. Guidelines suggest that the classrooms should be used at least 27 WRHs with 65% of seats occupied.

- The current 23 classrooms could accommodate nearly 60% more students in daytime hours if they are utilized at the suggested guidelines. This would require additional use at 8 AM and after 2 PM.
- Assuming the contact hours per section remain the same then 80 more sections would be needed to handle this increase in enrollment.
- Increased use of non-prime time hours would also be required.

The 6 GP computer classrooms were scheduled on average 15.5 WRHs with about 88% of the seats in use. Guidelines suggest that the classrooms should be used at least 16.5 WRHs with 80% of seats occupied.

- The current 6 computer classrooms could accommodate nearly 75% more students in prime time hours if the WRH use rate is increased to 16.5 and the % SO remains at 88%. If the % SO is decreased to 80% then the growth potential for these rooms drops to about 58%.

Evening Enrollment Capacity

- There is very little additional enrollment capacity in the evening in the classrooms.
- The computer classrooms could accommodate as much as a 20% growth in enrollments during the evening.

Laboratory and Shop Assessment

Laboratories and Shops: Laboratories and Shops are discipline specific and generally have specialized equipment and teaching station modules that vary with equipment and discipline. In some cases the lab or shop includes a dedicated classroom as part of the instructional suite. For the purpose of this analysis these classrooms are included as part of the total laboratory or shop space required for the program.

- Because laboratories generally have an instructional capacity of less than 30 students, station occupancy for labs is generally higher than for GP classrooms. Station occupancy of 80% is specified in most state guidelines.
- Weekly Room Hour (WRH) use expectations is generally lower than for the Classrooms to account for set up time and/or open lab time. WRH expected use is also discipline specific.

The laboratories and shops were analyzed applying enrollment projections derived from the Spring 2012 Environmental Scan prepared by FANNING-HOWEY and BRAILSFORD & DUNLAVEY to the Fall 2011 term class enrollment data. Utilization guidelines and lab station modules that are discipline appropriate were applied to the lab hour enrollment data to calculate the amount of laboratory or shop space that would be required to handle the projected enrollments. This calculation was then compared to the current actual space available to that discipline. The ratio of calculated space need to the current space is a measure of intensity of use of the space.

In the tables that follow:

a. **Current Space** is a total of all space associated with that lab or shop including dedicated classrooms, service rooms and supply rooms as Fall 2011 term.

b. **Current Need** is the calculated square feet required to support the Fall 2011 term lab hour enrollments if the labs were used at utilization guidelines and lab station modules.

c. **Growth %** is the percentage increases in enrollments used for the 10 year planning period for programs that are expected to grow because of future workforce needs or because of new program initiatives.

- In addition a 3% contingency/growth factor was applied to the current enrollments for all programs to account for unforeseen ebbs and flows of enrollments by program over the 10 year planning period.

d. **Projected Need** is the calculated square feet required to support the enrollment growth and contingency if the labs were used at utilization guidelines and lab station modules.

e. **Difference** is Current Space minus Projected Need and shows the square feet surplus or deficit of lab space.

f. **% of Current Space** is the percent ratio of Projected Need/Current Space. That ratio is interpreted as follows:

   >100%
   - The facilities are used at or above expectations.
   - In some cases they may be experiencing space issues and may need additional space.
   - Little or no opportunity to handle additional students.

50% to 100%
- The facilities are used below expectations but still within an acceptable range.
- Have the capacity to handle significant enrollment growth.
- Unless there are quality issues the facilities should be sufficient well into the future.

20% to 50%
- The facilities are used well below expectations.
- Have the capacity to handle significant enrollment growth.
- As long as the program is viable no further study is need at this time.

<20%
- These facilities need further analysis to determine viability of program.

Downtown Campus

School of Health

Based on the results of the Environmental Scan, health programs are expected to have significant growth over the planning period. For this analysis a 20% enrollment increase from Fall 2011 for all health programs is used for the planning period in addition to a 3% contingency/growth factor. Based on this analysis the School can justify an additional 12,050 ASF of space.

Table 25: School of Health - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
CLABT	Clinical Laboratory Technician	3,002	1,513	20%	1,861	1,141	62%	
CVTECH	Cardiovascular	804	321	20%	395	409	49%	
DENT	Dental Laboratory Technology	2,408	1,440	20%	1,771	637	74%	
DHYG	Dental Assistant	10,556	7,313	20%	8,994	1,562	85%	
HUC	Health Courses	1,819	1,409	20%	1,734	85	95%	
MEDAST	Medical Assistant	1,555	1,758	20%	2,162	-607	139%	600
NURS	Nursing Assistant	14,149	18,295	20%	22,503	-8,354	159%	8,400
OPTSCI	Optician-Vision Care	824	329	20%	404	420	49%	
OTASST	Occupational Therapy Assistant	2,853	882	20%	1,085	1,768	38%	
PHARMT	Pharmacy	1,664	1,056	20%	1,299	365	78%	
PTASST (1)	Physical Therapist Assistant	2,232	538	20%	661	1,571	30%	
RADT	Radiologic Technology	3,456	2,063	20%	2,537	919	73%	
RDIAT	Renal Dialysis	1,760	867	20%	1,066	694	61%	
RESPC	Respiratory Therapist	1,294	2,046	20%	2,517	-1,223	194%	1,250
SOH	Health Courses	3,111	2,513	20%	3,091	20	99%	
SURGT	Surgical Technologist	2,642	3,603	20%	4,432	-1,790	168%	1,800
Totals		54,129	45,944		56,512	-2,383	104%	12,050

- The Medical Assistant program is at capacity and will need additional 600 ASF.
- The Nursing program is at capacity and will need additional 8,400 ASF.
- Respiratory Therapy program is at capacity and will need an additional 1,250 ASF.
- Surgical Technology program is at capacity and will need an additional 1,800 ASF.
- OPSCI should be located in a more accessible area.

School of Technology & Applied Sciences

Based on the results of the Environmental Scan, there are no programs in STAS on the Downtown Campus that are projected to show significant enrollment growth during the planning period for this study. However the projected need includes a 3% contingency/growth factor as described previously. Based on this analysis the STAS has sufficient space for the planning period.

Table 26: School of Technology & Applied Sciences - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
APPSVC	Appliance Servicing	4,840	3,260	0%	3,358	1,482	69%	
ARCHT	Architectural Technology	6,031	2,631	0%	2,710	3,321	45%	
AUTO	Automobile-Mechanical	8,601	3,715	0%	3,826	4,775	44%	
CABMIL	Cabinetmaking and Millwork	4,686	719	0%	741	3,945	16%	
CARP	Carpentry	3,258	2,994	0%	3,084	174	95%	
CIVIL	Civil Engineering Technology	1,427	635	0%	654	773	46%	
ELCTEC	Electronic Technology	19,019	5,317	0%	5,477	13,542	29%	
ELECTY	Electricity	8,470	2,568	0%	2,645	5,825	31%	
FDRY	Foundry	3,772	0	0%	0	3,772	0%	
MACHTL	Machine Shop	21,001	18,648	0%	19,207	1,794	91%	
MCDESG	Mechanical Technology	2,958	2,484	0%	2,559	399	86%	
MDRAFT	Mechanical Drafting	945	185	0%	191	754	20%	
PAINT	Painting & Decorating	1,549	312	0%	321	1,228	21%	
PLUMB	Plumbing	8,153	2,018	0%	2,078	6,075	25%	
POLICE	Police Science	1,816	1,557	10%	1,760	56	97%	
STAS	School	5,771	2,115	0%	2,179	3,592	38%	
Totals		**102,297**	**49,160**		**50,790**	**-1,631**	**103%**	

- Several programs are used well below capacity including:
    - Cabinetmaking and Millwork
    - Foundry
    - Mechanical Drafting
    - Painting & Decorating
    - Plumbing

School of Media and Arts

Based on the results of the Environmental Scan the SMAC programs are not expected to have significant growth over the planning period. However the school has several program initiatives that may impact enrollments over the planning period: audio production, mobile web application degree program, expanded computer gaming and advertising design. In addition to the 3% contingency/growth factor an additional 10% enrollment increase is projected for several programs in the School for the planning period.

Table 27: School of Media and Arts – Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
ANIM	Animation	4,001	4,401	10%	5,001	-1,000	125%	1,000
COMART	Commercial Art	6,197	3,333	10%	3,767	2,430	61%	
MCA Lecture/ Demo	School	888	487	0%	501	387	56%	
MUSIC	Music	10,029	10,500	10%	11,865	-1,836	118%	1,850
PHOTO	Photography	8,559	3,633		3,742	4,817	44%	
VICOM	Visual Communications	3,584	3,700	10%	4,181	-597	117%	600
Totals		**33,258**	**26,054**		**29,057**	**4,201**	**87%**	**3,450**

- Animation, Music and Visual Communications are at capacity and will need about 3,450 ASF. (Animation 1,000 ASF, Music 1,850 ASF and Visual Communication 600 ASF).
- New program initiatives included in future needs are: studio space for audio production, computer gaming space for VICOM (mobile web app degree) and Advertising Design (COMART).
- Commercial Art should have sufficient space to handle the advertising design new program.

School of Business

Based on the results of the Environmental Scan, Cosmetology is the only program in the School of Business expected to have significant growth over the planning period. For this analysis a 10% enrollment increase from the Fall 2011 term is used for the planning period.

Table 28: School of Business - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
BAKING	Baking	4,890	6,755	0%	6,958	-2,068	142%	2,100
BARCOS	Barbering/Cosmetology	10,195	11,702	10%	13,224	-3,029	130%	3,050
COMPSW	Computer Software	859	350	0%	361	499	42%	
CULART	Culinary Arts/Management	10,270	8,820	0%	9,085	1,185	88%	
IT	IT Networking/Support/ Program Development	2,706	544	0%	560	2,146	21%	
MKTG	Marketing	2,148	1,022	0%	1,052	1,096	49%	
OFTECH	Office/Systems Technology	1,850	651	0%	671	1,179	36%	
	Entrepreneur Program							1,000
Totals		**32,918**	**29,845**		**31,910**	**1,008**	**97%**	**6,150**

- Baking is not expected to have significant enrollment increases over the next 10 years, however their facilities are currently used at or above ideal capacity and they could justify an additional 2,100 ASF of space.
- Barbering and Cosmetology are also currently at enrollment capacity and with the projected enrollment growth over the next 10 years they could justify an additional 3,050 ASF of space.

- The School is planning a new Entrepreneur Program. While there is no data to provide a detailed analysis of space for this program, 1,000 ASF is allocated for planning purposes pending future analysis.
- All other programs in the School should have sufficient space to handle any unforeseen changes in enrollment during the planning period.

School of Liberal Arts and Sciences

Based on the results of the Environmental Scan, there are no SLAS programs that are expected to have significant growth over the planning period.

Table 29: School of Liberal Arts and Sciences - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
FLANG	Foreign Language	1,045	459	0%	472	573	45%	
INTP	Interpreter Technician	2,071	677	0%	697	1,374	34%	
NATSCI	Natural Science	19,631	15,394	0%	15,856	3,775	81%	
PHYED	Physical Education	1,479	1,427	0%	1,470	9	99%	
Totals		**24,226**	**17,957**		**18,496**	**5,730**	**76%**	

- All programs in the School of Liberal Arts and Sciences should have sufficient space to handle any unforeseen changes in enrollment during the planning period.

Pre College

Pre College programs are not expected to have significant growth over the planning period.

Table 30: Pre College – Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
ESL	English as Second Lang	5,674	4,331	0%	4,461	1,213	79%	
Computer Labs	Computer Labs	15,719	10,875	0%	11,201	4,518	71%	
Science Labs	Science Labs	2,130	2,045	0%	2,107	23	99%	
SMENG	Small Engine Repairs	2,234	0	0%	0	2,234	0%	
Totals		**25,757**	**17,252**		**17,769**	**7,988**	**69%**	

- All programs in Pre College should have sufficient space to handle any unforeseen changes in enrollment during the planning period.

Oak Creek Campus

Based on the results of the Environmental Scan, Heating, Air Conditioning and Refrigeration Mechanics is expected to have a 15% growth over the planning period; and Nursing Programs are expected to increase by 20%. Although not reflected in the Environmental Scan, Public Safety Programs (EMS, Fire, and Police) are also expected to increase in enrollment according to the School. In addition a Paramedic program is being added. For this analysis a 10% enrollment increase from Fall 2011 is used for these

programs for the planning period. A Diesel Mechanic Program and Truck Driving School is also being added.

Table 31: Oak Creek Campus - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
AUTO	Automotive/Diesel	45,642	49,602	0%	50,024	-4,382	110%	4,400 sq. ft. shop (20 stations)
AVITEC	Aeronautics	20,837	3,938	0%	4,056	16,781	19%	
CARP	Carpentry	7,888	5,907	0%	6,084	1,804	77%	
ELECTY	Electricity	1,329	1,818	0%	1,873	-544	141%	Excess Demand may be met in Power Plant Engineering Lab pending equipment compatibility.
EMS	Emergency Medical Services	2,367	2,763	10%	3,122	-755	132%	800 (1)
ESL	English as a Second Language	1,321	1,433	0%	1,476	-155	112%	
FIRE	Fire Technology	4,866	7,858	10%	8,879	-4,013	182%	4,000 (1)
HVAC	Air Cond, Refrig., and Heating	12,098	7,856	15%	9,270	2,828	77%	
IT	IT-Networking	2,072	424	0%	437	1,635	21%	
NATSCI	Natural Science	7,790	6,245	0%	6,432	1,358	83%	
NURS	Nursing Assistant	2,414	2,873	20%	3,534	-1,120	146%	1,200
POLICE	Police Science	3,480	10,068	10%	11,377	-7,897	327%	7,900 (1)
POWENG	Power Plant Engineer	1,266	683	0%	704	562	56%	
SHEETM	Sheet Metal	5,089	2,680	0%	2,760	2,329	54%	
STAS	School	2,944	2,224	0%	2,291	653	78%	
TDMKG	Tool & Die Making	19,643	3,017	0%	3,108	16,535	16%	
WELD	Welding	5,750	8,249	0%	8,496	-2,746	148%	2,800
Totals (2)		**146,796**	**117,639**		**123,924**	**22,872**	**84%**	

(1) Proposed for New Public Safety Building.

(2) Excludes the 9,297 square feet firing range and 1,410 square feet of open labs assigned to Student Services. Adding these brings the total current lab space to 157,503 square feet.

- Automotive programs are near capacity and have an extensive wait list. To clear wait list an additional shop with 20 bays totaling 4,400 ASF could be justified.
- The current Diesel shop space should be able to accommodate the new program initiatives in Truck Driving School and Diesel Mechanics.
- While the calculations show the Electricity lab is at or above capacity, this is primarily due to the Power Plant Engineer courses meeting in the Electricity lab. The calculations for the Power Plant Engineer lab indicate there is sufficient space to accommodate any overflow from the Electricity lab assuming that there are no equipment issues.
- Nursing could justify an additional 1,200 ASF of space.
- Welding is currently above capacity and could justify an additional 2,800 ASF of space.

- EMS/Fire/Police programs are at capacity and could use an additional 12,700 ASF. The new paramedic program needs may be able to be met in theses spaces as well as by sharing expanded Nursing space.
- A Public Safety Building is being discussed that would provide space for Police/EMS/Fire/Firing Range. Table 37 identifies that a building of about 32,913 NSF would be required to house these programs, including a firing range. If these programs are housed in a new building then 20,010 ASF would be available in the current buildings to meet other needs.

Table 32: Public Safety Building NSF

	Projected Need	Current Space	Difference
EMS	3,167	2,367	800
FIRE	8,866	4,866	4,000
POLICE	11,380	3,480	7,900
Range	9,500	9,297	203
Totals	**32,913**	**20,010**	**12,903**

Mequon Campus

Based on the results of the Environmental Scan, the only program expected to have significant growth over the 10 year planning period is the Nursing Program which is expected to grow by about 20%.

Table 33: Mequon Campus - Lab and Shop Analysis

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
AUTO	Automotive	15,398	9,825	0%	10,120	5,278	66%	
ELECTY	Electricity	4,787	2,320	0%	2,390	2,397	50%	
ENVHEL	Environmental	2,528	2,635	0%	2,714	-186	107%	
HIT	Medical Records	1,160	877	0%	903	257	78%	
HORT (1)	Horticulture	1,627	1,132	0%	1,166	461	72%	
INDSGN	Interior Design	2,665	0	0%	0	2,665	0%	
IT	IT Networking/Support	3,356	445	0%	458	2,898	14%	
NATSCI	Natural Science	3,104	2,144	0%	2,209	895	71%	
NURS	Nursing Assistant	4,202	1,427	20%	1,755	2,447	42%	
PHYED	Physical Education	1,037	441	0%	454	583	44%	
Totals (2)		**39,864**	**21,246**		**22,168**	**17,696**	**56%**	

(1) Excludes Landscape lab A260 and A260A - 6,000 ASF to be converted to Welding Shop.

(2) Totals exclude A272 an EMS lab used as an open lab.

- All programs at Mequon should have sufficient space to handle any unforeseen changes in enrollment over the planning period.

West Allis Campus

Based on the results of the Environmental Scan, Dietetic Technicians are expected to increase just under 15% over the planning period and Nursing Programs are expected to increase by 20%.

Lab		Current Space (ASF) (a)	Current Need (b)	Growth % (c)	Projected Need (d)	Difference (a-d)	% of Current (d/a)	Recommended Additional Space
BADM	Accounting/ Business Admin/ Computer Software	7,837	2,938	0%	3,026	4,811	39%	
DIETNT	Dietetics	782	708	15%	836	-54	107%	
ELCTEC	Electronic Technology	2,141	695	0%	716	1,425	33%	
ESL	English as a Second Language	3,036	3,105	15%	3,664	-628	121%	600
FUNERL	Funeral Services	4,227	2,055	0%	2,117	2,110	50%	
INDSGN	Interior Design	2,481	2,192	0%	2,258	223	91%	
MASON	Bricklaying & Masonry	2,634	1,657	0%	1,707	927	65%	
NATSCI	Natural Science	5,175	6,225	0%	6,412	-1,237	124%	1,250
NURS	Nursing Assistant	1,137	1,680	20%	2,066	-929	182%	1,000
WELD	Welding	6,408	5,068	0%	5,220	1,188	81%	
Totals		35,858	26,323		29,398	6,460	82%	2,850

- Dietetics has a small space shortage. However, the need does not justify an additional lab. Any difference could be covered by increasing room hour use from 22 to 24 hours per week and increasing section sizes by 1 or 2 students.
- ESL is at capacity and could use an additional lab of 500 to 600 ASF.
- Natural Science labs are at capacity and could justify an additional lab of about 1,250 ASF.
- The Nursing labs are at capacity and could justify an additional lab of about 1,000 ASF
- Bricklaying and Masonry is moving to MEC-South and the Welding program will expand into that space.
- Other program expansions of Interior Design and Early Childhood Education should have adequate space to meet future needs.
- Welding will add a Robotics program (7,000 ASF) and move Metallurgical programs (1,300 ASF) and the Foundry (2,500 ASF) from the Downtown Campus (Rooms T 239, T237B, T139 and T146) to expand and consolidate these programs.

Office Assessment

Office space need is calculated by applying a position appropriate module to the FTE number of personnel by position. The College provided a list of all personnel with an appointment for Fall 2011 that was used as the base year data for the office need calculation. The office space planning modules included in this modeling process are shown in Table 6 in the General Planning Assumptions section of this report.

This assessment also includes calculations for office conference, lounge and service spaces:

- Office conference room space is allocated at 18 ASF per FTE for faculty and administrative staff.
- Office lounge space is allocated at 5 ASF per FTE for all personnel.
- Office service space is allocated at 10%-20% of total office space for most departments. Depending on their functional needs, certain offices are provided a supplemental allocation for: reception and waiting space, processing space and additional departmental storage.

The following tables list the FTE number of personnel by position type using the prescribed office modules to calculate the current space need. Projected FTE increases the number of instructors (both part time and full time) to account for enrollment growth and to provide a 3% contingency/growth factor. In the following tables, the current space is not inventoried by position. All office space is either classified as a generic office, conference room, lounge or service space; not as an instructor office, clerical office, and so on.

Downtown Campus

Table 35: Office Assessment - Downtown Milwaukee

Position	Module	Current Space	2011 FTE	Current Need	Current Diff (d-b)	Projected FTE	Projected Need	Diff (g-b)
	a	b	c	d	e	F	g	h
President	250	0	1	250		1	250	
Dean	200	0	9	1,800		9	1,800	
Assoc./Asst. Administrator	180	0	18	3,240		18	3,240	
Director/Chair	180	0	26	4,680		26	4,680	
Instructor	130	0	365	47,450		383	49,823	
Instructors- Part Time	35	0	288	10,080		302	10,584	
Staff	130	145,945	415	53,885		435	56,579	
Clerical/Technical Staff	120	0	131	15,720		138	16,506	
Subtotal		145,945	1,253	137,105	-8,840	1,312	143,462	-2,483
Lounge	5	0	965	4,823	4,823	1,010	4,943	4,943
Conference Rooms	18	15,333	834	15,003	-330	872	15,386	53
Office Service	1	8,978	0	12,703	3,725	0	13,288	4,310
Student Offices		2,807		2,807	0		2,807	
Total Office Space		173,063		172,440	-623		179,886	6,823

- The Downtown Campus has sufficient office space and conference rooms to meet the current and future need. However, there is a lack of office lounge space and office service space totaling about 6,800 ASF to meet future needs.

Oak Creek Campus

Table 36: Office Assessment - Oak Creek

Position	Module	Current Space	2011 FTE	Current Need	Current Diff (d-b)	Projected FTE	Projected Need	Diff (g-b)
	a	b	c	d	e	f	g	h
Assoc./Asst. Administrator	180	0	4	720		4	720	
Instructors	130	0	86	11,180		90	11,739	
Instructors- Part Time	35	0	109	3,798		114	3,987	
Staff	130	17,421	41	5,265		41	5,265	
Clerical/Technical Staff	120	0	15	1,800		15	1,800	
Subtotal		17,421	254	22,763	5,342	264	23,511	6,090
Lounge	5	0	146	728	728	150	749	749
Conference Rooms	18	1,535	131	2,349	814	135	2,426	891
Office Service	1	1,277	0	1,897	620	0	1,852	575
Total Office Space		20,233		27,736	7,503		28,539	8,306

- The Oak Creek Campus has a shortage of about 7,500 ASF in office space (5,350 ASF in office type space and about 2,150 ASF in lounge, conference and service space). Adding 1,000 ASF for a faculty innovation center brings the total current need to 7,603 ASF.
- The projected need shows a total deficit of 8,300 ASF with about 6,090 ASF in office type need.

Mequon Campus

Table 37: Office Assessment - Mequon

Position	Module	Current Space	2011 FTE	Current Need	Current Diff (d-b)	Projected FTE	Projected Need	Diff (g-b)
	a	b	c	d	e	f	g	h
Vice President	225	0	1	225		1	225	
Assoc./Asst. Administrator	180	267	3	540		3	540	
Instructor	130	5,583	52	6,760		55	7,098	
Instructors- Part Time	35	0	39	1,348		40	1,415	
Staff	130	6,899	27	3,510		27	3,510	
Clerical/Technical Staff	120	222	9	1,020		9	1,020	
Subtotal		12,971	130	13,403	432	135	13,808	837
Lounge	5	311	92	458	147	94	471	160
Conference Rooms	18	780	83	1,494	714	86	1,541	761
Office Service	1	3,124	0	1,206	-1,919	0	1,239	-1,885
Total Office Space		17,186		16,560	-627		17,058	-128

- The current need shows a slight surplus overall (627 ASF) but a small deficit of office service space.

- The projected need shows a small need for about 1,250 ASF of office service space. However, there is a calculated surplus of office service space.

West Allis Campus

Table 38: Office Assessment – West Allis

Position	Module	Current Space	2011 FTE	Current Need	Current Diff (d-b)	Projected FTE	Projected Need	Diff (g-b)
	a	b	c	d	e	f	g	h
Dean	200	0	1	200		1	200	
Assoc./Asst. Administrator	180	0	3	540		3	540	
Instructor	130	0	55	7,150		58	7,508	
Instructors- Part Time	35	0	49	1,698		51	1,782	
Staff	130	13,886	34	4,355		34	4,355	
Clerical/Technical Staff	120	0	11	1,320		11	1,320	
Subtotal		**13,886**	**152**	**15,263**	**1,377**	**157**	**15,705**	**1,819**
Lounge	5	204	104	518	314	106	532	328
Conference Rooms	18	3,152	93	1,665	-1,487	95	1,715	-1,437
Office Service	1	1,581	0	1,357	-225	0	1,392	-189
Total Office Space		**18,823**		**18,802**	**-22**		**19,345**	**522**

- The current need shows additional 1,350 ASF of office type space by surplus of about 1,665 ASF of conference room space.
- The projected need shows a need for about 1,800 ASF of office type space. However, there is still a calculated surplus of about 1,450 ASF of conference room space.

Library

Library space includes study rooms, stacks, open stack rooms, processing areas, and service areas. Individual offices are classified as office facilities (Room Type Category 300s).

- Library **Stack Space** is determined by multiplying the number of volume equivalents by a space factor.
  - o 0.10 for the first 150,000 volumes, 0.09 for the next 150,000 volumes, etc.
- **Reading/Study Space** is determined by the percent of faculty and students that typically use the library at peak times during the day or evening.
  - o For the MATC campus a factor of 10% was used for students and 5% for faculty.
- **Café/Lounge Space** uses a factor of 2 ASF times the number of student stations calculated for the reading/study space.
- **Processing Space/Technical Services** is 15% of the total **Equivalent Volume** and **Reading /Study Space**.

Downtown Campus

Table 39: Library Assessment – Downtown Milwaukee

	Current Need	Projected Need
Equivalent Volumes	40,071	40,071
Stack Space	4,007	4,007
Reading/Study Space	14,440	15,344
Café/Lounge Space	1,073	1,140
Processing Space/ Technical Services	2,928	3,074
Total Need	**22,448**	**23,565**
Current Space	17,997	
Difference From Current Space	**-4,451**	**-5,568**

- The Library has a current space need for about 4,450 ASF.
- The projected space need increases to about 5,500 ASF.

Oak Creek Campus

Table 40: Library Assessment – Oak Creek

	Current Need	Projected Need
Equivalent Volumes	26,231	26,231
Stack Space	2,623	2,623
Reading/Study Space	5,727	5,899
Café/Lounge Space	426	439
Processing Space/ Technical Services	1,317	1,344
Total Need	**10,093**	**10,306**
Current Space	8,738	
Difference From Current Space	**-1,355**	**-1,568**

- The Library has a current space need of about 1,350 ASF
- The projected space need increases to about 1,560 ASF

Mequon Campus

	Current Need	Projected Need
Equivalent Volumes	21,005	21,005
Stack Space	2,101	2,101
Reading/Study Space	2,193	2,259
Café/Lounge Space	163	168
Processing Space/ Technical Services	668	679
Total Need	**5,125**	**5,206**
Current Space	5,561	
Difference From Current Space	**436**	**355**

• The Library has sufficient space to meet the current and projected needs.

West Allis Campus

Table 42: Library Assessment – West Allis

	Current Need	Projected Need
Equivalent Volumes	15,196	15,196
Stack Space	1,520	1,520
Reading/Study Space	4,421	4,555
Café/Lounge Space	329	340
Processing Space/ Technical Services	940	980
Total Need	7,210	7,395
Current Space	5,467	
Difference From Current Space	**-1,743**	**-1,928**

• The Library has a current space need for about 1,750 ASF.

• The projected space need increases to about 1,930 ASF.

Foodservice/Student Lounge/Merchandising Space

The calculation for foodservice space uses the following factors:
- 20% of the FTE students,
- 10% of the instructors and staff, and
- a foodservice module of 12 = 30 ASF average module/turnover rate of 2.5:1.

For example, the Downtown campus has 5,038 FTE students, 653 FTE instructors and 600 FTE staff. The results are: [(5,083*.2) + (1,253*.1)]*12 = 13,704 square feet. This compares to the current foodservice of 11,532 ASF for a shortfall of about 2,175 ASF.

Student Lounge and Merchandising Space is allocated at 2 ASF per FTE student.

Downtown Campus

Table 43: Foodservice/Lounge/Bookstore Assessment - Downtown Milwaukee

	Current Space	Current Need	Current Difference	Projected Need	Projected Difference
Foodservice	11,532	13,595	2,063	14,432	**2,900**
Student Lounge	6,071	10,076	4,005	10,726	**4,655**

- The campus currently has 11,532 ASF of Foodservice space. Enrollment growth and contingencies described earlier show a projected need of about 14,432 ASF, an increase of about 2,900 ASF more than the current inventory.
- The current Student Lounge space totals 6,071 ASF. Enrollment growth and contingencies described earlier show a projected need of about 10,726 ASF; an increase of about 4,655 ASF more than the current inventory.

Oak Creek Campus

Table 44: Foodservice/Lounge/Bookstore Assessment – Oak Creek

	Current Space	Current Need	Current Difference	Projected Need	Projected Difference
Foodservice	11,521	5,186	-6,335	6,027	**-5,494**
Student Lounge	0	4,075	4,075	4,190	**4,190**
Bookstore/Merchandising	1,507	4,075	2,568	4,182	**2,675**

- Oak Creek has no dedicated Student Lounge space. Calculations show a need of about 4,190 ASF of space.
- The current Bookstore/Merchandising space totals 1,507 ASF. Projected need based on enrollment growth and contingencies as described earlier show a projected need of about 4,182 ASF, an increase of about 2,675 ASF more than the current inventory.

Mequon Campus

Table 45: Foodservice/Lounge/Bookstore Assessment - Mequon

	Current Space	Current Need	Current Difference	Projected Need	Projected Difference
Foodservice	6,510	2,004	-4,506	2,201	**-4,309**
Student Lounge	0	1,550	1,550	1,600	**1,600**
Bookstore/Merchandising	1,997	1,540	-457	1,600	**-397**

- Mequon has no dedicated Student Lounge space; calculations show a need of about 1,600 ASF of space.
- Foodservice and Bookstore/Merchandising space is adequate to meet future needs.

West Allis Campus

Table 46: Foodservice/Lounge/Bookstore Assessment – West Allis

	Current Space	Current Need	Current Difference	Projected Need	Projected Difference
Foodservice	3,498	4,012	514	4,148	**650**
Student Lounge	1,188	3,191	2,003	3,300	**2,112**
Bookstore/Merchandising	825	3,191	2,366	3,300	**2,475**

- The campus currently has 3,498 ASF of Foodservice space. Projected need based on enrollment growth and contingencies as described earlier show a projected need of about 4,150 ASF; an increase of about 650 ASF more than the current inventory.
- The current Student Lounge space totals 1,188 ASF. Enrollment growth and contingencies described earlier show a projected need of about 3,300 ASF, an increase of about 2,000 ASF more than the current inventory.
- The current Bookstore/Merchandising space totals 825 ASF. Enrollment growth and contingencies described earlier show a projected need of about 3,300 ASF, an increase of about 2,370 ASF more than the current inventory.