



West Shore
Community
College



Curriculum Guide 2016-2017





West Shore Community College
3000 N. Stiles Road, Scottville, MI 49454
231-845-6211
800-848-9722
www.westshore.edu

“My overall experience at WSCC has shaped me into a stronger leader, critical thinker, believer, and team player - it's truly set a very strong foundation for my future endeavors.”



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SECTION ONE
Welcome to West Shore!



We all start from different places with distinct destinations in mind. Whether you are entering college from high school or haven't been in a classroom in a decade or two, we are here for you with the services you need to be successful.

Welcome to West Shore!

Connect with Us

Location & Hours	Office	Phone	Email
Schoenherr Campus Center, 1st Floor Main Campus	Student Services (main office)	231-843-5510 or 800-848-9722, ext. 5510	contactus@westshore.edu
	Admissions	231-843-5503 or 800-848-9722, ext. 5503	admissions@westshore.edu
8 AM – 5 PM; Evening hours by appointment	Financial Aid	231-843-5518 or 800-848-9722, ext. 5518	finaid@westshore.edu
	Student Records (transcripts)	231-843-5548 or 800-848-9722, ext. 5548	sturecords@westshore.edu
	Academic Advising	231-843-5510 or 800-848-9722, ext. 5510	advising@westshore.edu

Classes offered at these locations...

Main Campus
3000 North Stiles Road
Scottville, MI 49454

**Manistee County Education Center
at West Shore Medical Center**
1465 E Parkdale (US-31)
Manistee, MI 49660

Hart West Shore ESD
844 Griswold Street
Hart, MI 49420

...and online!

my.westshore.edu

For class offerings, registering for classes, and printing class schedules. Logging in does lead you to more places, but you can navigate the site before you're a student.

Canvas

(<https://westshore.instructure.com/login>)

Canvas is our online learning platform; whether you're taking an online or face-to-face class, you'll use Canvas to check your grades, receive important announcements, join student groups, and more.

www.westshore.edu

For information about events on campus, applying for admissions, degree and certificate programs, and workshops for the community and businesses.



Follow us on Facebook, Twitter, and Instagram

Welcome to West Shore!

4 Easy Steps to Become a West Shore Student

Ready to begin your educational experience? Follow these simple steps! If you have questions or do not have internet access, call 231-843-5510 or visit Student Services for assistance.



1. Complete the Online Application

Submit your online application at my.westshore.edu. Upon completion of the application, your username and password will be mailed to you within 1-2 business days. Once you receive your username and password, log into my.westshore.edu and complete the Online Orientation. Nursing and Criminal Justice Programs have additional admissions guidelines; see an advisor for more information.

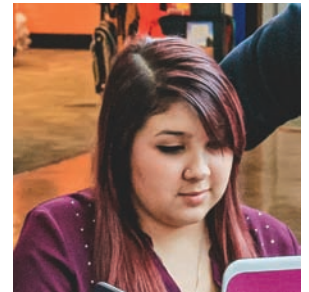
2. Apply for Financial Aid (recommended)

Complete the Free Application for Federal Student Aid (FAFSA) online at www.fafsa.ed.gov with your FSA ID and password any time after January 1. Return any forms requested by the Financial Aid Office for verification purposes. Processing may take up to 4 weeks.

3. Evaluation of Course Placement and Previous College Credit

If you have earned fewer than 12 college credits, you need to request for your official high school transcript, including ACT scores, to be sent to the Admissions Office. If you earned an 18 in English, a 17 in Reading, and a 16 in Math on the ACT, you do not need to take the COMPASS Test. If any of your ACT scores fall below these requirements, you will need to take part or all of the COMPASS Test.

If you do not have ACT scores or college transcripts, you will need to take the COMPASS Test. The test is free in our Learning and Testing Center, located in the upper level of the Schoenherr Campus Center on a walk-in basis. Please call the Learning and Testing Center at 231-843-5528 for testing hours. If you have taken any college courses, request that an official copy of your college transcripts be sent to West Shore.



4. Attend Orientations, Register for Classes, and Submit Payment

Orientations are designed to provide students with the tools necessary for success, and will cover topics including but not limited to college policies, campus resources, and classroom expectations. All new West Shore Students, including transfer students, are required to complete the online orientation as well as attend an on-campus orientation.



Once you receive your admissions confirmation and login credentials, complete the online orientation by logging into my.westshore.edu and clicking on "Students," then "myAdmission." Once completed, contact the Student Services office at 231-843-5510 to schedule your face-to-face orientation session. Returning students and guest students are not required to attend an on-campus orientation, but are encouraged to view the Online Orientation by logging into my.westshore.edu.

At the conclusion of the face-to-face orientation, new students will work with advisors to register for courses. Returning and guest students are encouraged to meet with an advisor if necessary, but may proceed to registering independently online by clicking on the "Students" tab at my.westshore.edu.

Payment options include: applying financial aid, paying online at my.westshore.edu, paying at the cashier's window, or enrolling in WSCC's payment plan. Your classes will be dropped for non-payment if full payment is not received by the payment deadline. Please refer to the Calendar on p. 5 for these dates.

Welcome to West Shore!

Calendar

	Summer 2016	Fall 2016	Winter 2017
Early web registration opens for currently enrolled students	April 4	April 4	October 24
Registration for all others	April 11	April 11	October 31
Tuition & fee payment due by 12:00 noon	May 12	August 4	December 8
Late Web Registration Payment, payment plan, or financial aid must be in place within 24 hours of registration or classes will be dropped.*	May 12 – June 5*	August 4 – August 28*	December 8 – January 15*

Other Important Dates

First day of classes	June 6	August 29	January 16
No classes (Labor Day Holiday)		September 5 – 6 (Labor Day Holiday)	
Last day to drop classes with 100% refund**	June 10	September 14	January 27
Deadline to apply for graduation	June 15	October 1	February 1
Mid-term	July 1	October 21	March 10
No classes (Holidays)	July 4 (July 4 Holiday)	November 23-25 (Thanksgiving Holiday)	March 27 – March 31 (Spring Break Holiday)
Last day to withdraw from classes (no refund)	July 8	November 17	April 5
Last day of classes	July 29	December 16	May 5

* College accepts Discover, Visa, and MasterCard. Payment or Payment Plan may be done online at my.westshore.edu.

** Courses that begin before or after the official first week of a semester have varying 100% refund dates. Contact the Student Records Office at 231-843-5548 to inquire.

Welcome to West Shore!

Tuition & Fees, 2015 – 2016

Below are tuition and fees for 2015-2016. Tuition and fees for 2016-2017 will be determined by late spring. Visit www.westshore.edu for updated information.

West Shore Tuition	Current Cost
WSCC Tuition Cost (per contact hour)	
In-District	\$91.00
Non District	\$160.00
Non-Michigan	\$215.00



Fees	Current Cost
Test Out of a Course	\$91.00
(Fee based on 1 credit hour. Automatically adjusts with future tuition changes.)	
Registration Fee	\$7.00
Student Service Fee (per contact hour)	
1-5 contact hours	\$26.00
6-11 contact hours	\$49.00
12+ contact hours	\$56.00
Technology Fee (per contact hour, \$98.00 maximum)	\$7.00
Lab Fee	Varies

Welcome to West Shore!

Financial Aid for Your Education WSCC makes it easy! Financial aid makes it affordable!

The West Shore Community College Financial Aid Office encourages all students to apply for financial aid and will assist all students with the application process. Types of financial aid for which students may be eligible include grants, scholarships, waivers, student loans and work study employment.

How do I apply for federal financial aid programs at WSCC?

Complete the Free Application for Federal Student Aid (FAFSA) on the web at www.fafsa.gov. Students need to complete the FAFSA each year after January 1st. Provide additional documentation WSCC may need to verify your application. Review receipts and requests through my.westshore.edu student portal.

The FAFSA must be completed to determine how much financial aid you may be eligible for and you will be provided an estimated amount of aid after you submit your FAFSA.

How much financial aid will I be eligible for?

How long will it take after I submit my FAFSA to hear something?

You should receive an email confirmation from FAFSA within 48 hours. If you completed the FAFSA between January 1 and March 15, the earliest you should expect to receive a response from WSCC is April 1. Please allow up to three weeks to receive a response from WSCC if you completed your FAFSA after March 15.



Instead of using a PIN to digitally sign the FAFSA, you now use an FSA ID. Visit fafsa.gov to create yours.

What is different about FAFSA processing?

**We are here to help you. Contact us by phone or email:
231-843-5518 • finaid@westshore.edu**

Welcome to West Shore!

Beyond this Curriculum Guide

The purpose of this curriculum guide is to introduce you to WSCC's academic programs and outline your responsibilities to complete a degree or certificate; however, it is only the beginning of what you will need to be a successful student here at WSCC! Here are some additional resources:

- **Academic Advising:** Our advisors will help you pick out the best classes based on your educational goals and can help you understand how your courses and program will transfer. Call 231-843-5510 for an appointment.
- **Catalog:** For a comprehensive look at WSCC's resources, policies, and procedures, view the Catalog at http://www.westshore.edu/p_students/advising_registration/catalog.html.
- **Disability Access Services:** This office provides reasonable accommodations for students with disabilities to ensure that a great education is a possibility for every student! To set up accommodations, contact dlnelengblade@westshore.edu.
- **Library:** The Library is your one-stop shop for resources and research assistance both on-campus and online. For help using library resources, contact library@westshore.edu.
- **Math Center:** Walk-in math assistance is available on the second level of the Schoenherr Center; check the WSCC website for updated hours. Any math-related question from any class is welcome! For more information, contact pdrelles@westshore.edu.
- **Testing Center:** If you need to take a test or quiz for one of your classes, chances are you'll take it in the Testing Center. To learn more about Testing Center policies, contact dlnelengblade@westshore.edu.
- **Tutoring Center:** Tutoring is free for all students in any class and can help build critical skills like time management and study strategies. To request a tutor, contact gmkowalski@westshore.edu.
- **Writing Center:** Peer coaches will assist you in any part of the writing process, from brainstorming a topic to revising a final draft. For updated hours, contact writingcenter@westshore.edu.



SECTION TWO
Your Future – Your Education

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Your Future – Your Education

The Power of Education



People who attend college—any amount of college—earn more over their lifetimes than those who don't. People who earn two-year degrees in nearly any field of study experience higher lifetime earnings than those with only some college. And the research also shows it simply continues: the higher the degree, the higher the lifetime earning power.

Do you know how helpful a two-year degree is? It is the greatest indicator that a person will also complete a bachelor's degree. What's even more important for you to know, most students who transfer to four-year schools after earning two-year degrees from community colleges do better in their last two years than students who started at four-year schools.

Why? We believe—and research has started to back us up—it's because our faculty have chosen teaching as the focus for their careers in higher education. It's because the members of our student success teams work tirelessly to connect WSCC's students to the services that will help them reach their goals. It's because our

classes are small and our learning support programs like the Writing Center, Math Center, tutoring, and the library are continuously evolving to better meet our students' needs. And it's because our co-curricular programs like the Food for Thought conference organized by students and special events like Year of Math organized by a team of faculty from diverse fields create robust, dynamic learning environments that not only enhance students' learning today but provide skills, knowledge, and learning techniques students can draw from over a lifetime.

If you know what you'd like to study at WSCC, look for it among the programs in this guide and contact Student Services by phone at 231-843-5510 or email at advising@westshore.edu. If you aren't sure what you'd like to study, contact Student Services today so they can help you discover the program best suited to you.

Join WSCC. We are committed to helping you learn not only so you earn more but also so you experience a more satisfying and successful life today and for years to come.

Your Future – Your Education

Degrees & Certificates

Degree	Credits	Primary Focus	Major Areas of Study																				
Associate of Arts (AA)	62	Transfer	Arts & Humanities, Business, Communications, Social Science																				
Associate of Science (AS)	60	Transfer	Computer Science, Health Related, Science & Mathematics																				
Associate of Applied Arts & Sciences (AAAS)	60-71	Employment	<table border="0"> <tr> <td>Accounting</td> <td>Medical Office Information Systems</td> </tr> <tr> <td>Computers for Business</td> <td>Multi-Skilled Health Care Nurse Assistant</td> </tr> <tr> <td>Corrections</td> <td>Network Services</td> </tr> <tr> <td>Criminal Justice</td> <td>Nursing</td> </tr> <tr> <td>Early Childhood Education</td> <td>Office Information Systems</td> </tr> <tr> <td>Electrical-Electronics</td> <td>Paraprofessional</td> </tr> <tr> <td>Manufacturing Technologies</td> <td>Precision Machining Technology</td> </tr> <tr> <td>Marketing/Management</td> <td>Radiologic Technology (at MMCC)</td> </tr> <tr> <td>Mechanical Systems</td> <td>Respiratory Care (at FSU)</td> </tr> <tr> <td>Mechatronics</td> <td>Welding</td> </tr> </table>	Accounting	Medical Office Information Systems	Computers for Business	Multi-Skilled Health Care Nurse Assistant	Corrections	Network Services	Criminal Justice	Nursing	Early Childhood Education	Office Information Systems	Electrical-Electronics	Paraprofessional	Manufacturing Technologies	Precision Machining Technology	Marketing/Management	Radiologic Technology (at MMCC)	Mechanical Systems	Respiratory Care (at FSU)	Mechatronics	Welding
Accounting	Medical Office Information Systems																						
Computers for Business	Multi-Skilled Health Care Nurse Assistant																						
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Marketing/Management	Radiologic Technology (at MMCC)																						
Mechanical Systems	Respiratory Care (at FSU)																						
Mechatronics	Welding																						
Associate of General Studies (AGS)	62	Employment	This degree is only recommended on a case-by-case basis; see an advisor.																				
Michigan Transfer Agreement (MTA)	30	Transfer	This block of 30 credits is transferrable to most of the four-year institutions in the state. See an advisor for details.																				
Certificate	30-37	Employment	<table border="0"> <tr> <td>Computers for Business</td> <td>Mechatronics</td> </tr> <tr> <td>Corrections</td> <td>Medical Office</td> </tr> <tr> <td>Criminal Justice</td> <td>Medical Office Biller/Coder</td> </tr> <tr> <td>Early Childhood Education</td> <td>Multi-Skilled Health Care Nurse Assistant</td> </tr> <tr> <td>Electrical-Electronics</td> <td>Network Services</td> </tr> <tr> <td>Licensed Practical Nursing</td> <td>Office Information Systems</td> </tr> <tr> <td>Management Skills</td> <td>Software Development</td> </tr> <tr> <td>Mechanical Systems</td> <td>Welding</td> </tr> </table>	Computers for Business	Mechatronics	Corrections	Medical Office	Criminal Justice	Medical Office Biller/Coder	Early Childhood Education	Multi-Skilled Health Care Nurse Assistant	Electrical-Electronics	Network Services	Licensed Practical Nursing	Office Information Systems	Management Skills	Software Development	Mechanical Systems	Welding				
Computers for Business	Mechatronics																						
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Licensed Practical Nursing	Office Information Systems																						
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Mechanical Systems	Welding																						

Your Future – Your Education

Subject Areas

Find the areas that interest you the most to study at West Shore.



General Education Courses

General education courses are included in every program of study, regardless of major or “emphasis,” such as accounting, biology, early childhood education, history, marketing, or psychology. Often shorted to “gen ed,” these courses explore different modes of knowing and reasoning about the world and include examination of nature, mathematics, science, cultures, the arts, history, the human mind, and the ability to express ideas about these fields in conversation and in writing.

General education courses form a core of every program because advisory members, whether they are hiring for profit-making businesses, non-profit organizations, or government agencies, report that they seek to hire people who can express themselves well, think critically, persevere when there are difficulties, work as a team members, and present themselves professionally. The gen ed courses are designed to also develop these skills and attributes. These courses are listed on the next pages.

AA and AS General Education Courses

- ENG 111 – Composition I
- ENG 112 – Composition II
- SPE 101 or 110 – Principles of Speaking or Interpersonal Communication
- 3 Courses in the Arts & Humanities
- 3 Courses in Social Science
- 2 Courses in Science
- 1 Course in Math

AAAS General Education Courses

- ENG 111 – Composition I
- Communications Elective (e.g., ENG 112 – Composition SPE 101 or 110 – Principles of Speaking or Interpersonal Communication, or other)
- 1 Course in the Arts & Humanities
- 1 Course in Science or Math
- 1 Course in Social Science
- 1 General Education Elective (Arts & Humanities, Communications, Science or Math, or Social Science)

MTA

The MTA is a 30 or more credit hour block of general education courses (see p. 29).

- ENG 111 – Composition I
- Communications Elective (e.g., ENG 112 – Composition SPE 101 or 110 – Principles of Speaking or Interpersonal Communication, or other)
- 2 Courses in the Arts & Humanities (from 2 disciplines)
- 1 Course in Math
- 2 Courses in Science (from 2 disciplines)
- 2 Courses in Social Science (from 2 disciplines)
- 1 General Education Elective if needed to reach 30 credit hours

Your Future – Your Education

Gen Ed Courses for AA and AS Degrees while also fulfilling MTA

Students taking WSCC's general education courses choose 1 course from each of the categories; these courses will automatically fulfill the MTA.

Communications

Category A ENG 111 English Composition I	Fulfill Category A and Category B and select from Category C	Communications (3 credits)
Category B ENG 112 English Composition II		Communications (3 credits)
Category C SPE 101 Principles of Speaking SPE 110 Interpersonal Communications		Communications (3 credits)

Mathematics

MTH 123 Introduction to Statistics MTH 125 Quantitative Reasoning (AA only) MTH 151 College Algebra Higher level math course (MTH 222, 223, 224, 231)	Choose 1 in alignment with your program of study	Mathematics (3-4 credits)
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Science

Category A, Biological ANP 118 Intro to the Human Body ANP 230 Anat and Physio I ANP 231 Anat and Physio II ANP 235 Human Prosection Lab ANP 241 Human Pathophysiology BIO 114 Fundamentals of Ecology BIO 122 General Biology I BIO 123 General Biology II BIO 131 Aquaculture Science	BIO 157 Intro to Lake Biology BIO 232 Elem Microbiology BIO 298 Independent Study BOT 137 Local Flora BOT 221 Botany NSC 101 Life Science* ZOO 211 Ornithology ZOO 220 General Zoology ZOO 257 Fish Biology	Choose 1 from Category A and 1 from Category B	Science (4 credits)
Category B, Physical CHM 107 Intro to Chemistry CHM 110 Intro to Organic and Biochemistry CHM 122 General Chemistry I CHM 123 General Chemistry II CHM 151 Water Analysis CHM 222 Organic Chemistry I CHM 223 Organic Chemistry II CHM 298 Independent Study	GOL 191 General Geology NSC 102 Physical Science: Physics & Space* NSC 104 Physical Science: Chemistry & Earth* PHY 232 General Physics I PHY 233 General Physics II PHY 236 Engineering Physics I PHY 237 Engineering Physics II		Science (4 credits)

*If you choose NSC 101 in
Category A, NSC 102 and 104
cannot be taken for MTA.

Note: Courses in gray do not apply to MTA.

Your Future – Your Education

Social Science

Category A POL 151 Am National Govt HIS 145 US History to 1877*	HIS 146 US History 1877 to Present*
Category B	PSY 161 Intro to Psychology SOC 171 Intro to Sociology
Category C ANT 112 Intro to Cultural Anthropology ANT 114 Native Peoples & Culture of North Am ECO 136 Microeconomics ECO 137 Macroeconomics EDU courses by advisor only GEO 130 Geography North Am GEO 133 World Regional Geography HIS 141 West Civ to 1600*	HIS 142 West Civ 1600 to Present* HIS 214 History of Michigan* PSY 161 Intro to Psychology PSY 262 Child Psychology PSY 263 Educational Psychology PSY 264 Abnormal Psychology PSY 266 Social Psychology SOC 171 Intro to Sociology SOC 274 Sociology of the Family SOC 275 Social Problems SOC 276 Gender Roles in Society

Choose 1 course from each category

Social Science (3 credits)

Social Science (3 credits)

Social Science (3 credits)

*If you choose HIS in Category A, HIS 141, 142 and 214 cannot be taken for MTA.

Humanities

Category A ART 101 Art Appreciation ART 201 Art History I ART 203 Art History II ART Any Studio Art (AAAS only) PHO Any Photography (AAAS only) HUM 106 Film Appreciation	HUM 108 Mindful Living MUS 100 Music Appreciation MUS 101 Basic Music Theory I MUS 102 Basic Music Theory II MUS 105 History of Pop Am Music THE 101 Theater/Drama Appreciation
Category B FRN 101 Elem French I FRN 102 Elem French II LIT 101 Intro to Literature LIT 151 Topics in Lit/Poetry/Fiction LIT 211 Am Lit Precolonial to 1865	LIT 212 Am Lit 1865 to Present LIT 213 World Lit LIT 250 Intro to Shakespeare SPN 101 Elem Spanish I SPN 102 Elem Spanish II SPN 201 Intermediate Spanish I SPN 202 Intermediate Spanish II
Category C PHL 100 Intro to Philosophy PHL 102 Intro to Ethics PHL 103 Intro to Logic PHL 104 Bioethics	PHL 202 World Religions PHL 204 Philosophy of Religion HIS 141 West Civ to 1600 HIS 142 West Civ 1600 to Present

Choose 1 course from each category

Humanities (3 credits)

Humanities (3 credits)

Humanities (3 credits)

**AA or AS Gen Ed:
38-40 credits**

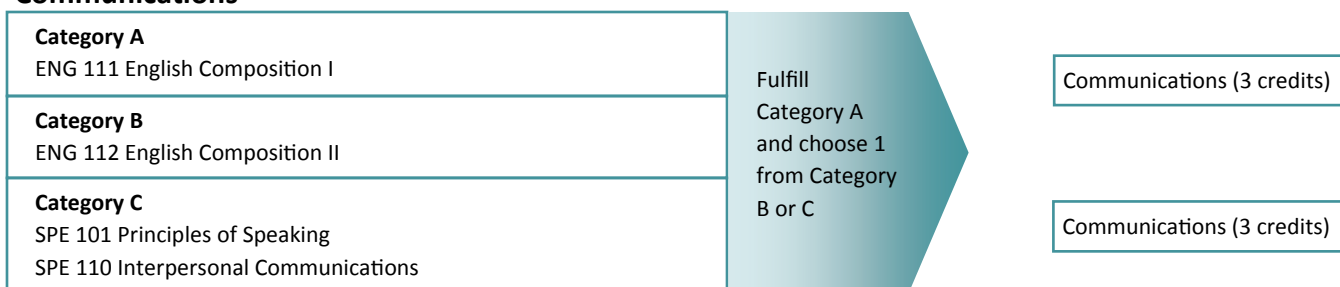
Note: Courses in gray do not apply to MTA.

Your Future – Your Education

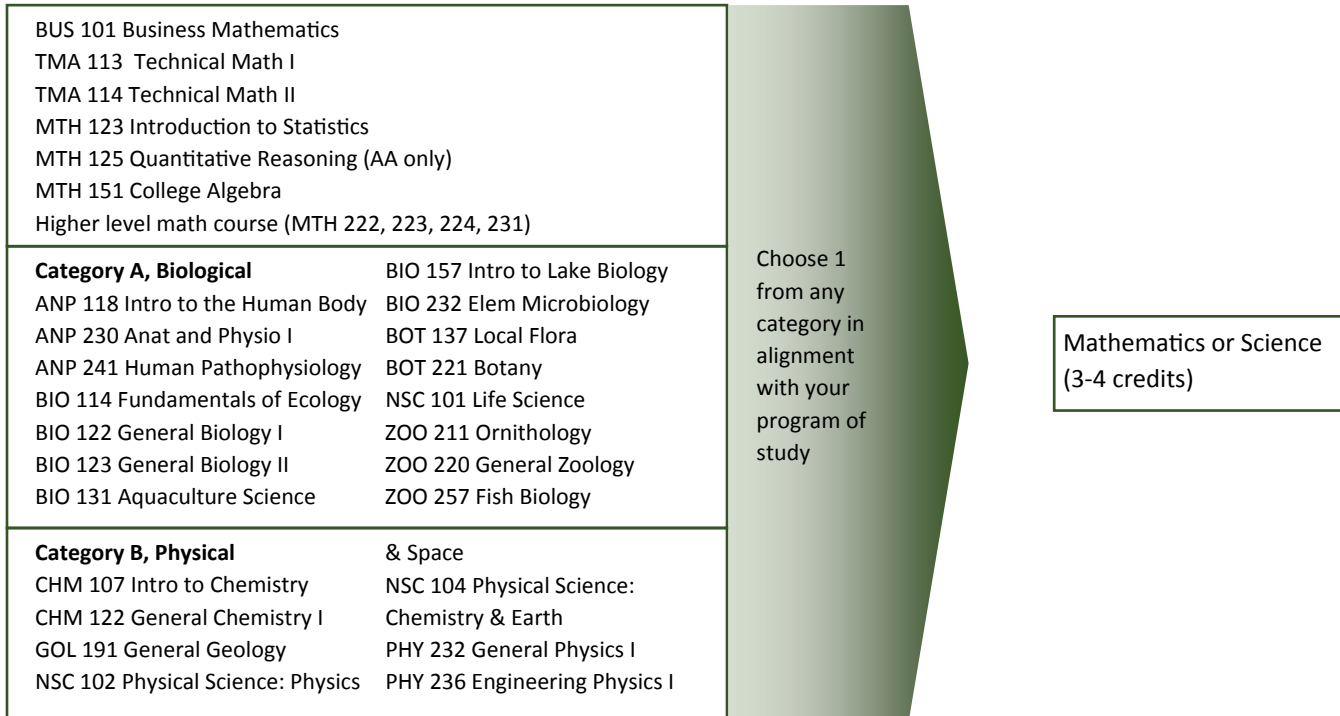
Gen Ed Courses for AAAS Degree

AAAS degrees at West Shore require students to complete 6 gen ed courses. Students should review their program of study as individual programs may identify specific courses. The AAAS degree does not qualify students for the MTA, which assists students in transferring to 4-year schools in order to complete a bachelor's degree. Those who anticipate transferring at some point in the future should consider completing the MTA while they are at WSCC. Contact an advisor if you are interested in completing both the AAAS and the MTA.

Communications



Mathematics or Science



Your Future – Your Education

Social Science

Category A	POL 151 Am National Govt
Category B	PSY 161 Intro to Psychology SOC 171 Intro to Sociology
Category C	Geography ANT 112 Intro to Cultural Anthropology ANT 114 Native Peoples & Culture of North Am ECO 136 Microeconomics ECO 137 Macroeconomics EDU courses by advisor only GEO 130 Geography North Am GEO 133 World Regional
	HIS 141 West Civ to 1600 HIS 142 West Civ 1600 to Present HIS 145 US History to 1877 HIS 146 US History 1877 to Present HIS 214 History of Michigan PSY 161 Intro to Psychology SOC 171 Intro to Sociology

Choose 1 from any category in alignment with your program of study

Social Science (3 credits)

Humanities

Category A	HUM 108 Mindful Living ART 101 Art Appreciation ART 201 Art History I ART 203 Art History II ART Any Studio Art PHO Any Photography HUM 106 Film Appreciation
Category B	1865 FRN 101 Elem French I LIT 101 Intro to Literature LIT 151 Topics in Lit/Poetry/Fiction LIT 211 Am Lit Precolonial to
Category C	PHL 202 World Religions PHL 204 Philosophy of Religion HIS 141 West Civ to 1600 HIS 142 West Civ 1600 to Present
	MUS 100 Music Appreciation MUS 101 Basic Music Theory I MUS 105 History of Pop Am Music THE 101 Theater/Drama Appreciation LIT 212 Am Lit 1865 to Present LIT 213 World Lit LIT 250 Intro to Shakespeare SPN 101 Elem Spanish I

Choose 1 from any category in alignment with your program of study

Humanities (3 credits)

Gen Ed Elective

Choose 1 additional gen ed course from any of the categories

Gen Ed Elective

AAAS Gen Ed: 18-19 credits

Your Future – Your Education

Gen Ed Courses for MTA Only

The Michigan Transfer Agreement (MTA) includes 9 general education courses (at least 30 credit hours).

Communications

Category A ENG 111 English Composition I	Fulfill Category A and choose 1 from Category B or C	Communications (3 credits)
Category B ENG 112 English Composition II		Communications (3 credits)
Category C SPE 101 Principles of Speaking SPE 110 Interpersonal Communications		

Mathematics

MTH 123 Introduction to Statistics MTH 125 Quantitative Reasoning MTH 151 College Algebra Higher level math course (MTH 222, 223, 224, 231)	Choose 1 in alignment with your program of study	Mathematics (3-4 credits)
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Science

Category A, Biological ANP 118 Intro to the Human Body ANP 230 Anat and Physio I ANP 241 Human Pathophysiology BIO 114 Fundamentals of Ecology BIO 122 General Biology I BIO 123 General Biology II BIO 131 Aquaculture Science	BIO 157 Intro to Lake Biology BIO 232 Elem Microbiology BOT 137 Local Flora BOT 221 Botany NSC 101 Life Science* ZOO 211 Ornithology ZOO 220 General Zoology ZOO 257 Fish Biology	Choose 1 from Category A and 1 from Category B	Science (4 credits)
Category B, Physical CHM 107 Intro to Chemistry CHM 122 General Chemistry I GOL 191 General Geology NSC 102 Physical Science:	Physics & Space* NSC 104 Physical Science: Chemistry & Earth* PHY 232 General Physics I PHY 236 Engineering Physics I		Science (4 credits)

*If you choose NSC 101 in Category A, NSC 102 and 104 cannot be taken for MTA.

Your Future – Your Education

Social Science

Category A POL 151 Am National Govt HIS 145 US History to 1877*	HIS 146 US History 1877 to Present*
Category B	PSY 161 Intro to Psychology SOC 171 Intro to Sociology
Category C ANT 112 Intro to Cultural Anthropology ANT 114 Native Peoples & Culture of North Am ECO 136 Microeconomics ECO 137 Macroeconomics EDU courses by advisor only GEO 130 Geography North Am	GEO 133 World Regional Geography HIS 141 West Civ to 1600* HIS 142 West Civ 1600 to Present* HIS 214 History of Michigan* PSY 161 Intro to Psychology SOC 171 Intro to Sociology

Choose 2 courses. They must be from 2 different categories.

Social Science (3 credits)

Social Science (3 credits)

*If you choose HIS in Category A, HIS 141, 142 and 214 cannot be taken for MTA.

Humanities

Category A ART 101 Art Appreciation ART 201 Art History I ART 203 Art History II HUM 106 Film Appreciation HUM 108 Mindful Living	MUS 100 Music Appreciation MUS 101 Basic Music Theory I MUS 105 History of Pop Am Music THE 101 Theater/Drama Appreciation
Category B FRN 101 Elem French I LIT 101 Intro to Literature LIT 151 Topics in Lit/Poetry/Fiction LIT 211 Am Lit Precolonial to	1865 LIT 212 Am Lit 1865 to Present LIT 213 World Lit LIT 250 Intro to Shakespeare SPN 101 Elem Spanish I
Category C PHL 100 Intro to Philosophy PHL 102 Intro to Ethics PHL 103 Intro to Logic PHL 104 Bioethics	PHL 202 World Religions PHL 204 Philosophy of Religion HIS 141 West Civ to 1600 HIS 142 West Civ 1600 to Present

Choose 2 courses. They must be from 2 different categories.

Humanities (3 credits)

Humanities (3 credits)

Gen Ed Elective

Choose 1 additional gen ed course if needed to reach at least 30 credit hours.

Gen Ed Elective

**MTA Gen Ed:
30 or more credits**

Your Future – Your Education

Business Electives

The courses below may be selected where “Business Elective” is indicated in Business Programs of Study, such as Accounting, Computers for Business (AAAS degree and certificate), Marketing/Management (AAAS degree and certificate), and Office Information Systems (AAAS degree).

ACC 121 Principles of Accounting I
ACC 122 Principles of Accounting II
ACC 125 Federal/State Income Tax
ACC 221 Intermediate Accounting I
ACC 222 Intermediate Accounting II
ACC 224 Cost Accounting I
ACC 225 Cost Accounting II
ACC 231 Computerized Accounting
BUS 100 Intro to Business
BUS 112 Business Law
BUS 142 Principles of Retailing
CIS 110 Intro to Computer Concepts
CIS 130 Programming Logic
CIS 135 .Net Applications
CIS 160 Desktop Applications
CIS 165 Adv Desktop Applications
CIS 200 C++ Programming

CIS 210 Systems Analysis & Design
CIS 211 Adv Applications Spreadsheets
CIT 100 Introduction to Operating Systems
CIT 115 Advanced Operating Systems
CIT 130 Intro to Data Base Management
CIT 160 Computer Systems Support/A+ Certification
CIT 180 Network Connections
CIT 200 Computer Help Desk Support
CIT 210 Adv Server Concepts & Security
CIT 220 Web Page Development & Management
CIT 230 Web Applications
CIT 245 Network Technologies
ECO 136 Principles of Microeconomics
ECO 137 Principles of Macroeconomics
ENT 115 Business Startup—Entrepreneurship

MGT 201 Principles of Management
MGT 202 Personnel Management
MGT 205 Small Business Management
MKT 231 Social Media Marketing
MKT 241 Principles of Marketing
MKT 243 Principles of Salesmanship
MKT 244 Advertising
OIS 105 Medical Office Coding & Insurance Billing
OIS 106 Diagnostic & Procedural Coding
OIS 115 Security/Professional Issues Office
OIS 120 Electronic Medical Records
OIS 150 Fundamentals of Keyboarding
OIS 151 Information Keyboarding I
OIS 257 Administrative Assistant Procedures



Your Future – Your Education

Transferring from West Shore

West Shore Community College is the perfect place to begin your academic career. You can transfer a few courses, the approximately 30-credit hour general education MTA (Michigan Transfer Agreement), or a two-year degree. The work you complete here will put you well on your way to earning a bachelor's degree.

If you think a college transfer is in your future, we encourage you to follow these important steps early in your academic career. It is your responsibility to fulfill all transfer and/or graduation requirements.

Transfer Checklist

Students who will be pursuing bachelor's degrees after completing their studies at West Shore are advised to follow this simple checklist of steps in the transfer process:

1. Meet regularly with a West Shore advisor.
2. As early as possible, select the institution you wish to attend following WSCC. Thoroughly investigate both the entrance and degree requirements. Basic program guides and catalogs for most Michigan senior institutions are available in the Student Services Office or through links from WSCC's website at http://www.westshore.edu/c_students/transfer/transfer_out.html.
3. Confer with representatives from the college you want to transfer to when they visit WSCC. Times, dates, and places for these visits will be posted in the lounge of the Campus Center and are available in the Student Services Office.
4. Apply for transfer admission well in advance of your anticipated transfer date. Ask about available financial aid as well as scholarships and set up an appointment to visit the campus where you want to transfer.
5. Request an official copy of your West Shore transcript for the transfer institution by accessing the request for an official transcript through my.westshore.edu. Transcripts may not be distributed to students who have unpaid financial obligations to the College.

Michigan Transfer Agreement

The Michigan Transfer Agreement (MTA) includes at least 30 credit hours of general education courses. When these are completed, the courses are transferred as a block to all Michigan community colleges and to most colleges and universities, providing students earn a 2.0 GPA in each course. The terms of the MTA have been embedded in all AA and AS program. Students in an AAAS program who think they will complete a bachelor's degree in the future should consult an advisor in Student Services to discuss these courses in their program of study, reducing the number of courses needed at the 4-year institution. See p. 18-19 for WSCC courses that are part of the MTA.

The MTA replaces the MACRAO agreement; the MACRAO continues in place for student who attended prior to Fall 2014 so long as it is completed by Summer 2019. Students may also opt into MTA. See an advisor for details.

Bachelor's Degree Programs

The following articulation agreements are available for West Shore students through various colleges and universities. In addition, students can dual enroll in both West Shore and university courses at part of a consortium. Students should meet with an advisor to discuss the existing agreements and if they are a good fit. This information is also available at www.westshore.edu with links to the transfer site.

- Ferris State University
 - Business Administration
 - Business Administration with Professional Tracks
 - Early Childhood Education
 - Elementary Education (various concentrations)
 - Nursing RN to BSN
- Davenport University
 - Business Administration (Accounting, Finance, General)
 - Business, Management, Marketing)

Your Future – Your Education

- Bachelor of Science (Computer Info Systems, Computer Science, Network Security, Health Information Management)
- BSN, Nursing
- Central Michigan University
 - Elementary Education (Grades K-8)
 - Secondary Education (Grades 7-12)
 - Bachelor of Science in Community Development, Public Administration (in conjunction with WSCC Criminal Justice program)

Cooperative Programs with Universities

Most West Shore students say that they like the fact the college is located close to home. A growing number of 4-year institutions are working with West Shore so that students will be able to complete more than just their freshman and sophomore years in the area.

Ferris State University offers bachelor degrees on the West Shore campus in elementary education, business administration, and early childhood education. In addition, Davenport University offers online bachelor degrees in a variety of business areas. Both universities allow students to complete 3 years of classes at WSCC, before enrolling in their programs. It is highly recommended that students consult with a WSCC advisor to ensure a smooth transition into the bachelor program. Several other institutions also have cooperative programs with WSCC and the recommended courses for these programs may be obtained using the University Transfer Guide link, under Academics on West Shore's web site.

Public Four-Year Universities

Go to http://www.westshore.edu/c_students/transfer/transfer_out.html to link to transfer guides at these institutions.



Your Future – Your Education

Graduation Requirements

Associate Degree (AA, AS, AAAS, and AGS) Requirements

Students should familiarize themselves with degree and graduation requirements more fully outlined in WSCC's Catalog, available online at www.westshore.edu. Briefly, these include the following:

- Students must complete at least 60 passing credits in courses numbered 100 or higher.
- No more than 12 credits can be earned through AP or CLEP.
- A minimum of 15 credits with an overall grade point average of a 2.0 or higher (or the equivalent in a Pass/Fail sequence) at WSCC or through the MCO.
- Students may not earn less than a "C" in more than two courses required for their degree.
 - **NOTE:** Nursing and Criminal Justice have different requirements. Students should see student manuals for graduation requirements for these programs.
- Students must take any required exams, such as NOCTI, NCLEX, MTA (Microsoft Technology Associate) and MOS (Microsoft Office Specialist) appropriate to specific fields. These occupational competency tests are designed to measure student gains as a result of training at the postsecondary level at WSCC.
- Students should apply for graduation once registered for the final semester of the program. This will confirm they have completed all requirements and are ready for graduation at the end of the semester and will allow for any needed schedule changes. The graduation application deadline is no later than the second Friday of the semester in which they intend to graduate.
- Students must complete an application for graduation. In order to receive a diploma or request transcripts, all outstanding balances must be paid in full.

Certificate Requirements

Certificates prepare students to enter employment in a variety of fields. Most can be completed in one year. In addition, most certificates at WSCC are in part or in whole the first year of an associate's degree. Requirements for certificates include:

- Courses may be taken through Michigan Colleges Online (MCO).
- A minimum of 10 credits with a cumulative grade point average of 2.0 or greater (or the equivalent in a Pass/Fail sequence) at WSCC or MCO.
- Students may not earn less than a "C" in more than two courses required for the certificate.



SECTION THREE

Programs of Study

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Programs of Study Defined



A Program of Study (POS) is a road map for you at WSCC. It indicates what courses you should take when, from your first semester to your final semester.

Programs of Study also indicate which courses have pre-requisites or co-requisites. That is, a pre-requisite course is a course (or a score on a placement exam) that is required before you can enroll in a particular course. A co-requisite course is a course you must take either before or in the same semester that you enroll in another course.

A brief description of all the courses in the following Programs of Study can be found at the back of this book.

Many students attend part-time. Work with an advisor who will help you determine how to map out a part-time Program of Study. To schedule an appointment to meet with an academic advisor, call 231-843-5510.

Programs of Study are introduced with an overview of the kinds of careers possible in those fields. This career information is not intended to promise employment or salary upon graduation from WSCC or any of its transfer institutions. Please meet with an academic advisor if you have questions about your career options.

Associate of Arts – AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 and ENG 052 or Placement
MTH 125	Mathematical Reasoning or comparable math (MTH 123 Intro to Statistics or MTH 151 College Algebra, or higher level MTH)	3/3	MTH 120 or MTH 121 or Placement
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Humanities	One Humanities elective from categories A, B, or C	3/3	
Elective	Explore an area of interest; Select with an advisor	3/3	
Total		15/15	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Science	One Science from either Biological or Physical Science categories	4/5	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Elective	Explore an area of interest; Select with an advisor	3/3	
Elective	Explore an area of interest; Select with an advisor	3/3	
Total		16/17	
Semester 3			
Humanities	One Humanities elective from remaining two categories	3/3	
Social Science	One Social Science elective	3/3	
Elective	Select with an advisor	3/3	
Elective	Select with an advisor	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Total		15/15	
Semester 4			
Science	One Science elective from remaining category	4/5	
Humanities	One Humanities elective from remaining category	3/3	
Elective	Select with an advisor	3/3	
Elective	Select with an advisor	3/3	
Elective	Select with an advisor	3/3	
Total		16/17	
Degree Total		62/64	

The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Associate of Science - AS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 and ENG 052 or Placement
MTH 123 or 151	Introduction to Statistics or College Algebra	3/3 or 4/4	MTH 120 for MTH 123, MTH 121 for MTH 151, or Placement
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Humanities	One Humanities elective from categories A, B, or C	3/3	
Science	One Science elective from either Biological or Physical Science categories	4/5	
Total		16/17	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Science	One Science elective from remaining category	4/5	
Computer Science Elective	Select one of interest in computer programming language or one course covering spreadsheets, word processing, and database *See note below.	3/3	
Science or Math	Explore an area of interest; *See note below	4/5	
Total		14/16	
Semester 3			
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Humanities	One Humanities elective from remaining two categories	3/3	
Social Science	One Social Science elective	3/3	
Science or Math	Explore an area of interest; *See note below	varies	
Science or Math	Explore an area of interest; *See note below	varies	
Total		16/17	
Semester 4			
Humanities	One Humanities elective from remaining category	3/3	
Science or Math	Explore an area of interest; *See note below	4/5	
Science Elective	Explore an area of interest; *See note below	4/5	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Total		14/16	
Degree Total		60/66	

* Students seeking an AS degree in science are encouraged to take a sampling of courses in order to identify their preferred area of specialization, including anatomy and physiology, biology, botany, chemistry, mathematics, and physics. In completing this degree, students must take 16 credits in math and/or science in addition to regular degree requirements and enroll in at least one 3-credit computer programming language or one 3-credit course covering spreadsheets, word processing, and database. Academic advisors in Student Services as well as faculty can assist students in selecting courses that will be accepted by the four-year college or university where they plan to transfer. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

General Studies – AGS (Not for Transfer; See An Advisor)

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
CIS	Computer Course	3/3	
Science	Select one from categories A or B	4/5	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Humanities	Select one from categories A, B, or C	3/3	
Total		16/17	
Semesters 2 - 4			
General Education Elective	General Education Electives	15/15	
ENG 112 or SPE 101 or SPE 110	English Composition I or Principles of Speaking or Interpersonal Communications	3/3	ENG111
ENG 257	Professional Writing	3/3	ENG 111
MTH 123 or MTH 124	Introduction to Statistics or Graph Theory	3/3	MTH 120 or Placement
Electives	Electives select with an advisor	22-26	
Degree Total		62/64 min	

Michigan Transfer Agreement – MTA

Students must earn a C in each course being applied to the MTA.

The terms of this agreement have been embedded in all AA and AS programs of study. Students in AAAS programs who think they will want to complete a Bachelor's degree in the future should consult an advisor to ensure these courses are included in their programs of study. An advisor can be reached at 231.843.5510.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4	
ENG 052	Introduction to College Reading	3/3	
MTH 051	Pre Algebra and/or	4/4	
MTH 120	Introduction to Algebra		
MTH 121	Intermediate Algebra		
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH	As appropriate for program of study	3/3 min	
Social Science	Course in a social science discipline (see MTA in Section Two)	3/3	
Humanities & Fine Arts	Course in humanities and fine arts (see MTA in Section Two)	3/3	
Natural Sciences	Course in Biological or Physical science	4/5	Selected sciences require MTH
Total		16/17	
Semester 2			
ENG 112 or SPE 101 or SPE 110	English Composition II or Principles of Speaking or Interpersonal Communications	3/3	ENG 111
Social Science	Course in a social science not previously selected (see MTA in Section Two)	3/3	
Humanities & Fine Arts	Course in humanities and fine arts not previously selected (see MTA in Section Two)	3/3	
Natural Sciences	Course in area not previously selected Biological or Physical sciences (see MTA in Section Two)	4/5	Selected sciences require MTH
Elective	Select an additional course to reach or exceed 30 credits	1/1 min	
Total		14/15	
MTA Total		30/32	

Arts & Humanities

The fields in this section invite us to peer deeply inside and outside of our world through the examination of artistic achievements and philosophic ideas; they emphasize critical thinking, creativity, imagination, production and performance, and responses to the arts and philosophy. WSCC's Arts & Humanities courses provide a major portion of General Education requirements and transfer to other colleges and universities. These courses emphasize core-value skills that are prized by all professions, and their study can lead to a wide variety of useful and highly rewarding careers. What bonds our Arts & Humanities offerings is a commitment to understanding the past, contending with pressing issues of the present, and visualizing a future where our graduates use their learning and critical thinking skills in careers which permit them to express their creative and practical talents and skills, doing work that is both personally fulfilling and of service to their communities.



Art

Study in the visual arts—including drawing, design, painting, sculpture, photography, video and film—gives students a solid background in creative problem-solving, a skill that is important in many areas beyond the traditional art fields. In addition, most art students come away with manual and computer skills that are highly sought after. Most jobs in the visual arts require advanced degrees. Artists may work as graphic designers, educators, museum curators, medical illustrators, or art therapists, among other careers.

With a Bachelor's Degree in Art or Music...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Graphic designers	\$43,200	8% (230 jobs)
Music therapists	\$47,330	10% (30 jobs)
Elementary school teachers, except special education	\$64,320	1% (790 jobs)
Art directors	\$63,950	7% (40 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Music

The music profession is one of the most competitive fields in the world. When you complete an Associate of Arts with a music concentration at WSCC, you will obtain the musical tools necessary to prepare you to transfer to a 4-year institution. A vast sea of opportunity for employment is available upon receiving an undergraduate degree in music, such as K-12 music education, music performance, composition, music therapy, conducting, jazz studies, musicology/ethnomusicology, and music technology.



Philosophy

Philosophy helps you develop critical thinking and communication skills that are useful in almost every line of work and field of study. A concentration in philosophy shows that you can think deeply and critically and express yourself effectively in both writing and speech. This makes it an ideal program to pair with other fields of study, such as psychology, English, religious studies, or business.

With a Bachelor's Degree in Theater...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Producers and directors	\$60,100	6% (80 jobs)
Film and video editors	\$51,800	7% (10 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Theater

Studying the theater arts prepares one for a career in professional and non-professional theater production, performance, and education. Beyond the obvious areas of study within the discipline there are many others: Theater Management, Dramaturgy, Children's Theater, Creative Dramatics, Dramatic Criticism, Theater History, Makeup Design and Execution, Musical Theater, Properties and Special Effects Design and Execution, to name only a few.



Arts & Humanities - AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231-843-5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 125	Mathematical Reasoning or comparable math (MTH 123 Intro to Statistics or MTH 151 College Algebra, or higher level MTH)	3-4/3-4	MTH 120 or MTH 121 or Placement
Humanities	Arts applied/studio, arts survey or arts history, HIS 141 or 142, PHL, or LIT; See note below*	3/3	
Language	French or Spanish; See note below*	4/4	
Total		13/13	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Humanities	Select from a category not already selected: Arts applied/studio, arts survey or arts history, HIS 141 or 142, PHL, or LIT; See note below*	3/3	
Science	Select one Science from either Biological or Physical Science categories	4/5	
Language	French or Spanish; See note below*	4/4	
Total		17/18	
Semester 3			
Humanities	Select from a category not already selected: Arts applied/studio, arts survey or arts history, HIS 141 or 142, PHL, or LIT; See note below*	3/3	
Social Science	Select one Social Science elective	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		15/15	
Semester 4			
Science	Select one Science elective from remaining category	4/5	
Humanities	Select from a category not already selected: Arts applied/studio, arts survey or arts history, HIS 141 or 142, PHL, or LIT; See note below*	3/3	
Humanities	Select from a category not already selected: Arts applied/studio, arts survey or arts history, HIS 141 or 142, PHL, or LIT; See note below*	3/3	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		16/17	
Degree Total		61/63	

* In completing a degree in the humanities, students are encouraged to take a sampling of courses in order to identify their preferred area of specialization. Recommended courses include art survey or history, applied or studio course in the arts, foreign language (levels 1 and 2), literature, western civilization or other history, and philosophy. Students should meet with an academic advisor to determine which courses will transfer to the college or university of their choice. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Business

WSCC's Business division is prepared to help you face the challenges of the emerging economy and improve your skills on your pathway toward career success. Business programs are designed to help develop your communication skills, improve your ability to solve problems in your specific industry, and to explore technology related to your field of study to successfully pursue challenging careers. Business students may gain practical work experience before graduation by completing an internship. The Business faculty bring their outside work experience and their knowledge of the business world into the classroom. Student professional organizations provide additional opportunities to learn outside the classroom setting.

Accounting

A graduate of WSCC's Accounting Associate Degree program will have the skills needed in entry-level accounting positions. Complexity of the work will vary with the size and volume of the employee's activities and the firm's procedures. Most starting jobs will involve tasks such as keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing balance sheets and materials for financial reports.

With an Associate's Degree in Accounting...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Bookkeeping, accounting, and auditing clerks	\$36,000	10% (900 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives



Computers for Business

A computer specialist with accounting skills will be able to understand the accounting language and computerize the data to produce special accounting reports and functions. An AAAS with a concentration in Computers for Business is a specialized two-year degree that combines a liberal arts education with career-specific classes. Computers for Business focuses on the mastery of computer programming with an emphasis on business applications.

With a Bachelor's Degree...

Projected Annual Job Openings in Michigan, 2012-2022

Accountants and auditors	1,250
Market research analysts and marketing specialists	430
Sales managers	310

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Marketing/Management

Marketing/Management personnel control or direct the operation of a business, manufacturing plant, or similar organization. In general, they establish and/or carry out the policies of the organization, and plan and organize the operations of the departments under their direction. They see that the work of their department is coordinated with the operations of the whole organization and must be constantly alert to avoid wasting time, energy, and materials.



With an Associate's Degree in Medical Office Billing/Coding...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Medical records and health information technicians	\$35,400	12% (160 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

With an Associate's Degree in Medical Office Information Systems...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Medical assistants	\$28,530	15% (750 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Medical Office Information Systems

Medical office information systems prepares the student with the skills for an entry-level medical office position. The student will be trained to understand and use medical terminology, work with appointment schedules, and understand the overall workings of a medical office.

Office Information Systems

Office Information Systems prepares the student with the skills for an entry-level administrative assistant position. The knowledge of electronic communications will provide the student with the office technology skills needed in the workplace. In addition, the student will develop the skills of human relations needed to interact with managers and other professionals as a team member.



Business – AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
BUS 100	Introduction to Business; See note below*	3/3	
MTH 123 or MTH 125	Introduction to Statistics or Mathematical Reasoning, or MTH 151 College Algebra or higher level MTH	3/3	MTH 120 or MTH 121 or Placement
Humanities	Select one Humanities elective from categories A, B, or C (see p. 15)	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		15/15	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Science	Select one Science from either Biological or Physical Science categories (see p. 14)	4/5	
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Humanities	Select one Humanities elective from remaining two categories (see p. 15)	3/3	
Total		16/17	
Semester 3			
Science	Select one Science elective from remaining category (see p. 14)	4/5	
Humanities	Select one Humanities elective from remaining category (see p. 15)	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
ACC 121	Principles of Accounting I; See note below*	4/5	
Total		14/16	
Semester 4			
ACC 122	Principles of Accounting II; See note below*	4/5	ACC 121
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Social Science	Select one Social Science elective (see p. 15)	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		16/17	
Degree Total		61/65	

* In completing a degree in the business, students are encouraged to take a sampling of courses in order to identify their preferred area of specialization, including accounting, business, marketing, management, office information systems, medical office information systems. See p. 14-15 for a list of course options. Students should meet with an academic advisor to determine which courses will best assist them to make a decision regarding a specific business career and in transferring to a college or university of their choice. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Accounting - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS degrees, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051, 120	Students may need Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
BUS 101 or MTH 123	Business Math or Introduction to Statistics	3/3	MTH 051 or MTH 120 or Placement
ACC 121	Principles of Accounting I	4/5	
General Education Elective	ECO 136 Principles of Microeconomics is recommended or select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
BUS 100	Introduction to Business	3/3	
Total		16/17	
Semester 2			
ENG 112 or ENG 257	English Composition II or Professional Writing	3/3	ENG 111
ACC 122	Principles of Accounting II	4/5	ACC 121
ACC 128	Payroll Accounting	2/3	ACC 121
BUS 112	Business Law	3/3	
OIS 150	Fundamental of Keyboarding I	2/3	May be waived
CIS 160	Desktop Applications	3/4	
Total		17/21	
Semester 3			
ACC 231	Computerized Accounting	3/4	ACC 121 plus CIS 110 or CIS 160
ACC 221	Intermediate Accounting I	4/5	ACC 122
ACC 201	Corporate Finance	3/3	ACC 121 & ACC 122
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
CIS 211	Advanced Applications Spreadsheets	3/4	
Total		16/19	
Semester 4			
ACC 224	Cost Accounting I	4/5	ACC 122
ACC 125	Federal and State Income Tax	3/4	
ECO 136 or ECO 137	Principles of Microeconomics or Principles of Macroeconomics	3/3	
ACC 299 or Business Elective	Accounting Internship or Business elective One Business Elective (including ECO 136)	3/3	Internship: Approved application
Humanities Elective	Select one from categories A, B, or C	3/3	
Total		16/18	
Degree Total		65/75 min	

Computers for Business - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
CIS 110	Introduction to Computer Concepts	3/4	
CIS 130	Programming Logic	3/4	
MTH 121	Intermediate Algebra	4/4	MTH 120 or Placement
BUS 100	Introduction to Business	3/3	
OIS 150	Fundamentals of Keyboarding	2/3	May be waived
Total		18/21	
Semester 2			
ENG 112 or ENG 257	English Composition II or Professional Writing	3/3	ENG 111
CIS 135	.Net Applications	3/4	CIS 130
CIS 200	C++ Programming	3/4	
ACC 121	Principles of Accounting I	4/5	
BUS 101 or MTH 123	Business Mathematics or Introduction to Statistics	3/3	MTH 051, MTH 120 or Placement
Total		16/19	
Semester 3			
ACC 122	Principles of Accounting II	4/5	ACC 121
CIS 160	Desktop Applications	3/4	
Humanities Elective	Select one from categories A, B, or C	3/3	
CIS 299 or Business	Computer Information Systems Internship or One Business Elective	3/3	Approved Application
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
Total		16/18	
Semester 4			
CIS 165	Advanced Desktop Applications	3/4	CIS 160
CIS 210	Systems Analysis and Design	3/3	
Social Science	Select one from categories A, B, or C	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
CIS Elective	Select one Computer Information Systems course	3/3	
Total		15/16	
Degree Total		65/74	

Program courses may vary based on the students' demonstrated competency or individual need and the recommendation of an appropriate faculty member or advisor.

Computers for Business – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a certificate.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ACC 121	Principles of Accounting I	4/5	
CIS 110	Introduction to Computer Concepts	3/4	
CIS 130	Programming Logic	3/4	
CIS 160	Desktop Applications	3/4	
OIS 150	Fundamentals of Keyboarding	2/3	May be waived
BUS 101	Business Mathematics	3/3	
Total		18/23	
Semester 2			
BUS 100	Introduction to Business	3/3	
MTH 120	Introduction to Algebra	4/4	MTH 051 or Placement
CIS 200	C++ Programming	3/4	
Business Elective	Select one from Business courses	3/3	Depending on course
CIS Elective	Select one from Computer Information Systems courses	3/4	Depending on course
Total		16/18	
Cert Total		34/41	

Program courses may vary based on the students' demonstrated competency or individual need and the recommendation of an appropriate faculty member or advisor.

Marketing/Management - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra and/or	4/4	
MTH 120	Introduction to Algebra		
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ACC 121	Principles of Accounting I	4/5	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
BUS 100	Introduction to Business	3/3	
BUS 142	Principles of Retailing	3/3	
CIS 160	Desktop Applications	3/4	
Total		16/18	
Semester 2			
ACC 122	Principles of Accounting II	4/5	ACC 121
ENG 112 or ENG 257	English Composition II or Professional Writing	3/3	ENG 111
MKT 241	Principles of Marketing	3/3	BUS 100 or BUS 142
MKT 243	Principles of Salesmanship	3/3	
BUS 101 or MTH 123	Business Mathematics or Introduction to Statistics	3/3	MTH 051, MTH 120, or Placement
OIS 150	Fundamentals of Keyboarding	2/3	May be waived
Total		18/20	
Semester 3			
BUS 112	Business Law	3/3	
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
MKT 244	Advertising	3/3	BUS 142 or MKT 241
MGT 299, MKT 299, or Business	Business Management Internship, Marketing Internship, or select one Business course	3-6/3-6	Approved Application
General Education Elective	ECO 136 Principles of Microeconomics is recommended or select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
Total		15/15	
Semester 4			
MGT 202	Personnel Management	3/3	BUS 100
MGT 205	Small Business Management	3/3	MGT 201
ECO 136 or ECO 137	Principles of Microeconomics or Principles of Macroeconomics	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
CIS 165	Advanced Desktop Applications	3/4	CIS 160
Total		15/16	
Degree Total		64/69	

Management Skills – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Required Courses			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
BUS 100	Introduction to Business	3/3	
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
CIS 160	Desktop Applications	3/4	
MTH 123 or BUS 101	Introduction to Statistics or Business Math	3/3	MTH 051, MTH 120 or Placement
Business Electives	4-5 courses from courses listed below:	15 credits	
Total		30/31	
15 Credits from Selected Courses			
ACC 121	Principles of Accounting I	4/5	
ACC 122	Principles of Accounting II	4/5	ACC 121
BUS 112	Business Law	3/3	
ENG 112 or ENG 257	English Composition II or Professional Writing	3/3	ENG 111
BUS/MKT/ MGT 298	Independent Study in Business, Marketing, or Management	3/3	Approved application
BUS 299 or MGT 299	Internship in Business or Internship in Management	3/3	Approved application
MGT 202	Personnel Management	3/3	BUS 100
MGT 205	Small Business Management	3/3	MGT 201
MKT 241	Principles of Marketing	3/3	BUS 100 or BUS 142
MKT 243	Principles of Salesmanship	3/3	
CIT 245	Network Technologies	4/5	CIT 180
OIS 257	Administrative Assistance Procedures	4/4	OIS 151 and CIS 160
SPE 110	Interpersonal Communications	3/3	
ECO 136	Principles of Microeconomics	3/3	
ALH 104	Medical Terminology	3/3	

Medical Office Information Systems - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
CIS 110	Introduction to Computer Concepts	3/4	
ANP 118	Introduction to the Human Body	4/5	
ALH 104	Medical Terminology	3/3	
ALH 118	First Aid-Responder Emergency	2/2	May be waived with valid CPR and First Aid Card
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
OIS 151	Information Keyboarding I	3/4	May be waived
Total		18/21	
Semester 2			
ACC 121	Principles of Accounting I	4/5	
BUS 100	Introduction to Business	3/3	
OIS 120	Electronic Medical Records	4/5	
ENG 112 or ENG 257	English Composition II or Professional Writing	3/3	ENG 111
CIS 160	Desktop Applications	3/4	
Total		17/20	
Semester 3			
BUS 101 or MTH 123	Business Math or Introduction to Statistics	3/3	MTH 051 or MTH 120 or Placement
OIS 105	Medical Office Coding & Insurance Billing	2/2	
CIS 165	Advanced Desktop Applications	3/4	CIS 160
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
OIS 115	Security/Professional Issues Office	3/3	
ACC 231	Computerized Accounting	3/4	ACC 121 plus CIS 110 or CIS 160
Total		17/19	
Semester 4			
OIS 106	Diagnostic and Procedural Coding	4/5	ANP 118 & ALH 104
OIS 257	Administrative Assistant Procedures	4/4	OIS 151 and CIS 160
OIS 299	OIS Internship (Recommended)	3/3	Approved Application
Social Science	Select on from categories A, B, or C	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
Total		17/18	
Degree Total		69/78	

Medical Office - Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
OIS 115	Security/Professional Issues Office	3/3	
ANP 118	Introduction to the Human Body	4/5	
ALH 104	Medical Terminology	3/3	
CIS 160	Desktop Applications	3/4	
ALH 118	First Aid-Responder Emergency	2/2	May be waived with valid CPR and First Aid Card
Total		15/17	
Semester 2			
OIS 120	Electronic Medical Records	4/5	
CIS 165	Advanced Desktop Applications	3/4	CIS 160
OIS 257	Administrative Assistant Procedures	4/4	OIS 151 or placement and CIS 160
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
OIS 151	Information Keyboarding I	3/4	May be waived
Total		17/20	
Cert Total		32/37	

Medical Office Biller/Coder – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra and/or	4/4	
MTH 120	Introduction to Algebra		
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
OIS 105	Medical Office Coding & Insurance Billing	2/2	
OIS 115	Security/Professional Issues Office	3/3	
ANP 118	Introduction to the Human Body	4/5	
ALH 104	Medical Terminology	3/3	
CIS 160	Desktop Applications	3/4	
Total		15/17	
Semester 2			
OIS 120	Electronic Medical Records	4/5	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
OIS 106	Diagnostic and Procedural Coding	4/5	ANP 118 & ALH 104
OIS 257	Administrative Assistant Procedures	4/4	OIS 151 and CIS 160
OIS 151	Information Keyboarding I	3/4	May be waived
Total		18/21	
Cert Total		33/38	

Office Information Systems – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ACC 121	Principles of Accounting I	4/5	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
BUS 100	Introduction to Business	3/3	
CIS 110	Introduction to Computer Concepts	3/4	
OIS 115	Security/Professional Issues Office	3/3	
Total		16/18	
Semester 2			
ACC 128	Payroll Accounting	2/3	ACC 121
BUS 101 or MTH 123	Business Math Introduction to Statistics	3/3	MTH 051 or MTH 120 or Placement
CIS 160	Desktop Applications	3/4	
OIS 151	Information Keyboarding I	3/4	May be waived
Humanities Elective	Select one from categories A, B, or C	3/3	
Total		14/17	
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
Semester 3			
CIT 220	Web Page Development and Management	3/3	
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
Social Science	Select one from categories A, B, or C	3/3	
SPE 110	Interpersonal Communications	3/3	
ACC 231	Computerized Accounting	3/4	ACC 121 plus CIS 110 or CIS 160
Total		15/16	
Semester 4			
OIS 299 or Business Elective	Office Information Systems Internship or select one Business course	3/3	Approved Application
CIS 165	Advanced Desktop Applications	3/4	CIS 160
MGT 202	Personnel Management	3/3	BUS 100
OIS 257	Administrative Assistant Procedures	4/4	OIS 151 & CIS 160
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
Total		16/17	
Degree Total		61/68	

Office Information Systems – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisite for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

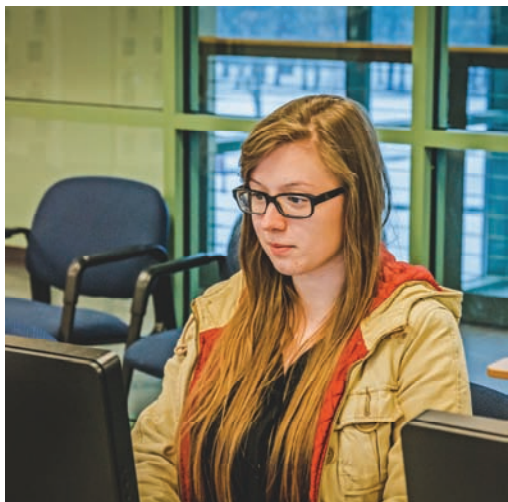
Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
CIS 160	Desktop Applications	3/4	
BUS 100	Introduction to Business	3/3	
OIS 115	Security/Professional Issues Office	3/3	
CIT 220	Web Page Development & Management	3/3	
MGT 201	Principles of Management	3/3	Pre/Co-requisite BUS 100
Total		15/16	
Semester 2			
SPE 110	Interpersonal Communications	3/3	
CIS 165	Advanced Desktop Applications	3/5	CIS 160
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
OIS 151	Information Keyboarding I	3/4	May be waived
OIS 257	Administrative Assistant Procedures	4/4	OIS 151 & CIS 160
Total		16/19	
Cert Total		31/35	

Communications

The Communications Division provides students with the fundamental writing, reading, listening, and speaking skills that enable lifelong adaptability to change, as well as personal, societal, and professional fulfillment. These interrelated skills are indispensable for academic success and do more than any other discipline to expand your long-term employment opportunities in fields such as education, law, marketing, medicine, business management, human resources--and many other fields that require strong analytic, problem-solving, and communication skills.



Communications

Students who want literature or education to be a central part of their working lives take communications courses in partial fulfillment of a Bachelor's degree in English. Earning a BA in English is likely the best goal for students whose career interests include journalism, publishing, broadcasting, business marketing, various kinds of management positions, politics, and law. The sequence of West Shore courses listed in this section will take you a long way toward a career in any of these areas.

Literature

Reading and discussing literature helps integrate us into a very wide cultural matrix, enriching our communications, analytical skills, and personal relationships with others. Through close reading, discussion, analysis, and related writing experiences, students of literature acquire the ability to ask meaningful questions about the human experience and to answer those questions with greater certainty than those who do not read.



Communications - AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 125	Mathematical Reasoning or comparable math (MTH 123 Intro to Statistics or MTH 151 College Algebra, or higher level MTH)	3/3 min	MTH 120 or MTH 121 or Placement
PSY 161	Introduction to Psychology	3/3	
Humanities	Select one from Category A	3/3	
Foreign Language	Elementary Spanish I or	4/4	
Elective: SPN 101 or FRN 101	Elementary French I		
Total		16/16 min	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Science	Select one Science from either Biological or Physical Science categories	4/5	
Humanities	Continue foreign language FRN 102 or SPN 102 or select from Category B	3/3 min	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
SPE 101	Principles of Speaking	3/3	
Total		16/17	
Semester 3			
MKT 231	Social Media Marketing	3/3	
CIT 220	Web Page Development & Management	3/3	
Humanities	Select one from category C	3/3	
ANT 112	Introduction to Cultural Anthropology	3/3	
SPE 110	Interpersonal Communications	3/3	
Total		15/15	
Semester 4			
ENG 299	Internship: Communications	3/3-6/6	Approved Application
ENG 257	Professional Writing	3/3	ENG 111
Science	Select one Science elective from remaining category	4/5	
ENG 115 or HUM 108	Creative Writing (Communications) or Mindful Living (Humanities)	3/3	
Total		13/14 min	
Degree Total		60/62 min	

* In completing a degree in communications, students are encouraged to take a sampling of courses in order to identify their preferred area of specialization. Recommended fields of study to support a degree in communications include literature, speech, languages, history, the humanities, and social sciences. Students should meet with an academic advisor to determine which courses will transfer to the college or university of their choice. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Computer Science

Computer science uses the computer as a tool to solve problems. More than just simple calculators, modern computers accomplish tasks too large or complex for human capacity. Whether you are writing a fun new app or automating a monotonous task, the skills learned while studying computer science are empowering. With an associate's degree you may be an invaluable employee able to eliminate tedious data processing. A bachelor's degree may allow you to build and maintain a computer network, design cutting edge software or construct an innovative online utility as a web developer. With a graduate degree you may push the forefront of artificial intelligence or transform the use of data in fields such as economics or bioinformatics.

Network Services

Business operations often depend on networks that enable multi-user data access and processing. This program includes hardware and software maintenance, support and security for linking computers in the corporate, educational or government sectors. It is designed to prepare the students for careers in Network Administration, Network Support Specialist, Network Technician or Network Troubleshooter.

Software Development

The goal of WSCC's Software Development Certificate is to provide entry-level Information Technology course work in programming, web page development, and network technology. This certificate provides a solid foundation for students that plan to become employed and those planning to pursue an associate's degree in Network Services. Students following this program will have the opportunity to learn the information necessary to earn Microsoft Technology Associate (MTA) and Microsoft Office Specialist (MOS) certification.

With a Bachelor's Degree in Network Services...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Computer systems analysts	\$80,000	23% (520 jobs)
Information security analysts	\$80,900	30% (40 jobs)
Computer network architects	\$98,900	10% (60 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives



With a Bachelor's Degree in Software Development...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Software developers, applications	\$78,500	21% (510 jobs)
Software developers, systems software	\$87,000	20% (290 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Associate of Arts – Computer Science AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 and/or MTH 120 and/or MTH 121	Pre Algebra and/or Introduction to Algebra and/or Intermediate Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or 098 & ENG 052 or Placement
MTH 151	College Algebra	4/4	MTH 121 or Placement
CIT 100	Introduction to Operating Systems	3/4	
CIS 130	Programming Logic	3/4	
Humanities	Select one Humanities elective from categories A, B, or C	2/3	
Total		15/18	
Semester 2			
CIT 115	Advanced Operating Systems	3/4	CIT 100
CIT 130	Introduction to Database management	3/3	
CIS 210	Systems Analysis and Design	3/3	
PHY 232	Explore an area of interest; *See note below	4/5	
ENG 112	English Composition II	3/3	ENG111
Total		16/18	
Semester 3			
CIT 210	Advanced Server Concepts and Security	3/4	CIT 115
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Social Science	Select one Social Science elective	3/3	
Science	Select one Science elective from Biological Science	4/5	
Humanities	Select one Humanities elective from remaining two categories	3/3	
Total		16/18	
Semester 4			
CIS 200	C++ Programming	3/4	
CIT 160	Computer Systems Support	3/5	
Humanities	Select one Humanities elective from remaining category	3/3	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Social Science	Select one Social Science elective	3/3	
Total		15/18	
Degree Total		62/72	

*Students seeking an AS degree in computer science technology are encouraged to take a sampling of courses in order to identify their preferred area of specialization, including networking, programming, software development, and database management. Academic advisors in Student Services as well as faculty can assist students in selecting courses that will be accepted by the four-year college or university where they plan to transfer.

The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Network Services - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Title	Credits/ Contacts	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
CIT 180	Network Connections	2/3	
CIT 100	Introduction to Operating Systems	3/4	
MTH 120	Introduction to Algebra	4/4	MTH 051 or Placement
Humanities Elective	Select one from categories A, B, or C	3/3	
Total		15/17	
Semester 2			
CIS 130 or CIS 200	Programming Logic or C++ Programming	3/4	
CIT 115	Advanced Operating Systems	3/4	CIT 100
CIT 130	Introduction to Data Base Management	3/3	
CIT 245	Network Technologies	4/5	CIT 180
CIT 160	Computer Systems Support	3/5	
Total		16/21	
Semester 3			
CIT 200	Computer Help Desk Support	3/4	CIT 100 or CIT 160
CIS 160	Desktop Applications	3/4	
CIT 210	Advanced Server Concepts and Security	3/4	CIT 100
CIT 220	Web Development and Management	3/3	
MTH 123	Introduction to Statistics	3/3	MTH 120 or Placement
Total		15/18 min	
Semester 4			
CIT 230 or CIS 135 or CIS 200	Web Applications or .Net Applications or C++ Programming	3/3 3/4 3/4	CIS 130 or CIS 200
CIS 210	Systems Analysis and Design	3/3	
CIS 299 or Elective	Computer Information Systems Internship or select one Computer Information Systems course	3/3	Approved Application
Social Science	Select one from categories A, B, or C	3/3	
SPE 110	Interpersonal Communications	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
Total		18/18 min	
Degree Total		64/74 min	

Network Services – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Title	Credits/ Contacts	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
SPE 110	Interpersonal Communications	3/3	
CIS 160	Desktop Applications	3/4	
CIT 100	Introduction to Operating Systems	3/4	
MTH 120	Introduction to Algebra	4/4	MTH 051 or Placement
CIT 180	Network Connections	2/3	
Total		15/18	
Semester 2			
CIS 130 or CIS 200	Programming Logic or C++ Programming	3/4	
CIT 115	Advanced Operating Systems	3/4	
CIT 130	Introduction to Database Management	3/3	
CIT 245	Network Technologies	4/5	CIT 180
CIT 160	Computer Systems Support	3/5	
Total		16/21	
Cert Total		31/39	

Software Development – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Title	Credits/ Contacts	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre-Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
CIS 160	Desktop Applications	3/4	
CIS 211	Advanced Applications: Spreadsheets	3/4	
CIS 130	Programming Logic	3/4	
CIT 220	Web Page Development & Management	3/3	
MTH 123	Introduction to Statistics	3/3	MTH 120
CIT 180	Network Connections	2/3	
Total		17/21	
Semester 2			
CIS 135	.Net Applications	3/4	CIS 130
CIT 230	Web Applications	3/3	CIS 130 or CIS 200
CIT 245	Network Technologies	4/5	CIT 180
CIT 190	Introduction to Communication for the IT Professional	1/1	
CIS 210	Systems Analysis & Design	3/3	
CIT 130	Introduction to Data Base Management	3/3	
Total		17/19	
Cert Total		34/40	

Manufacturing Technologies

Manufacturing is one of the state’s key industry clusters. As noted by Michigan’s Workforce Development Agency, despite the reduction in jobs during the downturn, this segment is vital to the economy. Indeed, it is the fastest growing industry sector in Michigan, gaining 81,000 jobs since 2010. This is an increase of 17% - nearly 13% higher than manufacturing jobs nationwide. As technology and manufacturing processes become more complex, more and more training is demanded to continue to train not only current workers but also the next generation. An associate’s degree and related training leads to such jobs as electrical and electronics repairs, heat treating equipment operation, mechanical drafting and CAD, machining, mixing and blending machine operation, mechanical and technical engineering, industry machinery mechanics, and welding.



Electrical-Electronic Systems

Building a body of knowledge and understanding of these topical areas provide the ability to work with electrical applications involving transformers, ACDC motors, electrical-electronic controllers, sequencers and sensors. Foundational skills include understanding and application of the National Electrical Code, electrical wiring techniques, wiring system installation, raceways, and conduit bending. Electrical-Electronic Systems is an Open Entry/Open Exit program, allowing open enrollment in most courses any time during the year.

With an Associate’s Degree in Electrical/Electronic Systems...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Geothermal technicians	\$39,000	10% (190 jobs)
Electrical and electronics engineering technicians	\$56,000	6% (130 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Machining

The ability to operate computer numerically controlled (CNC) machinery efficiently, while producing quality parts, is a skill in demand in today’s manufacturing environments. WSCC’s program concentrates on developing students’ knowledge and skills in four ways: 1) measure dimensions accurately with high-precision devices, 2) read and understand blueprints and technical drawings, 3) understand concepts of design, and 4) operate saws, drills, grinders, manual mills and lathes, and program and operate CNC mills and lathes to produce precision parts.



Mechanical Systems

Mechanical equipment maintenance technician careers offer some of the highest paying and most satisfying opportunities available as companies increase their use of newer and more complex machinery. WSCC's program includes training in mechanical drives, pumps, pneumatics, hydraulics, electricity-electronics, welding, and piping. To perform well, technicians must have higher skill levels in a wider range of technologies than ever before.

With an Associate's Degree in Mechanical Systems...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Industrial machinery mechanics	\$48,700	25% (700 jobs)
Wind turbine service technicians	\$48,800 (national)	25% (130 jobs nationally)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

With a Bachelor's Degree in this field...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Mechanical engineers	\$88,800	13% (1,450 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Mechatronics

Mechatronics workers need to know automation components as well as understand how these components integrate into a system. Manufacturing industries are increasing their use of ever more sophisticated automation systems, often involving higher speeds, greater precision, and seamless integration of IT networks. Students in Mechatronics at WSCC gain skills and knowledge of precision measurement, electricity, electronics, robotics, mechanics, fluid power principles, and troubleshooting.



With an Associate's Degree in Welding...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Welders, cutters, solderers, and brazers	\$34,700	10% (400 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Welding

Welders use a variety of equipment to apply intense heat to metal for the purpose of joining them together or for cutting or trimming them to desired sizes or shapes. Manual welding is done under the complete control of the welder. Semiautomatic welding is done using equipment such as an electrode-feeding gun, which requires some control and manipulation by the welder. Automatic welding is done by a machine, which performs most of the welding functions under the attention of a welding operator.

Manufacturing Technologies – Toward AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS. The following provides an introduction to the diverse tracks within Manufacturing Technologies, including electrical-electronics, mechanical systems, mechatronics, precision machine technologies, and welding during the first two semesters. It is recommended that students then identify an area of focus for their remaining semesters to earn an AAAS degree to better prepared for employment immediately following graduation.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
TMA 113	Technical Math I	3/3	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTR 102	Electrical Safety & Circuits	3.3/4.4	
MTR 103	Sensors	3.6/4.9	
MEC 101	Mechanical Drives 1	3.4/4.8	
Total		16.3/20.1	
Semester 2			
TMA 114	Technical Math II	3/3	TMA 113
WLD 100	Basic Oxy and Arc Welding	4/8	Pre/Co-requisite WLD 101
WLD 101	Welding Technology I	2/2	
MEC 109	Machining	4/5.6	
MTR 106	PLC 1	2.8/3.8	
Total		15.8/22.4	
NOTE: It is recommended that students identify an area of focus—electrical-electronics, machining, mechanical systems, mechatronics, welding after their first two semesters. Faculty and advisors are available to assist in making this decision.			
Semester 3			
Social Science	Select one course from Category A, B, or C	3/3	
Communications	Select one Communications course.	3/3	
Elective	See an advisor		
Courses in specific field, to be determined.			
Semester 4			
Arts & Humanities	Select one course from Category A, B, or C	3/3	
Elective			
Courses in specific field, to be determined			

Electrical-Electronics – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
ELC 101	Electrical Safety & Circuits	3.6/4.8	
ELC 102	Circuits	3.5/4.69	
ELC 103B	Sensors	3.6/4.89	
ELC 104	Motor Control	3.10/4.14	
ELC 105	Relays and Sensors	3.40/4.54	
ELC 106	Timers and Motor Control	3.40/4.55	
ELC 107	Drives and Motors	3.20/4.28	
ELC 108	Motor and Generators	3.60/4.82	
ELC 109	Electrical Wiring	4.40/5.73	
ELC 110	PLC 1	3.20/4.28	
ELC 111	PLC 2	3.90/5.24	
ELC 112	Electrical Code	6.30/8.42	
ENG 111	English Composition I	3/3	ENG 051 & ENG 052 or Placement
Communications Elective	Select one Communications course See an advisor	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
Humanities Elective	Select one from categories A, B, or C	3/3	
Social Science	Select one from categories A, B, or C	3/3	
TMA 113	Technical Mathematics I	3/3	
TMA 114	Technical Mathematics II	3/3	TMA 113
Total		66.2/81.38	

Electrical-Electronics – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Program of Study			
Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
ELC 101	Electrical Safety & Circuits	3.6/4.8	
ELC 102	Circuits	3.5/4.69	
ELC 103A	Sensors	1.6/2.14	
ELC 104	Motor Control	3.10/4.14	
ELC 105	Relays and Sensors	3.40/4.54	
ELC 106	Timers and Motor Control	3.40/4.55	
ELC 107	Drives and Motors	3.20/4.28	
ELC 108	Motor and Generators	3.60/4.82	
ELC 109	Electrical Wiring	4.40/5.73	
ELC 110	PLC 1	3.20/4.28	
ELC 111	PLC 2	3.90/5.24	
Total		36.9/49.21	

Mechanical Systems – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
MEC 101	Mechanical Drives I	3.4/4.8	
MEC 102	Mechanical Drives II	4.6/6.5	
MEC 103	Pneumatics	3.1/4.4	
MEC 104	Hydraulics	4.3/6.1	
MEC 105	Piping Systems	3.2/4.6	
MEC 106	Pumps	4.3/6.2	
MEC 107	Robotics	4.5/6.4	
MEC 108	Electricity	2.8/3.7	
MEC 109	Machining	4/5.6	
WLD 100	Basic Oxyacetylene & Arc Welding Lab	4/8	
WLD 101	Welding Technology I	2/2	
ENG 111	English Composition I	3/3	ENG 051 & ENG 052 or Placement
Communications Elective	Select one Communications course See an advisor	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
Social Science	Select one from categories A, B, or C	3/3	
TMA 113	Technical Mathematics I	3/3	
TMA 114	Technical Mathematics II	3/3	TMA 113
Total		61.2/79.3	

Mechanical Systems - Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Program of Study			
Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
MEC 101	Mechanical Drives I	3.4/4.8	
MEC 102	Mechanical Drives II	4.6/6.5	
MEC 104	Hydraulics	4.3/6.1	
MEC 105	Piping Systems	3.2/4.6	
MEC 106	Pumps	4.3/6.2	
MEC 108	Electricity	2.8/3.7	
MEC 109	Machining	4/5.6	
WLD 101	Welding Technology I	2/2	
Total		28.6/39.9	

Mechatronics – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisite for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
MFG 01	Safety for Manufacturing	3/3	
MFG 02	Quality and Continuous Improvement	3/3	
MFG 03	Manufacturing Processes and Production	3/3	
MFG 04	Maintenance Awareness	3/3	
MTR 102	Electrical Safety and Circuits	3.3/4.4	
MTR 103	Sensors	3.6/4.9	
MTR 104	Motor Control	3.1/4.1	
MTR 105	Relays and Sensors	3.8/5.1	
MTR 106	PLC 1	2.8/3.8	
MTR 107	PLC 2	3.9/5.3	
MTR 108	Mechanical Drives I	3.6/5.1	
MTR 109B	Pneumatics and Hydraulics	3.4/4.8	
MTR 110B	Robotics	4.5/6.4	
MTR 111	Mechatronics 1	4.2/6.6	
MTR 112B	Mechatronics 2	4.2/6.1	
ENG 111	English Composition I	3/3	ENG 051 & ENG 052 or Placement
Communications Elective	Select one Communications course See an advisor	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
Social Science	Select one from categories A, B, or C	3/3	
MTH or Science or TMA 113 and TMA 114	Higher level math or Science from categories A or B or Technical Mathematics I and Technical Mathematics II	4/5 or 6/6	TMA 113
Total		71.4/88.6 min.	

Mechatronics – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Program of Study			
Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
MFG 01	Safety for Manufacturing	3/3	
MTR 102	Electrical Safety and Circuits	3.3/4.4	
MTR 103	Sensors	3.6/4.9	
MTR 104	Motor Control	3.1/4.1	
MTR 105	Relays and Sensors	3.8/5.1	
MTR 106	PLC 1	2.8/3.8	
MTR 107	PLC 2	3.9/5.3	
MTR 108	Mechanical Drives I	3.6/5.1	
MTR 109A	Pneumatics and Hydraulics	1.8/2.6	
MTR 110A	Robotics	2.3/3.3	
MTR 111	Mechatronics 1	4.2/6.6	
MTR 112A	Mechatronics 2	1.2/1.8	
TMA 113	Technical Mathematics I	3/3	
Total		39.6/53	

Precision Machine Technology – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
PMT 101	Measurement and Print Reading	6/8.17	
PMT 102	Tolerances and SPC	3.2/4.3	
PMT 103	Control Charts/Intro to Solid Works	3.1/4.36	
PMT 104	Solid Modeling	3.3/4.42	
PMT 105	Tooling	3/4.15	
PMT 106	Band Saw/Drill Press/Lathe	3.2/4.4	
PMT 107	Milling	3.8/5.22	
PMT 108	Part and Process Design	3.1/4.33	
PMT 109	CAD/CAM/CNC	3.5/5.04	
PMT 110	Programming/Speeds/Feeds	3.2/4.52	
PMT 111	CNC Mill and Lathe	3.7/5.15	
PMT 112	Machining Centers and Turning	3.9/5.26	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
Social Science	Select one from categories A, B, or C	3/3	
TMA 113	Technical Mathematics I	3/3	
TMA 114	Technical Mathematics II	3/3	TMA 113
WLD 111	Metallurgy	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3 min.	
Total		64/80.32	

Welding – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
WLD 100	Basic Oxyacetylene and Arc Welding Lab	4/8	WLD 101 Pre/Co-requisite
WLD 101	Welding Technology I	2/2	
WLD 111	Metallurgy	4/4	
TMA 113	Technical Mathematics I	3/3	
Total		13/17	
Semester 2			
WLD 103	Welding Technology II	2/2	WLD 101
WLD 104	Basic Arc Lab	4/8	WLD 100 Prerequisite & WLD 101 Pre/Co-requisite
WLD 110	Blueprint Reading for Welders	4/4	
WLD 113	Gas Metal Arc (MIG) Welding Lab	4/8	WLD 103 Pre/Co-requisite & WLD 104 Pre/Co-requisite
WLD 115	Band Saw/Drill Press/Lathe	4/5.59	
Total		18/27.59	
Semester 3			
ENG 111	English Composition I	3/3	ENG 051 & ENG 052 or Placement
Social Science	Select one from categories A, B, or C	3/3	
WLD 106	Advanced Arc Lab	4/8	WLD 104 Prerequisite & WLD 103 Pre/Co-requisite
WLD 114	Gas Tungsten Arc (TIG) Lab	4/8	WLD 103 Pre/Co-requisite
WLD 116	Programming/Speeds and Feeds	3.6/5.02	
Total		17.6/27.02	
Semester 4			
WLD 207	Pipe Welding Lab	4/8	WLD 106
Humanities Elective	Select one from categories A, B, or C	3/3	
General Education Elective	Select one from Communications, Humanities and Fine Arts, Math, Science, or Social Science	3/3	
Communications Elective	Select one Communications course See an advisor	3/3	
WLD 299	Welding Internship (Optional)	3/3	
Total		16/20	
Degree Total		64.6/91.61	

Welding – Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
WLD 100	Basic Oxyacetylene and Arc Welding Lab	4/8	WLD 101
WLD 101	Welding Technology I	2/2	
WLD 111	Metallurgy	4/4	
WLD 115	Band Saw/Drill Press/Lathe	4/5.59	
TMA 113	Technical Mathematics I	3/3	
Total		17/22.59	
Semester 2			
WLD 103	Welding Technology II	2/2	WLD 101
WLD 104	Basic Arc Lab	4/8	WLD 100 & WLD 101
WLD 110	Blueprint Reading for Welders	4/4	
WLD 113	Gas Metal Arc (MIG) Welding Lab	4/8	WLD 103 & WLD 104
Total		14/22	
Cert Total		31/44.59	

Nursing & Allied Health

WSCC's Nursing & Allied Health program can help you embark upon a rewarding health care career, or expand one you're already passionate about. Jobs in the health care field will grow as more people gain access to health insurance, the population ages, and research provides ever increasing advances in diagnosis and treatment. Health care has always been an exciting and dynamic profession, but it is even more today with what seems like nearly daily advancements in technology, deepening public knowledge about prevention and treatments, and national and local debates about every aspect of health care. Job growth is anticipated throughout the health care sector through 2022 at rates up to double that of other sectors.

Licensed Practical Nurse (LPN)

Licensed Practical Nurses (LPNs) work in nursing homes, hospitals, private homes, and physician offices. They help people of all ages by assessing health, providing treatments, comfort, and caring. LPNs are respected members of the health care team, working under the direction of RNs and doctors. WSCC's LPN program serves as the first year of the curriculum toward the associate's degree in nursing.

With an Associate's Degree in Licensed Practical Nurse (LPN)...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Licensed practical and licensed vocational nurses	\$44,200	15% (740 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives



With an Associate's Degree in Registered Nurse (RN)...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Registered nurses	\$65,500	11% (2,900 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Registered Nurse (RN)

Registered Nurses (RNs) work as respected health professionals who help people stay healthy or get healthy. RNs provide and coordinate patient care, educate patients, and provide advice and emotional support to patients and their families. RNs work in hospitals, private homes, nursing homes, schools, and correctional facilities and often lead a team of other healthcare providers. The Institute of Medicine is encouraging all RNs to obtain bachelor's degrees by 2020 and WSCC has multiple articulation agreements with four-year universities allowing for transferability of classes.



With an Associate’s Degree in Nursing Assistant – Multi-Skilled Health Care...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Nursing assistants	\$27,400	13% (1,690 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Nursing Assistant – Multi-Skilled Health Care

Wherever there is a need for hands-on personal care, certified Nursing Assistants (CNA), or nurse aides, are there. Nursing assistants are the caregivers who help patients of all ages perform the most essential basic activities of daily life, like bathing, toileting, dressing, and eating. CNAs work under the supervision of nurses, and since they have extensive daily contact with each patient, they play a key role in keeping nurses informed about patients’ needs.

Radiologic Technology

Radiologic technologists, also known as “rad techs,” perform diagnostic imaging examinations using computerized equipment such as x-rays and MRIs. They assist patients to be positioned correctly for the test procedure. They also maintain imaging equipment. Most radiologic technicians work in hospitals.

With an Associate’s Degree in Radiologic Technology...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Radiologic technologists	\$52,400	11% (190 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

With an Associate’s Degree in Respiratory Care...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Respiratory therapists	\$53,600	12% (100 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Respiratory Care

Respiratory Therapists (RTs) examine and provide treatments for patients of all ages who have trouble breathing. They use instruments and tests to evaluate breathing and oxygenation. RTs perform chest physiotherapy, connect patients to ventilators, and instruct patients and their families on how to maintain home oxygen therapy.

Nursing Admissions

Admission to the Nursing Program at West Shore Community College is competitive and based on a number of factors. The application period for the program is January 1 through March 1 for the upcoming fall.

Required Steps

1. Apply for Regular Admission to West Shore
 - Previously Dual-Enrolled students must reapply as a regular student
2. Have official High School and/or College transcripts sent to West Shore
 - Students with 12 or more college credits are not required to submit a high school transcript.
 - Currently enrolled high school seniors are eligible to apply.
 - Students with a GED and no prior college experience must submit GED scores
 - Students who took college classes more than eight years from the time they apply (i.e. prior to fall 2008 for students applying for 2017-2018 admission) may choose to exclude them from the criteria if it is to their benefit, but must still send the official transcript.
3. Successfully complete the following (C or better):
 - ENG 051/098 and ENG 052, transfer equivalents, or obtain appropriate test score
 - MTH 051, transfer equivalent, or obtain appropriate test score
4. Obtain a score of 75 or higher on the HESI exam, taken in the Learning and Testing Center (testing fee applies)
 - Must be taken by February 20
 - Exam covers English and Math; study guides are available in the library
5. Submit a Nursing Program Application to WSCC's Admissions Office
 - The application can be found online at www.westshore.edu. Scroll down to Quick Links and click on Nursing Admission. Paper forms are also available in the Student Services office. The applications for upcoming admission are available on December 1.



Optional Steps

Students may elect to complete any of the following to increase their chances of getting into the program:

1. Successfully complete NUR 105 Nurse Assistant and obtain state certification (CNA)
 - CNA certification will earn points on the Nursing Program Admissions application.
 - High school students who complete the CTE Allied Health course but have not yet obtained CNA certification can get additional points.
2. Obtain employment in direct patient care for a minimum of six months. A letter from your employer will be required to verify.
3. Successfully complete any of the following General Education courses required to obtain the nursing degree. Any courses not completed prior to nursing admission will be required during the program.
 - The courses below will earn bonus points on the Nursing Application if completed prior to applying to the program. All sciences must be completed with at least a B- to meet the requirement for Nursing, all non-sciences must be completed with a C. However, while a grade of C meets the requirement, it will not grant bonus points.
 - ANP 230 Anatomy & Physiology I (B- required)
 - ANP 231 Anatomy & Physiology II (B- required)
 - BIO 232 Elementary Microbiology (B- required)
 - ENG 111 English Composition (C required)
 - PSY 161 Introduction to Psychology (C required)
 - CHM 107 Introductory Chemistry (not required for the nursing program, but will grant bonus points)

- The following courses will not generate bonus points toward the nursing application, but are required to earn the nursing degree:
 - SPE 110 Interpersonal Communications (C required)
 - PHL 104 Bioethics (C required)
 - POL 151 American National Government (C required)
- 4. Obtain 100% on the Medication Math or Dosage Calculation test (three attempts allowed per year)
 - This is not a regular math test. Study materials are available in the library and student services office.
 - Students must earn 100% on this test in order to begin the program. You have the option to take it prior to applying, to earn bonus points.
 - Students not completing the test, if admitted, will be required to complete it by May 1st. Students who are unsuccessful in three attempts will need to reapply the following year.

Please be advised that students will be required to undergo a criminal background investigation prior to beginning the Nursing Program. Any negative factors in a student's background may prohibit entrance into the program. In addition, students who are convicted of an offense during the program may be required to withdraw, or may be denied a license by the Michigan Board of Nursing. Please contact the Director of Nursing or the Dean of Student Services for further information.



Health Related – AS*

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra and/or	4/4	
MTH 120	Introduction to Algebra		
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 123 or 151	Introduction to Statistics or College Algebra	3/3	MTH 120 or Placement
Humanities	One Humanities elective from categories A, B, or C	3/3	
ANP 230	Anatomy and Physiology I; See note below*	4/5	
Total		13/14	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
ANP 231	Anatomy and Physiology II; See note below*	4/5	ANP 230
Science or Math	Explore an area of interest; *See note below	varies	
Humanities	One Humanities elective from remaining two categories	3/3	
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Total		17/19	
Semester 3			
Science	Science elective from Physical Science category	4/5	
Social Science	Social Science elective	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Science or Math	Explore a discipline of interest; *See note below	varies	
Computer Science Elective	Selected one of interest in computer programming language or one 3-credit course covering spreadsheets, word processing, and database *See note below.	3/3	
Total		17/19	
Semester 4			
Humanities	One Humanities elective from remaining category	3/3	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Science or Math	Explore an area of interest; *See note below	varies	
Elective	Explore an area of interest; See note below*	3/3	
Total		13/14	
Degree Total		60/66	

* In completing a degree in the healthcare, students are encouraged to take a sampling of courses in order to identify their preferred area of specialization, such as allied health, nursing, physical/occupational therapy, veterinary, and pre-medical. Students should meet with an academic advisor to determine which courses will best assist them to make a decision regarding a specific career in healthcare and/or in transferring to a college or university of their choice. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Multi-Skilled Health Care - Nurse Assistant - AAAS

Students must earn a minimum of 60 credit hours, all courses must be completed with a grade of C or better, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/Contact	Pre/Co-requisites
Semester 1			
ALH 104	Medical Terminology	3/3	
ALH 118	First Aid – Responding to Emergencies	2/2	May be waived with valid CPR and First Aid Card
NUR 105	Nurse Assistant*	6/8	
SOC 171	Introduction to Sociology	3/3	
Total		14/16	
Semester 2			
CIS 160	Desktop Applications	3/4	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
PSY 161	Introduction to Psychology	3/3	
SOC 275	Social Problems	3/3	SOC 171
BUS 101	Business Mathematics	3/3	MTH 051 or Placement
Total		15/16	
Semester 3			
ANP 118	Introduction to the Human Body	4/5	
ENG 257	Professional Writing	3/3	ENG 111
Social Science	Select one from categories A, B, or C	3/3	
Elective	Select course with an advisor	3/3	
Elective	Select course with an advisor	3/3	
Total		16/17	
Semester 4			
PHL 104	Bioethics	3/3	
PSY 264	Abnormal Psychology	3/3	PSY 161
SOC 274	Sociology of the Family	3/3	SOC 171
SPE 110	Interpersonal Communications	3/3	
Elective	Select course with an advisor	3/3	
Total		15/15	
Degree Total		60/64	

*Prior to clinical experience in the Nurse Assistant course, a criminal background investigation will be required of students. Any negative factors in students' backgrounds may limit placement in one or more agencies. Attempts will be made to adjust for this limitation, but if accommodations cannot be made, continuation in the Nurse Assistant course will not be allowed.

Multi-Skilled Health Care - Nurse Assistant - Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/Contact	Pre/Co-requisites
Semester 1			
ALH 104	Medical Terminology	3/3	
ALH 118	First Aid – Responder Emergency	2/2	May be waived with valid CPR and First Aid Card
NUR 105	Nurse Assistant	6/8	
Total		11/13	
Semester 2			
BUS 101	Business Mathematics	3/3	MTH 051 or Placement
PSY 161	Introduction to Psychology	3/3	
SOC 171	Introduction to Sociology	3/3	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
Elective	Select course with an advisor	3/3	
Total		15/15	
Cert Total		26/28	

Prior to clinical experience in the Nurse Assistant course, a criminal background investigation will be required of students. Any negative factors in students' backgrounds may limit placement in one or more agencies. Attempts will be made to adjust for this limitation, but if accommodations cannot be made, continuation in the Nurse Assistant course will not be allowed.

Practical Nursing Certificate and/or Level 1 of Associate Degree Nursing - AAAS

Admission into Nursing Program from 2015-2016 forward is by competitive selection. Students must earn at least a 75% grade average in each course to continue in the program (grade of C), but must earn a 2.7 (B-) in ANP I and II. ANP 230, ANP 231, SPE 110, and PSY 161 may be completed prior to the program.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
MTH 120	Introduction to Algebra	4/4	
Math	Unit Conversion (packet available following admission to program)	NA	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
NUR 110	Fundamentals of Nursing Practice	4/4	
NUR 111	Fundamentals of Nursing Clinical Practice	3/8	
NUR 136	Basic Pharmacology for Nurses	3/3	
ANP 230	Anatomy and Physiology I; See note below	4/5	
SPE 110	Interpersonal Communications	3/3	
Total Nursing Courses Only		10/15	
Total		17/23	
Semester 2			
NUR 160	Medical-Surgical Nursing I	3/3	All courses in Semester 1/2
NUR 161	Medical-Surgical Nursing Clinical I	3/8	
NUR 170	Obstetrics & Pediatric	3/3	
NUR 171	Obstetrics & Pediatric Clinical	1/3	
ANP 231	Anatomy and Physiology II; See note below	4/5	ANP 230
PSY 161	Introduction to Psychology	3/3	
Total Nursing Courses Only		10/17	
Total		17/25	
Cert Total		34/48	

*ANP 230 and ANP 231 must have been completed in the last eight years.

Associate Degree Nursing Level 2 - AAAS

Students must earn at least a 75% grade average or a grade of C in each course to continue in the program. Students must have completed first-year at WSCC (see Nursing – LPN Certificate and/or Level 1 of RN - AAAS) or possess Practical Nursing Licensure and have ANP I and II in the past eight years in order to be admitted to the program. A limited number of students are admitted on a part-time basis.

Program of Study			
Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Pre-Fall			
NUR 215	Nursing Transition (if needed)	3/4	
Semester 1			
NUR 220	Mental Health Nursing Theory	3/3	
NUR 221	Mental Health Nursing Clinical	1/3	
NUR 240	Medical Surgical Nursing II Theory	3/3	
NUR 241	Medical Surgical Nursing II Clinical	3/8	
BIO 232	Elementary Microbiology	4/5	
ENG 111	English Composition I	3/3	
Total Nursing Courses Only		10/17	
Semester Total		17/25	
Semester 2			
NUR 254	Professional Issues in Nursing Theory	3/3	
NUR 255	Professional Issues in Nursing Lab	1/2	
NUR 260	Medical-Surgical Nursing III Theory	3/3	
NUR 261	Medical Surgical Nursing III Clinical	4/12	
POL 151	American National Government	3/3	
PHL 104	Bioethics	3/3	
Total Nursing Courses Only		11/20	
Semester Total		17/26	
Total Hours Level 2		34/51 (21/37 Nursing Only)	
Total For AAAS in Nursing (1 st and 2 nd Levels)		68/99	

Radiologic Technology – AAAS from Mid-Michigan Community College in collaboration with WSCC

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/Contact	Pre/Co-requisites
West Shore Community College Classes			
Semester 1			
ALH 104	Medical Terminology	3/3	
ANP 230	Anatomy and Physiology I	4/5	
CIS 110	Introduction to Computer Concepts	3/4	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 120	Introduction to Algebra	4/4	MTH 051 or Placement
Total		17/19	
Semester 2			
ANP 231	Anatomy and Physiology II	4/5	ANP 230
CHM 107	Introduction to Chemistry	4/5	MTH 120 or Placement
PSY 161	Introduction to Psychology	3/3	
SPE 101	Principles of Speaking	3/3	
Total		14/16	
Mid-Michigan Community College Classes (taken at Mid-Michigan)			
Fall			
RAD 100	Introduction to Radiologic Technology	3/4	Admission to program
RAD 110	Radiation Physics	3/4	Admission to program
HUM 200	Modernity & Culture	3/3	ENG 111 and SPE 101
Winter			
RAD 115	Principles of Radiographic Exposure	3/4	Admission to program
RAD 130	Radiographic Procedures I	3/5.5	Admission to program
SSC 200	The Social Sciences & Contemporary America	3/3	ENG 111 and SPE 101
Spring			
RAD 175	Radiographic Procedures II	3/4	Admission to program
RAD 180	Clinical Experience I	6/15	Admission to program
Spectrum Health Ludington Hospital Classes			
Fall			
RAD 201	Clinical Issues in Radiography I	2/2	Admission to program
RAD 205	Clinical Experience II	7/15	Admission to program
RAD 211	Sectional Anatomy	1/1	Admission to program
RAD 213	Radiation Protection	1/1	Admission to program
RAD 215	Radiation Biology	1/1	Admission to program
Winter			
RAD 217	Radiologic Techniques II	2/2	Admission to program
RAD 221	Clinical Issues in Radiography II	2/2	Admission to program
RAD 230	Radiographic Quality Assurance	1/1	Admission to program
RAD 250	Clinical Experience III	7.5/15	Admission to program

All courses must be completed with a "C" or better and ANP 230 & 231 with a "B-" or better. All science courses must be completed within 5 years of starting the program at Mid Michigan Community College. Prerequisites for this program may be repeated only once.

Respiratory Care – AAAS, in Cooperation with Ferris State University

The program is a collaboration between WSCC and Ferris State University, which confers the AAAS degree. Students complete their general education courses at WSCC prior to being admitted by Ferris into the program. Interested students should contact an advisor at Student Services to set up an appointment to explore program requirements, and additional information can be obtained from Ferris at 231-591-2261.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/Contact	Pre/Co-requisites
Semester 1			
ALH 104	Medical Terminology	3/3	
ANP 118	Introduction to the Human Body	4/5	
MTH 120	Introduction to Algebra	4/4	MTH 052 or Placement
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
Total		14/15	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communication	3/3	
Social Awareness Elective	Select course with an advisor to meet FSU requirement	3/3	
CHM 107	Introduction to Chemistry	4/5	MTH 120 or Placement
Humanities Elective	SPN 101 Elementary Spanish I is recommended or select from categories A, B, or C	3/3 min.	
Total		16/17	

The Respiratory Care Program is a seven semester course of study in cooperation with Ferris State University leading to an Associate of Applied Science Degree from Ferris. The respiratory care courses in the first year of the program can be taken online from Ferris in conjunction with West Shore courses. To be accepted into the program, the general education courses listed under WSCC must be completed. In addition, a cumulative grade point average of 2.7 is required with a minimum grade of a B- in each math and science courses within two attempts. Contact the Ferris Program Coordinator for additional information at 231.591.2261.

The curriculum is designed so that all lecture courses through Ferris are delivered over the Internet. The laboratory courses meet on Ferris' campus or at an off campus location. During the laboratory session, students practice with various pieces of equipment as they develop their patient care skill in preparation for the clinical internships. Register and pay the tuition for these courses through Ferris.

Science & Mathematics

As a leading college of science in Michigan states, “The world has entered a new and exciting era of scientific understanding that has taken concepts like genetic engineering, nanoscience and biotechnology out of the realm of science fiction and into everyday life.” New applications of science will continue to have profound effects. Thus, graduates with training in any of the biological, mathematical, or physical sciences offered by WSCC are able to transfer to a four-year institution, complete a bachelor’s degree, and find new employment opportunities with industries on the cutting edge of high technology, as well as in teaching, communications, environmental fields, health, and many other areas.

Biology

Students of biology study such topics as aquaculture, ecology, microbiology, botany, and zoology. Studying biology at WSCC prepares students to transfer to a four-year institution and obtain degrees in forestry, pre-veterinary medicine, forensic biology, biotechnology, and many others.

With a Bachelor’s Degree in Biology...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Fish and game wardens	\$59,200	1% (200 jobs nationally)
Conservation scientists	\$63,700	3% (10 jobs)
Agricultural inspectors	\$64,400	-1% (500 jobs nationally)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

With a Bachelor’s Degree in Chemistry...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Chemists	\$78,500	8% (120 jobs)
Chemical engineers	\$84,700	4% (30 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Chemistry

Chemistry ties together biology, physics and many other disciplines. Since everything is made of chemicals, you could consider chemistry to be the study of everything. Perseverance, curiosity, the ability to concentrate on details and developing problem solving are essential skills for a career involving chemistry. There are also opportunities to work at an associate’s degree job as a chemist in food, medical or water analysis. A bachelor’s degree in chemistry prepares students for lab work, teaching, and other professional programs.



Mathematics

Studying mathematics develops skills in analyzing data, formulating and solving problems, thinking abstractly, creating and analyzing mathematical models and arguing logically and rigorously. A bachelor's degree in mathematics will cultivate these skills and provide an attractive option for many employers. If graduate school or professional school is in your future, a mathematics degree provides excellent preparation. For those who truly love the intrinsic beauty of mathematics, a career as a research mathematician just might be the ticket.



With a Bachelor's Degree in Mathematics or Physics...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Actuaries	\$92,000	29% (30 jobs)
Surveyors	\$49,000	10% (30 jobs)
Cost estimators	\$57,100	20% (350 jobs)
Atmospheric and space scientists	\$88,000	17% (10 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives



Physics

Physics is the exploration of the inner workings of the natural and technological world. Those who study physics are trained in turning a complex problem into simpler, more easily solved problems. The skills developed in the introductory physics sequence are useful in any career from owning a business to journalism to law. At the bachelor's level, employment may involve managing an industrial operation or running an advanced apparatus like a medical therapy particle accelerator.

Associate of Science - AS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051 or MTH 120	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 and ENG 052 or Placement
MTH 123 or 151	Introduction to Statistics or College Algebra	3/3 or 4/4	MTH 120 for MTH 123, MTH 121 for MTH 151 or Placement
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Humanities	Select one Humanities elective from categories A, B, or C	3/3	
Science	Select one Science elective from either Biological or Physical Science categories	4/5	
Total		16/17	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Science	Select one Science elective from remaining category	4/5	
Computer Science Elective	Select one of interest in computer programming language or one 3-credit course covering spreadsheets, word processing, and database *See note below.	3/3	
Science or Math	Explore an area of interest; *See note below	4/5	
Total		14/16	
Semester 3			
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Humanities	Select one Humanities elective from remaining two categories	3/3	
Social Science	Select one Social Science elective	3/3	
Science or Math	Explore an area of interest; *See note below	varies	
Science or Math	Explore an area of interest; *See note below	varies	
Total		16/17	
Semester 4			
Humanities	One Humanities elective from remaining category	3/3	
Science or Math	Explore an area of interest; *See note below	4/5	
Elective	Explore an area of interest; *See note below	4/5	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
Total		14/16	
Degree Total		60/66	

* Students seeking an AS degree in science, are encouraged to take a sampling of courses in order to identify their preferred area of specialization, including anatomy and physiology, biology, botany, chemistry, mathematics, and physics. In completing this degree, students must take 16 credits in math and/or science in addition to regular degree requirements and enroll in at least one 3-credit computer programming language or one 3-credit course covering spreadsheets, word processing, and database. Academic advisors in Student Services as well as faculty can assist students in selecting courses that will be accepted by the four-year college or university where they plan to transfer. The terms of the Michigan Transfer Agreement have been embedded in all AA and AS programs.

Social Science

Social Science courses focus on the study of human behavior as it relates to individual development and group interaction. Students enrolled in these courses will improve their understanding of the major ideas and events that have shaped American society and other social systems. The curriculum is designed to help students develop their analytical, research, communication, and critical thinking skills so they may enter the workforce as successful professionals.

Corrections & Criminal Justice

Students interested in Corrections and Criminal Justice careers have many options, depending on their level of education. Corrections Officer and emergency telecommunications dispatcher are two careers for those with certificates. A two-year degree can lead to a position as an entry-level patrol officer in city, county and state police agencies, as well as positions with federal government including border patrol, homeland security, and forestry service. Other jobs include detective, conservation officer, canine officer, and tactical team member. Positions in forensic science typically require a degree in a physical or biological science.

With an Associate's Degree in Criminal Justice or Corrections...

Projections for Michigan, 2012-2022	Median Annual Salary
Corrections officers and bailiffs	\$53,700
Police and sheriff's patrol officers	\$57,700
Private detectives and investigators	\$42,800

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

With a Bachelor's Degree in Education...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Elementary school teachers, except special education	\$64,300	1% (790 jobs)
Secondary school teachers, except special and career/technical education	\$62,500	-5% (580 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Education

Students preparing to be teachers need a strong foundation in the liberal arts and sciences as well as preparation in educational theories and hands-on experiences through active fieldwork. The goal of the education program at WSCC is to train you to think critically, value service and advocate for all children. WSCC students following the programs outlined below are particularly well prepared to transfer to education programs at public universities.

Early Childhood Education

Over the last decade an increased awareness about the importance of early childhood education has led to the distinctive instruction of young children. As a student of early childhood education you will learn how to teach young children and advocate for them and their families while developing a professional portfolio and student teaching.





History

A degree in history can lead to many career opportunities, including positions in education, public and private museums or archives, publishing and editing, historic preservation, cultural resource management, library science, journalism, business, federal, state and local government, the law, Foreign Service, politics, the intelligence community, non-profits, and consulting. The bottom line is that a student who earns a degree in history has the ability to research and write effectively and holds the critical thinking skills desired by all employers today.

Psychology

Psychology is one of the most popular undergraduate majors because it stresses skills that employers want: research, critical thinking, communication, and working with diverse populations. With a bachelor's degree, graduates can obtain jobs as health educators, program directors, market researchers, public relations specialists, correctional specialists, teacher's aides, and social services managers. Students who want to work in clinical or counseling fields are advised to aim beyond the bachelor's.

With a Master's or Doctoral Degree in Psychology or Sociology...

Projections for Michigan, 2012-2022	Median Annual Salary	Growth and Annual Openings
Healthcare social workers	\$51,100	17% (170 jobs)
Clinical, counseling, and school psychologists	\$67,700	6% (100 jobs)
Mental health counselors	\$44,600	15% (80 jobs)

Source: MI Dept. of Labor & Economic Growth, Bureau of Labor Market Information & Strategic Initiatives

Sociology

Sociology is the study of family dynamics, criminal justice, population and environmental issues, gender, social change and social class. Studying sociology develops analytical and investigative skills, provides students with a keen appreciation for diversity, trains students in the use of multi-media, and enhances the ability to adapt to an ever-changing world. It prepares students for wide-reaching and varied careers in industries such as business, international relations, community and social service, education, government, law enforcement, and health care.



Social Science - AA

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Course Needed: Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra and/or Introduction to Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 123 or 125	Introduction to Statistics, Mathematical Reasoning, or other higher level MTH	3/3	MTH 120 or Placement
PSY 161 or SOC 171	Introduction to Psychology or Introduction to Sociology	3/3	
Humanities	Select one Humanities elective from categories A, B, or C	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		15/15	
Semester 2			
ENG 112	English Composition II	3/3	ENG 111
Elective	Explore an area of interest; See note below*	3/3	
Science	Select one Science from either Biological or Physical Science categories	4/5	
Social Science	Select one from POL 151 American National Government, HIS 145 US History to 1877, or HIS 146 US History 1877 to Present	3/3	
PSY 161 or SOC 171	Select course not taken already: Introduction to Psychology or Introduction to Sociology	3/3	
Total		16/17	
Semester 3			
Humanities	Select one Humanities elective from remaining two categories	3/3	
Social Science	Select one Social Science elective	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		15/15	
Semester 4			
Science	Select one Science elective from remaining category	4/5	
Humanities	Select one Humanities elective from remaining category	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Elective	Explore an area of interest; See note below*	3/3	
Total		16/17	
Degree Total		62/64	

* In completing a degree in the social sciences, students are encouraged to take a sampling of courses in order to identify their preferred area of specialization. In addition to those social science courses identified above recommended disciplines include anthropology, economics, geography, history, psychology, and sociology. Students should meet with an academic advisor to determine which courses will transfer to the college or university of their choice. The terms of the Michigan Transfer Agreement have been embedded in All AA and AS programs.

Corrections – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
COR 210	Introduction to Corrections	3/3	
COR 215	Correctional Institutions/Facilities	3/3	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
Math or Science Elective	Select one course from Math or Science categories A or B	4/4 or 4/5	
PSY 161	Introduction to Psychology	3/3	
Total		16/16 min	
Semester 2			
CRJ 211	Juvenile Delinquency	3/3	
COR 216	Client Growth and Development	3/3	
COR 217	Client Relations in Corrections	3/3	
COR 218	Legal Issues in Corrections	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
ENG 112	English Composition II	3/3	ENG 111
Total		15/15	
Semester 3			
OIS 150	Fundamentals of Keyboarding	2/3	May be waived
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
Humanities Elective	Select one from categories A, B, or C	3/3	
CRJ 207 or PED 100	Physical Conditioning or Aerobic Conditioning and Weight Training	2/4	Physician's Permission
POL 151	American National Government	3/3	
SOC 171	Introduction to Sociology	3/3	
Total		16/19	
Semester 4			
ALH 118	First Aid Responder Emergency	2/2	May be waived with valid CPR & First Aid Card
Computer Elective	Select one from Computer Information Systems, Computer Information Technology, or Office Information Systems	3/3	
CRJ 208	Subject Control* (See note below)	3/5	Corrections Students
SOC 274 or COR 223 or SS Elective	Sociology of the Family Recommended or Correctional Procedures or Social Science Elective or	3/4	PSY 161 or SOC 171
PSY 264	Abnormal Psychology	3/3	PSY 161
Total		14/17	
Degree Total		61/67	

*Students must pass the Department of Corrections Pre-Employment Fitness test to participate.

Corrections - Certificate

Program of Study			
Course Code	Course Title	Credits/Contact	Pre/Co-requisites
Semester 1			
COR 210	Introduction to Corrections	3/3	
COR 215	Correctional Institutions/Facilities	3/3	
Total		6/6	
Semester 2			
COR 216	Client Growth and Development	3/3	
COR 217	Client Relations in Corrections	3/3	
COR 218	Legal Issues in Corrections	3/3	ENG 051 or 098 and ENG 052
Total		9/9	
Cert Total		15/15	

THIS CERTIFICATE IS NOT FINANCIAL AID ELIGIBLE.

The Michigan Department of Corrections gives hiring preference to candidates who have completed a degree program or occupational certificate in Corrections. However, any combination of five courses (15 credits) from the following list will meet the minimum educational requirements established by the Michigan Department of Corrections.

PSY 161 - Introduction to Psychology	SOC 274 – Sociology of the Family
PSY 262 – Child Psychology	SOC 275 – Social Problems
PSY 263 – Educational Psychology	CRJ 100 – Introduction to Criminal Justice
PSY 264 – Abnormal Psychology	COR 210 – Introduction to Corrections
PSY 266 – Social Psychology	COR 216 – Client Growth & Development
COR 215 – Correctional Institutions	COR 218 – Legal Issues in Corrections
COR 217 – Client Relations in Corrections	CRJ 211 – Juvenile Delinquency
SOC 171 – Introduction to Sociology	

The courses listed are those currently offered by WSCC, which fall into at least one of the categories specified in the MDOC requirements. Students must attain at least a “C” (2.0) grade for a course to count toward the 15 credit requirement. Students are responsible for satisfying all prerequisite requirements.

Criminal Justice – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
CRJ 100	Introduction to Criminal Justice	3/3	
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
Math or Science Elective	Select one course from Math or Science categories A or B	4/4 or 4/5	
POL 151	American National Government	3/3	
PSY 161	Introduction to Psychology	3/3	
Total		16/16 min	
Semester 2			
CRJ 104	Emergency Telecommunicator	3/3	
CRJ 211	Juvenile Delinquency	3/3	
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
PHO 157 or Humanities	Photographic Technology I select one from Humanities categories A, B, or C	3/3-6	
SOC 171	Introduction to Sociology	3/3	
Total		15/15 min	
Semester 3			
CRJ 207	Physical Conditioning (Optional Contact CJ Director)	2/4	Physician's Permission
OIS 150	Fundamentals of Keyboarding	2/3	May be waived
CRJ 299	Internship	3/3	
Total		7/10	
Semester 4			
CRJ 200	Firearms	3/6	Academy Screening
CRJ 201	Police Procedures	4/5	Academy Screening
CRJ 202	Criminal Investigation	3/3	Academy Screening
CRJ 204	Special Operations	3/3	Academy Screening
CRJ 205	Traffic Crash Investigation	1/1	Academy Screening
CRJ 206	Criminal Law	4/4	Academy Screening
CRJ 208	Subject Control	3/5	Academy Screening
CRJ 213	Traffic Law	3/3	Academy Screening
CRJ 214	Police First Aid	1/1	Academy Screening
CRJ 219	Fitness & Wellness	2/3	Academy Screening
CRJ 220	Emergency Vehicle Operations	1/2	Academy Screening
CRJ 241	Speed Measurement	1/1	Academy Screening
Total		29/37	
Degree Total		67/78 min	

Screening: A student must be at least 18 years old upon entry, must be finger printed, undergo a physical exam, physical fitness test, board interview, and a reading/writing exam. A student must earn at least a grade of "C" (2.0) in each of the 200-level Criminal Justice courses in order to be eligible for police licensure. Upon completion of this degree, students are eligible for licensure by the Michigan Commission on Law Enforcement Standards.

Criminal Justice – Certificate

Students who already hold at least an Associate’s degree upon entering the second year Academy courses may be eligible for a Certificate in Law Enforcement. A grade of “C” (2.0) in each of the second year Criminal Justice courses is required for the Certificate.

Students must meet all state standards for pre-service police training to beginning the Certificate courses, and they must meet additional requirements prior to being licensed as a police offer in Michigan.

All students must hold an Associate’s degree or higher upon completion of the academy courses to be eligible for police licensure.

Program of Study			
Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
CRJ 200	Firearms	3/6	Academy Screening
CRJ 201	Police Procedures	4/5	Academy Screening
CRJ 202	Criminal Investigation	3/3	Academy Screening
CRJ 204	Special Operations	3/3	Academy Screening
CRJ 205	Traffic Crash Investigation	1/1	Academy Screening
CRJ 206	Criminal Law	4/4	Academy Screening
CRJ 208	Subject Control	3/5	Academy Screening
CRJ 213	Traffic Law	3/3	Academy Screening
CRJ 214	Police First Aid	1/1	Academy Screening
CRJ 219	Fitness & Wellness	2/3	Academy Screening
CRJ 220	Emergency Vehicle Operations	1/2	Academy Screening
CRJ 241	Speed Measurement	1/1	Academy Screening
Cert Total		29/37	

Early Childhood Education - AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be pre-requisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231-843-5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to Writing or Writing Essentials	4/4 or 3/3	
ENG 052	Introduction to Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
ECE 101	Introduction to Early Childhood Education	4/4	
ECE 132	Promote Early Literature and Language Development	3/3	
POL 151	American National Government	3/3	
PSY 161	Introduction to Psychology	3/3	
Total		16/16	
Semester 2			
ENG 112 or SPE 101 or SPE 110	English Composition II or Principles of Speaking or Interpersonal Communication	3/3	ENG 111
ECE 125	Early Childhood Activities	3/3	
ECE 130	Child Development for Early Childhood Education	3/3	
BUS 101 or MTH or Science Elective	Business Mathematics or select one Math or Science categories A or B	4/4-5	
SOC 171	Introduction to Sociology	3/3	
Total		16/16 min	
Semester 3			
ECE 135	Current Issues in Early Childhood Education	3/3	ECE 101
ECE 120	Early Childhood Education and Child Care I	7/10	
SPN 101 or Humanities Elective	SPN 101 is recommended or select one from humanities categories A, B, or C	3/3	
PSY 262 or PSY 263 or SOC 274 or SOC 275	Select one course from Child Psychology, Educational Psychology, Sociology of the Family, or Social Problems	3/3	PSY 161 or SOC 171
Total		16/19	
Semester 4			
ECE 121	Early Childhood Education and Child Care II	7/10	ECE 120
ECE 150	Infant and Toddler Care	3/3	
ECE 250	Administration of Early Childhood Education Facilities	3/3	ECE 101 & ECE 130
PSY 262 or PSY 263 or SOC 274 or SOC 275	Select one course from Child Psychology, Educational Psychology, Sociology of the Family, or Social Problems	3/3	PSY 161 or SOC 171
Total		16/19	
Degree Total		64/70	

Students planning to enroll in Ferris State University's BS Degree in Early Childhood Education should enroll in ENG 112 English Composition II and MTH 121 Intermediate Algebra.

Early Childhood Education - Certificate

Students must earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be pre-requisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231-843-5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing	4/4 or 3/3	
ENG 052	Introduction to Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 & ENG 052 or Placement
ECE 101	Introduction to Early Childhood Education	4/4	
ECE 120	Early Childhood Education and Child Care I	7/10	
Total		14/17	
Semester 2			
ECE 121	Early Childhood Education and Child Care II	7/10	ECE 120
ECE 125	Early Childhood Activities	3/3	
ECE 150	Infant and Toddler Care	3/3	
ECE 250	Administration of Early Childhood Education Facilities	3/3	ECE 101 & ECE 130
Total		16/19	
Cert Total		30/36	

ECE 120 – Early Childhood Education and child Care I and ECE 121 – Early Childhood Education and Child Care II if completed successfully qualifies a student to apply for the national credential – Child Development Association (CDA). A student who successfully completes ECE 297, 298, and 299 may qualify for an exemption from ECE 120 and 121. A student who supplies proof of a current CDA credential may also receive an exemption for ECE 120 and 121.

Paraprofessional – AAAS

Students must earn a minimum of 60 credit hours, earn no more than two grades lower than a C, and have an overall GPA of 2.0 or higher in order to earn a degree. Students must also take any required third-party exams, especially in the AAAS concentrations, such as NOCTI, NCLEX, MTA, and MOS.

Courses by Placement/Transfer

The following courses may be prerequisites for your program depending upon your placement scores or transfer evaluation. Advisors can assist you to integrate these into your program of study during your first semester at West Shore. Contact Student Services at 231.843.5510.

Course Code	Course Title	Credits/ Contact	Yes/No
ENG 051 or ENG 098	Introduction to College Writing or Writing Essentials	4/4 3/3	
ENG 052	Introduction to College Reading	4/4	
MTH 051	Pre Algebra	4/4	
FYS 101	First-Year Seminar	2/2	

Program of Study

Course Code	Course Title	Credits/ Contact	Pre/Co-requisites
Semester 1			
ENG 111	English Composition I	3/3	ENG 051 or ENG 098 & ENG 052 or Placement
MTH 100 level or above	100 level Math course or placement equivalent of MTH 120	4/4	MTH 051
Humanities Elective	Select one from categories A, B, or C	3/3	
POL 151	American National Government	3/3	
PSY 161	Introduction to Psychology	3/3	
Total		16/16	
Semester 2			
SPE 101 or SPE 110	Principles of Speaking or Interpersonal Communications	3/3	
EDU 104	Introduction to Education	3/3	
PSY 262 or PSY 263 or ALH 114	Child Psychology or Educational Psychology or Growth & Development: Life Span	3/3	PSY 161
Elective	Select with an advisor; recommended is one class from SPN or MUS 251; other recommendations include courses in ART, ENG, FRN, HIS, HUM, LIT, MUS, PHL, THE	3/3	
Social Science Elective	Select one from Anthropology, Economics, Geography, or Sociology	3/3	
Total		15/15	
Semester 3			
EDU 206	Introduction to Special Education	4/5	EDU 104 or ECE 101
ALH 118	First Aid-Responder Emergency	2/2	May be waived with valid CPR and First Aid Card
Science Elective	Select one elective from ANP, BIO, BOT, CHM, GOL, PHY, NSC, ZOO	4/5	
EDU 205 or EDU 222	Reading Assessment & Methods or Children's Literature	4/5 3/3	EDU 104 or ECE 101
Total		13/15 min	
Semester 4			
EDU 230	Technology in the Classroom	3/3	EDU 104 or ECE 101
Electives	Select with an advisor; recommended electives include MTH 126 Math for Elementary Teaching I, MTH 127 Math for Elementary Teaching II, ECE 120 Early Childhood Education and Childcare I, and ECE 130 Child Development	14 credits	
Total		17/17 min	
Degree Total		61/63 min	

A. Course Descriptions	90-116
B. Online Courses	117



Appendix

A. Course Descriptions

Courses available online vary by semester. Check with an academic advisor or view the schedule at my.westshore.edu for specific semester offerings.

Accounting, ACC	91	Literature, LIT	102
Allied Health, ALH	91	Management, MGT	102
Anatomy & Physiology, ANP	92	Manufacturing, MFG	103
Anthropology, ANT	92	Marketing, MKT	104
Art, ART	92	Mathematics, MTH	105
Biology, BIO	93	Mathematics, Technical, TMA	105
Botany, BOT	93	Mechanical, MEC	105
Business, BUS	94	Mechatronics, MTR	106
Chemistry, CHM	94	Music, MUS	107
Computer Information Systems, CIS	94	NSC see Science, General	
Computer Network Services, CIT	95	Nursing, NUR	119
Corrections, COR	96	Office Information Systems, OIS	111
Criminal Justice, CRJ	96	Philosophy, PHL	111
Early Childhood Education, ECE	97	Photography, PHO	112
Economics, ECO	98	Physical Health, PED	112
Education, EDU	98	Physics, PHY	112
Electrical-Electronics, ELC	99	Political Science, POL	113
English, ENG	100	Precision Machine Technology	113
Entrepreneur, ENT	101	Psychology, PSY	114
First-Year Seminar, FYS	101	Science, General, NSC	114
French, FRN	101	Sociology, SOC	114
Geography, GEO	101	Spanish, SPN	115
Geology, GOL	101	Speech, SPE	115
History, HIS	101	Theater, THE	115
Humanities, HUM	101	TMA see Mathematics, Technical	
Journalism, JRN	102	Welding, WLD	115
Learning Community, LCM	102	Zoology, ZOO	116

Course Numbering System

- 090-099: Developmental courses that carry institutional credit only and do not apply towards graduation.
- 100-199: Introductory courses/freshman level
- 200 & above: Advanced courses/sophomore level

Semester Codes

- FL: Fall course
- WI: Winter course
- SM: Summer course

Course Types

- Face-to-face (F2F): These courses take place in the classroom.
- Online: These courses occur on the internet.
- Hybrid: These courses take place both in the classroom and on the internet.

Accounting

ACC 121 Principles of Accounting I

Offered FL WI SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs)
Introduces concepts of accounting as related to the double entry process of recording data in various journals, posting to general and special ledgers, preparation of worksheet and periodic financial statements. Includes merchandise inventories, cash control, depreciation, receivables and payables, payroll systems, accruals, and deferrals.

ACC 122 Principles of Accounting II

Offered FL WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs)
(Prerequisite: ACC 121 Principles of Accounting I with "C" or better)
Continuation of ACC 121. Topics include corporation equity, long-term liabilities and investments, cost accounting, budgeting, managerial accounting, and Cash Flow Statements.

ACC 125 Federal/State Income Tax

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
Fundamentals of income exclusions; deductions, allowable and not allowable; types of returns to be filed based on individual expenses, etc.; reporting methods of business income, net operating loss, carry forward and carry back, self-employment tax, investment credit. Capital gains and losses, disposition of business assets, installment sales, and other specialized subjects.

ACC 128 Payroll Accounting

Offered WI Lecture-1 Lab-2 (2 credit hrs/ 3 contact hrs)
(Prerequisite: ACC 121 Principles of Accounting I with "C" or better)
In this course, students are exposed to the tax laws, tax rates, and the tax reports that form the core of a payroll accounting position. Acquired knowledge will be applied to practical payroll situations. Practice in all aspects of payroll operations will be applied including payroll registers, recording accounting entries and the preparation of payroll tax return.

ACC 201 Corporate Finance

Offered FL Lecture-3 (3 credit hours/ 3 contact hours) (Prerequisite: ACC 122 Principles of Accounting II with "C" or better) This course examines the fundamental concepts in corporate finance by introducing students to basic skills and methods used for the evaluation of financial condition and operating performance of businesses. This includes the concept of net present value and the time value of money to analyze how investment and financing decisions interact, analytical tools for predicting and testing assumptions about a firm's future performance (capital budgeting techniques, cost of capital and capital structure), methods for selecting and interpreting financial ratios, and the relationship between risk and return and interest rates This course provides an added development of accounting knowledge to determine how financial data is generated.

ACC 221 Intermediate Accounting I

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: ACC 122 Principles of Accounting II with "C" or better) Added development of accounting knowledge previously gained in the principles course. In-depth study of the balance sheet, income statement, retained earnings statements, and cash flow statement. Other topics include: cash and temporary investments, receivables and short term prepayments, current liabilities, inventories (cost flow, special valuation, and estimating procedures), long-term investments, plant assets, intangible assets, bonds and other long-term liabilities.

ACC 222 Intermediate Accounting II

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs)
(Prerequisite: ACC 221 Intermediate Accounting I with "C" or better)
Continuation of Intermediate Accounting I. Includes leases and pensions, corporate paid-in capital and retained earnings, income taxes, statements from incomplete records, statements of changes in financial position, and analyzing financial statements.

ACC 224 Cost Accounting I

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs)
(Prerequisite: ACC 122 Principles of Accounting II with "C" or better)
Covers basic elements of cost accounting for a manufactured product. Includes an in-depth look at materials, direct labor, and factory overhead. The course also covers job order costing, process costing, cost behavior budgeting, and the cost of quality.

ACC 225 Cost Accounting II

Offered as needed Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs)
(Prerequisite: ACC 224 Cost Accounting I with "C" or better)
Continuation of Cost Accounting I. Includes budgeting, standard cost, gross profit analysis, direct costing, cost-volume-profit analysis, differential analysis, capital expenditures, and linear programming and decision making.

ACC 231 Computerized Accounting

Offered FL SM Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
(Prerequisite: ACC 121 Principles of Accounting I plus CIS 110 Introduction to Computer Concepts or CIS 160 Desktop Applications with "C" or better) This course provides hand-on experience with computerized integrated accounting systems that can be applied to all forms of business organizations. Students will be using a popular professional software package in a Windows environment. The emphasis will be on the concept of computerized accounting in general rather than on specific software.

ACC 299 Internship: Accounting

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Allied Health

ALH 104 Medical Terminology

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) Study of medical terms, formulation of terms, and meanings for the beginning health care student.

ALH 109 Nutrition and Diet Therapy

Offered FL WI Lecture-2 (2 credit hrs/ 2 contact hrs) Exploration of nutritional needs in health and illness. Attention to use of special diets in common disease conditions and as an aid in attaining optimal wellness.

ALH 114 Growth and Development: Life Span

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) Study of human growth and development through all stages of life. Included are concepts of motor, intellectual, emotional, and physical development as well as appropriate life style practices to maintain optimum health in each stage of life.

ALH 118 First Aid-Responder Emergency

Offered FL Lecture-2 (2 credit hrs/ 2 contact hrs) Prepares a person to make appropriate decisions regarding First Aid care to the ill or injured and to act on those decisions. American Red Cross Certification issued upon successful course completion.

Anatomy & Physiology

ANP 118 Introduction to the Human Body

Offered FL WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) A non-sequential course designed to provide a basic understanding about the structure and function of the eleven systems of the human body. The principle of homeostasis will be emphasized to illustrate how the interactions of the systems maintain a healthy body.

ANP 230 Anatomy and Physiology I

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Systematic approach to the study of human anatomy and physiology. The integumentary, skeletal, muscle, and nervous systems will be studied in this semester, along with an introduction to histology. Models and human cadavers will be used in laboratory to enhance learning.

ANP 231 Anatomy and Physiology II

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: ANP 230 Anatomy and Physiology I with "C" or better or instructor permission) Course continues the systematic approach to the study of the human body. The endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems will be studied this semester. Histology, models, and human cadavers are used to facilitate learning.

ANP 235 Human Prosection Lab

Offered SM (1- credit hr/ 1- contact hr Lab by arrangement*may be taken up to 6 times) (Prerequisite: Instructor Approval) An intensive lab experience where students will study the anatomy of the human body and procedures of prosection of various regions of a human body.

ANP 241 Human Pathophysiology

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ANP 230 Anatomy & Physiology I, ANP 231 Anatomy & Physiology II, and CHM 107 Introduction to Chemistry with "C" or better) Course provides students with a basic understanding of human pathophysiology based on the adaptive responses of the body to stress. The interrelationships of function and dysfunction at the cellular, tissue, organ, and system levels will be studied and applied to the entire human body.

Anthropology

ANT 112 Intro to Cultural Anthropology

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) Comparative study of culture focusing upon primitive and nonwestern societies. The basic institutions of human society such as kinship, religion, law, politics, and economics are compared to provide an awareness of the relevance of anthropology to contemporary society.

ANT 114 Native Peoples and Cultures/N. Amer

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Provides an introduction to the archeological study of prehistoric cultures of North America, a survey of the major culture areas of North America after European contact, and will conclude by focusing on contemporary issues of importance to American Indians today.

Art

ART 101 Art Appreciation

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) An introduction to a wide range of styles, materials and techniques in art and architecture through the exploration of fundamental artistic principles and concepts. An emphasis is placed on learning how to look at art and understand how it conveys meaning. Multiple class field trips to museums and galleries may be required with added entrance fees and transportation costs.

ART 111 Studio Art: Drawing I

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) Introduction of basic drawing techniques through observation. Line, value, space, and compositional skills will be emphasized while exploring a variety of subjects and drawing materials.

ART 112 Studio Art: Drawing II

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: ART 111 Studio Art: Drawing I or instructor permission) Continued development of drawing skills with traditional and experimental drawing materials and techniques.

ART 113 Art for Elementary Teachers

Offered as needed Lecture-1 (1 credit hrs/ 1 contact hrs) Introduction to visual art designed to provide the elementary classroom teacher with introductory art terminology, fundamental art knowledge and the basic hands-on art skills necessary to allow the incorporation of art into general classroom activities.

ART 121 Studio Art: Painting I

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) An introduction to basic painting materials and techniques with emphasis on color, composition, and personal expression.

ART 122 Studio Art: Painting II

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: ART 121 Studio Art: Painting I or instructor permission) Continued investigation of painting materials and techniques, introducing more advanced methods and emphasizing personal style.

ART 131 Studio Art: Design I

Offered as needed Studio-6 (3 credit hrs/ 6 contact hrs) Introduction to basic principles of two and three dimensional design, focusing upon the concepts of design, composition, and color.

ART 132 Studio Art: Design II

Offered as needed Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: ART 131 Studio Art: Design I) Investigations of the application of two and three dimensional design concepts.

ART 154 Beginning Photoshop

Offered WI Lecture-1 (1 credit hr/ 1 contact hr) Designed for the first-time user, it is an introduction to the fundamental techniques and concepts of Adobe Photoshop CS2. Topics will include the Photoshop interface, using the toolbox and palettes, working with layers, filters, fonts and font effects. Students will learn how to use editing tools to cut, paste, extract, draw, paint, smudge, add motion and heal a photograph.

ART 161 Studio Art: Pottery I

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) Basic course in pottery with emphasis on hand building techniques: introduction to pottery wheel, Discussion of form and aesthetics. Introduction to glazes and surface decoration.

ART 162 Studio Art: Pottery II

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: ART 161 Studio Art: Pottery I) Continuation of ART 161 with greater emphasis on wheel work. Further study of form and aesthetics as applied to functional work and sculpture. Further exploration of decorating techniques and kiln firing processes.

ART 201 Art History I: Ancient and Medieval

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Painting, sculpture, and architecture of the prehistoric Egyptian, Greek, and Roman civilizations, including the Early Christian, Medieval, and Gothic periods in European art. Emphasis on the artistic and aesthetic expression of the art in relation to the cultures which produced them.

ART 203 Art History II: Renaissance to Mod

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Art forms and trends in painting, sculpture, and architecture of the Renaissance and Baroque periods in Europe and the arts of the nineteenth and twentieth centuries. Emphasizes the artistic and aesthetic expression of the arts in relation to the cultures that produced them; explores the artistic and aesthetic expression of the artist as an individual.

ART 293 Continuing Studies in Art

Offered as needed Studio-4 (2 credit hrs/ 4 contact hrs) (Prerequisite: One studio course in medium being studied or instructor permission) A course for artists to continue their art experience in one or more of these media: painting, pottery, drawing, photography, printmaking, design. Media studies and instructors will vary from term to term depending on student need. Guest presenters included. Course may be repeated; no more than four credits from this course can count toward meeting degree requirements.

ART 298 Independent Study: Art

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with experience of independent research, investigation, analysis and study of principles and concepts of topics related to the discipline of art. Objectives of the study are determined by mutual agreement between student and instructor/coordinator.

Biology

BIO 114 Fundamentals of Ecology

Offered SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Study of basic ecological principles including ecosystems, cycle, energy, populations, and communities. Field work will include the study of sand dunes, marshes, and forest areas. Importance of ecology and wise use of Michigan's natural resources will be stressed.

BIO 122 General Biology I

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Aspects of cellular biology, reproduction, genetics, morphogenesis, plant and animal tissues, plant and animal life cycles, maintenances of organism, food productions or intake, plant and animal anatomy, and physiology.

BIO 123 General Biology II

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) An introduction to biology focusing on cellular reproduction, genetics, reproduction in plants and animals, evolution, living kingdoms, and animal behavior.

BIO 131 Aquaculture Science

Offered as needed Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Covers major areas in aquaculture science such as water quality, culture systems, structures, equipment, and biological principles. Examples of culture methods of the important species in the U.S. will be addressed using hands-on-experiments, field trips to aquaculture facilities in Michigan, and by initiating contacts with people in the aquaculture business who will share their experience.

BIO 132 Water Analysis

Offered as needed Lecture-1 (1 credit hr/ 1 contact hr) Formerly CHM 151 Water Analysis. Studying concepts of chemical concentrations and practical analytical procedures for waters. Students will be trained to collect and analyze water samples. Examples of chemical or bacterial contaminations are discussed with their biological implications on human life and the lives of aquatic animals, especially fish.

BIO 157 Introduction to Lake Biology

Offered FL Lecture-2 Lab-4 (4 credit hrs/ 6 contact hrs) Study the nature of fresh-water habitats, biological principles, and diversity of life in fresh waters: microorganisms, plant and animal life, aquatic food-chain, human impact, and biological examples of lake pollution. Laboratory and field work will use Lake Michigan and local aquatic habitats to practice field sampling, biological techniques, and surveys.

BIO 232 Elementary Microbiology

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: Any lab science) An introduction to the principles and techniques of bacteriology, virology, mycology, disease prevention, and immunity. Emphasis is placed on disease causing microorganisms in the United States and the World.

BIO 298 Independent Study: Biology

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with a valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor and the appropriate Dean must approve the Independent Study.

Botany

BOT 137 Local Flora

Offered SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Study and identification on nonvascular and vascular(non-flowering and flowering) plants, economic and ecological importance of these plants considered and a plant collection required. Extensive field study required.

BOT 221 Botany

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Aspects of plant taxonomy, anatomy, physiology, ecology. Survey of nonvascular and vascular plants and ecological considerations. Laboratory work includes field observations and measurements.

Business

BUS 100 Introduction to Business

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) Survey of business with special attention to structure of various types of business organizations, methods of financing, internal organization, and management. Role of private business, entrepreneurship, and government in economic change.

BUS 101 Business Mathematics

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 051 with "C" or better or satisfactory score on ACT or COMPASS test) Stresses the application of mathematics in the business world. Percentages, discounts, mark-ups, simple interest and discount, compound interest, annuities, consumer credit, and statistics.

BUS 112 Business Law

Offered FL WI Lecture - 3 (3 credit hrs/ 3 contact hrs) Principles and philosophy of law with an introduction to our legal system. Practical application of legal principles to matters of contracts, sales, and commercial paper. Legal aspects of personal and real property, including deeds, leases, and tenant-landlord relationships. Business relationships and the legal principles of agency, partnerships, and corporations. An overview of negotiable instruments, employment, and equal employment opportunity law.

BUS 142 Principles of Retailing

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Past and present retailing practices and procedures. Retail management methods are studied along with retail store location and layout, equipment, display, advertising, personnel policies, maintenance, and inventory cost control.

BUS 298 Independent Study: Business

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) Investigation and study of principles and concepts of business in career settings. Objectives of the study are determined by mutual agreement between student and instructor/coordinator.

BUS 299 Internship: Business

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Chemistry

CHM 107 Introduction to Chemistry

Offered FL WI SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: MTH 120 Intro to Algebra with "C" or better or satisfactory score on placement test.) Introduction to the essential elements of inorganic (general) chemistry emphasizing matter and energy. Topics include problem solving skills using dimensional analysis, atomic structure, periodic trends, ionic and covalent compounds, chemical reactions, stoichiometry, gas laws, solution chemistry, basic thermochemistry, the role of equilibrium and kinetics; acid-base chemistry, and nuclear chemistry. Emphasis on chemistry for students interested in the allied health sciences.

CHM 110 Intro to Organic and Biochemistry

Offered as needed Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: CHM 107 Introduction to Chemistry with "C" or better

or equivalent or one year of high school chemistry) A survey of organic and biochemistry. Topics include the biologically significant classes of organic compounds, common reactions and applications to everyday life including the major biomolecules, metabolic pathways, protein synthesis and nucleic acids.

CHM 122 General Chemistry I

Offered FL Lecture-3 Lab-3 (4 credit hrs/ 6 contact hrs) (Prerequisite: MTH 121 Intermediate Algebra with "C" or better or satisfactory score on placement test.) The foundation skills of general chemistry through the examination of matter and energy including dimensional analysis, atomic structure, periodic classification, chemical bonds, stoichiometry, solution chemistry, gas laws, thermodynamics, chemical reactions, and quantum chemistry.

CHM 123 General Chemistry II

Offered WI Lecture-3 Lab-3 (4 credit hrs/ 6 contact hrs) (Prerequisite: CHM 122 General Chemistry I with "C" or better) Continuation of CHM 122. Covers bonding theory, solutions, kinetics, equilibrium, thermodynamics, acids and bases, electrochemistry and nuclear chemistry.

CHM 222 Organic Chemistry I

Offered FL Lecture-3 Lab-3 (4 credit hrs/ 6 contact hrs) (Prerequisite: CHM 123 General Chemistry II with "C" or better) Chemistry of organic carbon compounds. Principles of bonding, nomenclature, mechanisms, and reactivity of hydrocarbons and functional groups including hydrocarbons, addition, substitution and elimination reactions, redox and chirality.

CHM 223 Organic Chemistry II

Offered WI Lecture-3 Lab-3 (4 credit hrs/ 6 contact hrs) (Prerequisite: CHM 222 Organic Chemistry I with "C" or better) Continuation of CHM 222. Common classes of organic compounds, including their nomenclature, structure, bonding, reactivity, mechanisms, synthesis and spectroscopic characterization.

CHM 298 Independent Study: Chemistry

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with a valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor and the appropriate Dean must approve the Independent Study.

Computer Information Systems

CIS 110 Introduction to Computer Concepts

Offered FL WI SM Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) Introduction to fundamental concepts associated with using the computer as a tool in the business world. Emphasis is placed on physical components of the computer, terminology, and hands-on computer exercises using a word processor, data base, and spreadsheet.

CIS 130 Programming Logic

Offered FL Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) This course prepares student for programming courses. Topics covered include flow-charting, pseudocode, object-orientation, decisions, repetition, data, and structured programming. Lecture topics will be reinforced with hands-on coding, testing, debugging, and documentation using the C# programming language.

CIS 135 .Net Applications

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
(Prerequisite: CIS 130 Programming Logic with "C" or better) .Net Application Programming teaches student to solve real-world business problems using the C# language. Students will learn to design, develop, code, test, and document C# Windows applications to meet today's business needs. Data structures, classes, and inheritance, database connectivity and data validation will be covered. Students will gain an understanding of the C# syntax and semantics, and of object oriented concepts as they relate to application programming.

CIS 160 Desktop Applications

Offered FL WI SM Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
Introduces basic features of and provides hands-on experiences in Microsoft Office. Emphasis on design and implementation solutions to business problems. The course prepares students for the Microsoft Office Specialist Exam.

CIS 165 Advanced Desktop Applications

Offered FL WI SM Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
(Prerequisite: CIS 160 Desktop Applications with "C" or better)
Introduces advanced features of and provides hands-on experiences in Microsoft Office. Emphasis on design and implementation solutions to business problems. The course prepares students for the Microsoft Office Specialist Expert Exam.

CIS 200 C++ Programming

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) Students will learn to design, develop code, and test C++ programs. Students will gain an understanding of the C++ programs as they relate to application programming.

CIS 210 Systems Analysis and Design

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) The development and design of data processing systems are studied, including areas of systems feasibility and specifications meeting the information needs of business.

CIS 211 Advanced Applications: Spreadsheets

Offered FL Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) This course will cover advanced topics in spreadsheet creation and manipulation to perform business applications using the MS Excel program. Advanced features will include data validation, pivot table manipulation, advanced functions (lookup and count), advanced financial functions (amortization, present value, and future value), linked workbooks, scenario manager, and solver. Students will have applicable skill sets to take MS certification testing at the conclusion of the course.

CIS 298 Independent Study: Comp. Info. Sys.

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) Independent or special group study in topics relating to business data processing which may involve supervised readings, projects, research, workshops, seminars, and visitations requiring travel. Approval of project required prior to registration. Written reports required.

CIS 299 Internship: Comp. Info. Sys.

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Computer Network Services

CIT 100 Introduction to Operating Systems

Offered FL Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) An introduction to network systems. Topics include installing the operating system, using system utilities, managing disks, managing users, local security, disaster recovery, and remote access. Students will perform real-world networked workstation tasks.

CIT 115 Advanced Operating Systems

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
(Prerequisite: CIT 100 Introduction to Operating Systems with "C" or better) Will familiarize the student with network server administrative tools. Topics will include, but not be limited to, Active Directory design and security, user account management, file and print services, group policies, and server management and monitoring. Students will perform real-world server tasks from an enterprise system administrator perspective.

CIT 130 Introduction to Data Base Management

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Provides an overview for the need for data bases and the nature of the components of data bases and their applications. Concepts in data modeling, data base design, the implementation of the relational model, and multi-user data base processing will be covered. The SQL data base language will be introduced.

CIT 160 Computer Systems Support

Offered WI Lecture-1 Lab-4 (3 credit hrs/ 5 contact hrs) Introduces skills necessary to become a computer support technician. This course covers topics such as hardware, operating systems, software installation, preventive maintenance, networking, security, and troubleshooting. The course prepares students for the CompTIA A+ certification, an industry standard for computer support technicians.

CIT 180 Network Connections

Offered FL Lecture-1 Lab-2 (2 credit hrs/ 3 contact hrs) Introduces the fundamentals of data communication, networking hardware, and cabling. Practical experience will be gained through hands-on labs.

CIT 190 Intro to Comm for IT Professional

Offered as needed Lecture 1 (1 credit hr/ 1 contact hr) Introduction to the development of communication skills needed to thrive in the IT workplace. Practice in case scenarios, creating and delivering presentations, managing online persona, and communicating with technology.

CIT 200 Computer Help Desk Support

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hours)
Prerequisite: CIT 100 Introduction to Operating Systems or CIT 160 Computer Systems Support with "C" or better) An in-depth analysis of the help desk environment and end user support. Emphasis is placed on issue resolution, customer service satisfaction, and critical thinking and planning skills. Students will have the opportunity to apply the skills learned working at the WSCC help desk.

CIT 210 Advanced Server Concepts & Security

Offered FL Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) (Prerequisite: CIT 115 Advanced Operating Systems with "C" or better) Introduction to the fundamentals of network security, including compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. Covers new topics in network security as well, including psychological approaches to social engineering attacks, Web application attacks, penetration testing, data loss prevention, cloud computing security, and application programming development security.

CIT 220 Web Page Development & Management

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Course offers an introduction to HTML markup language and cascading style sheets. Webpage interactivity through JavaScript and customizing web graphics will be discussed. Students will learn the development and design of effective web pages as well as how to setup and maintain web servers. Content management systems will be reviewed and security issues will be discussed.

CIT 230 Web Applications

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: CIS 130 Structured Basic Programming or CIS 200 C++ Programming with "C" or better) In this course, we will build a web application using a popular server side scripting language. Students will work as a project team using object-oriented techniques to research, design and produce a functioning Internet-based application. Experience in web scripting, database connectivity, authentication, and versioning will be gained as students work together and build organizational skills. Previous experience in a programming language is a necessity.

CIT 245 Network Technologies

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite of CIT 180 Network Connections with "C" or better) Course offers a comprehensive introduction to fundamental network concepts. Lectures on networking technologies will be reinforced through hands-on lab work. Students will develop an understanding of the protocols and standards that networks rely on for functionality. Network design and implementation will be studied along with administration with an emphasis on troubleshooting and maintenance. Students will learn the OSI model and which networking technologies relate to which layer. Students will gain a broader understanding of the interconnections between bridges, routers, and switches. Labs will cover the set-up and configuration of a functioning network.

CIT 299 Internship: Network Services

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Corrections

COR 210 Introduction to Corrections

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to philosophy of corrections; includes juvenile and adult programs. Rehabilitation methods examined.

COR 215 Correctional Institution/Facilities

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) This course will examine the purpose of prisons, treatment and rehabilitative

programs, management and organization of correctional institutions, custodial care, safety and security, and prisoner rights.

COR 216 Client Growth and Development

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) This course will examine normal versus criminal behavior, human development and criminal patterns, specific problems, and intervention strategies.

COR 217 Client Relations in Corrections

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) The course will examine the meaning and function of culture, the impact and meaning of discrimination, minorities, attitude formation, and professional responsiveness.

COR 218 Legal Issues in Corrections

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 051 & ENG 052 with "C" or better or satisfactory ACT or COMPASS test) The course will examine constitutional law; law and court process; U.S. courts, prisoner rights; Section 42, 1983 concerns; and current topics.

COR 223 Correctional Procedures

Offered WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) Students will learn the principles and procedures of prisoner intake and booking, ethics, fire safety, prisoner behavior, report writing, workplace laws, stress management and suicide awareness.

COR 240 Local Corrections Officer Trng Aca

Offered SM Lecture-7 Lab-4 (9 credit hrs/11 contact hrs) Students will complete the 160-hour training curriculum required to work as a Local Corrections Officer.

Criminal Justice

CRJ 100 Introduction to Criminal Justice

Offered FL SM Lecture-3 (3 credit hrs/ 3 contact hrs) Overview of the criminal justice system to include law enforcement, courts, prosecution, and corrections.

CRJ 104 Emergency Telecommunicator

Offered WI Lecture-3 (3 credit hours/ 3 contact hours) This course is designed to train individuals in emergency telecommunication technology, interpersonal communication, legal issues, and job stress factors. The course is intended for students unfamiliar with emergency telecommunication centers.

CRJ 200 Firearms

Offered WI Lecture-1 Lab-5 (3 credit hrs/ 6 contact hrs) (Prerequisite: Academy Screening) Training and qualification in the use of the 9mm pistol, .12 gauge shotgun, and patrol rifle. Legal use of force emphasized.

CRJ 201 Police Procedures

Offered WI Lecture-5 (4 credit hrs/ 5 contact hrs) (Prerequisite: Academy Screening) Study of procedures and skills required in court functions, domestic violence incidents, patrol tactics, tactical techniques, prisoner care, individuals with mental disorders, dealing with juveniles and their families, and radio communication.

CRJ 202 Criminal Investigation

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: Academy Screening) Fundamentals of criminal investigation, including the identification, collection, and preservation of evidence, interviews, and preparation for legal proceedings.

CRJ 204 Special Operations

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: Academy Screening) Provides skills in emergency preparedness, civil disorders, tactical operations and human relations.

CRJ 205 Traffic Crash Investigation

Offered WI Lecture-1 (1 credit hrs/ 1 contact hrs) (Prerequisite: Academy Screening) Students will study causes of traffic crashes and use various investigative tools to determine factors such as crash event sequence and minimum vehicle speed. Students will learn crash reporting as well as the applicability of related laws.

CRJ 206 Criminal Law

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) Basic course in criminal law as it applies to local and state laws. The elements of a crime will be learned.

CRJ 207 Physical Conditioning

Offered FL Lab-4 (2 credit hrs/ 4 contact hrs) (Prerequisite: Physician's Permission - acquire permission form from Criminal Justice Director and bring to first day of class) Physical fitness for the police candidate emphasizing cardiovascular conditioning, stretching, strength, and agility.

CRJ 208 Subject Control

Offered WI Lecture-1 Lab-4 (3 credit hrs/ 5 contact hrs) (Prerequisite: Academy Screening) Legal use of force, techniques of unarmed defense.

CRJ 211 Juvenile Delinquency

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Studies the causation of juvenile delinquency. Topics include federal and state law, the juvenile justice system, police and community intervention, and gang activity.

CRJ 213 Traffic Law

Offered WI Lecture-3 (3 credit hours/ 3 contact hours) (Prerequisite: Police Licensure Student) Motor Vehicle Code, as well as methods currently used in traffic control and enforcement. Students will receive Standardized Field Sobriety Testing (SFST) training, and qualifying students will receive a certificate in SFST.

CRJ 214 Police First Aid

Offered WI Lecture-1 (1 credit hrs/ 1 contact hrs) (Prerequisite: Academy Screening and CPR) Standard first aid techniques, including care of bleeding, fractures, environmental emergencies, childbirth, vehicle extrication, and tactical emergency casualty care.

CRJ 219 Fitness and Wellness

Offered WI Lecture-1 Lab-2 (2 credit hrs/ 3 contact hrs) (Prerequisite: Academy Screening) Designed for police licensure students and covers a variety of health related topics including, fitness and wellness, benefits and guidelines for exercise, coronary risk factors, stress management, nutrition, weight control, low back care and motivation. Emphasizes the importance of being fit for duty and fit for life.

CRJ 220 Emergency Vehicle Operations

Offered WI Lab-2 (1 credit hrs/ 2 contact hrs) (Prerequisite: Academy Screening) Students will learn the legal and practical aspects of police vehicle operation.

CRJ 241 Speed Measurement

Offered WI Lecture-1 (1 credit hrs/ 1 contact hrs) (Prerequisite: Academy Screening) Legal and technical application of police radar and lidar.

CRJ 298 Independent Study: Law Enforcement

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Approved application and CRJ 100) Investigation and study of principles and concepts of law enforcement in a career setting. The objectives of the study are determined by the mutual agreement of the student and the instructor/coordinator.

CRJ 299 Internship: Law Enforcement

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application and CRJ 100) Credit is granted for work experience in a law enforcement field. Arrangements are to be made through instructional staff.

Early Childhood Education

ECE 101 Intro to Early Childhood Education

Offered FL WI Lecture-4 (4 credit hrs/ 4 contact hrs) Emphasizes the introductory disciplines of Early Childhood Education professions (i.e. Head Start). Familiarizes students with current state licensing regulations and the foundations of applied theories relative to developmentally appropriate practices.

ECE 120 Early Childhood Ed and Child Care I

Offered FL Lecture-4 Lab-6 (7 credit hrs/ 10 contact hrs) Investigation and study of principles and concepts of child development and child care. The focus is on the understanding of principles and concepts underlying the theories of early childhood education. Skills in each functional area of CDA (Child Development Association) Competency Standards will be covered.

ECE 121 Early Child Ed and Child Care II

Offered WI Lecture-4 Lab-6 (7 credit hrs/ 10 contact hrs) (Prerequisite: ECE 120 Early Childhood Ed & Child Care I with "C" or better) Continuation of the study of principles and concepts of child development, child care, and early childhood education. Skills in the 10 required CDA Competency standard areas will be covered. To apply for CDA certification, the student will have 5 years to complete the additional 300 hours of experience working with children.

ECE 125 Early Childhood Ed Activities

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Focus on a knowledge and understanding of the principles and patterns of developmentally appropriate practices for classroom instruction of infant through eight-year old children, on the classroom environment and the effects of the domains on learning. Will demonstrate an understanding about the quality of each developmental stage and how growth can be encouraged. A hands-on approach to the age appropriate practices of today.

ECE 130 Childhood Dev for Early Child Edu

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Study of human growth and development from conception through the first eight years. Included are concepts of physical, cognitive, emotional, language, and literacy developments as well as how the environment from family to school effects the self concept and motivation for the full potential of the child.

ECE 132 Promote Early Lit and Language Dv

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) This course will focus on early literacy - its definition, differing philosophies and activities that may be done to promote the topic of early literacy, or how young children learn to read and write. It will also assist those working with young children to understand the importance of creating a literate environment for young children and aid in the understanding of the role of adults in promoting early literacy.

ECE 135 Current Issues Early Childhood Ed

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ECE 101 Introduction to Early Childhood Education with "C" or better) This course will help students become aware and knowledgeable about the current issues that face early childhood education. Issues may include: developmentally appropriate practice, brain development research, child care issues, special needs and at risk children, rights of parents, kindergarten entrance, diversity, appropriate nutrition, etc.

ECE 150 Infant and Toddler Care

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ECE 101 Intro to Early Childhood Education with "C" or better) Provides an intense look at the special needs of infants and toddlers and methods of designing and implementing appropriate programs. Classroom arrangement, charting, and curriculum planning. Discussion on methodology of working in a classroom environment and management. Curriculum planning, age appropriate domains and implementing proper care for a positive learning environment.

ECE 250 Adm of Ely Childhood Ed Facilities

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ECE 101 & ECE 130 with "C" or better or instructor permission) Focuses on the essential organization, planning, operations, and ongoing quality improvement of childcare facilities. Licensing, structure and accreditation standards are covered. Discussion on child advocacy, importance of high quality childcare and a positive working environment.

ECE 295 Special Studies Early Childhood Ed

Offered as needed (1-7 credit hrs/ 1-7 contact hrs) (Prerequisite: Approved application) Study of principles and concepts of Early Childhood Education. Objectives of the study are determined by mutual agreement between student and instructor.

ECE 297 Early Childhood Observation Lab

Offered as needed Lab-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: Approved application) Continuation of the study of principles and concepts of child development, childcare, and early childhood education. Skills in the 10 required competency standard areas would be covered. To apply for CDA certification, the student will have five years to complete an additional 300 hours of experience working with children.

ECE 298 Independent Study:Child Development

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Investigation and study of principles and concepts of child development in career setting. Objectives of the study are determined by mutual agreement between student and instructor.

ECE 299 Internship: Child Development

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Placement in a child development center or group child care for six (6) hours a week, working with children,

observing behavior, and instruction under close supervision. Specific goals and objectives for placement will be developed with the child care agency teachers and directors.

Economics

ECO 136 Principles of Microeconomics

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Survey of economics with particular emphasis on the market system. Discusses basic economic concepts and principles and then moves on to the micro-economic description and analysis.

ECO 137 Principles of Macroeconomics

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Survey of economics continued. Focuses on macro-economic analysis and description and examines certain specific economic problems within the American economy.

Education

EDU 104 Introduction to Education

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Enables students to explore the realities of teaching in the United States, and introduces the knowledge and skill base necessary to reach an increasingly diverse student population. Explores the historical, legal, philosophical, and sociocultural foundations of American education, emphasizing the expansion of education given gender, cultural, and socioeconomic differences in the country. Includes a minimum 20 hours of classroom observation.

EDU 205 Reading Assessment & Methods

Offered every other year Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: EDU 104 Introduction to Education or ECE 101 Introduction to Early Childhood Education with "C" or better). Introduces students to literacy instruction and assessment practices for grades K-8, including developmental instruction. Students are expected to conduct 20+ hours of fieldwork coupled with research and discussion of developmentally appropriate learning in the language arts.

EDU 206 Introduction to Special Education

Offered FL in odd years Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite EDU 104 Introduction to Education or ECE 101 Introduction to Early Childhood Education with "C" or better) Course is designed to provide an introduction to the education of exceptional learners. Content will include a historical survey of the field of special education, including legislation and litigation, causes of disabilities, the academic, social and cognitive characteristics of diverse learners, basic assessment principles, and intervention procedures. Discussions will include special education services/programming, the role of family and community, and issues specific to gifted children and English language learners (a 30 hour practicum required).

EDU 222 Children's Literature

Offered every other year Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to the significance of children's literature both in education and in literary and cultural contexts. Considers a range of children's and young adult books from multiple genres using a variety of aesthetic, sociocultural, pedagogical, and psychological perspectives. Features discussion of and writing about the work children's literature performs in schools, communities, families, and personal experiences.

EDU 230 Technology in the Classroom

Offered WI in odd years Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: EDU 104 or ECE 101 with "C" or better or teaching certificate or instructor permission) Introduction to the infusion of technology into a classroom environment. Students will develop a curriculum which utilizes computer technology with an instructional design methodology. Core concepts include: hardware operation, software applications, the Internet, and development of new educational methods based on emerging technology.

Electrical-Electronics

ELC 101 Electrical Safety & Circuits

Offered FL WI SM (3.6 credit hrs/4.8 contact hrs) Introduces basic concepts of electricity, general safety procedures, Red Cross CPR and use of the Automated External Deliberator (AED) including RED CROSS certification in CPR and AED. An overview of electronics is covered along with schematics, closed and open circuits, switches, wires, wire resistance, basic circuit measurements, meter symbols, digital and analog multi-meters. Soldering and troubleshooting circuits is also covered. Lab sessions focus on soldering, building and testing circuits.

ELC 102 Circuits

Offered FL WI SM (3.5 credit hrs/ 4.69 contact hrs) (Prerequisite: ELC 101 Electrical Safety & Circuits) Introduces Ohm's and Kirchhoff's laws, characteristics of inductance and capacitance, and the use of series and parallel circuits together. Also included are transformers, how to select, connect, and troubleshoot them and a basic understanding of Control Logic. Hands-on labs focus on building circuits, analyzing and troubleshooting them.

ELC 103A Sensors

Offered FL WI SM (1.6 credit hrs/ 2.14 contact hrs) (Prerequisite: ELC 102 Circuits) Introduces relays, limit switches, timers, inductive and capacitive proximity sensors, magnetic reed switches Hall-Effect sensors, photoelectric sensors, thermal sensors, including thermistors, thermocouples, and resistive temperature detectors (RTDs). The hands-on labs focus on learning how these various electronic components function in circuits.

ELC 103B Sensors

Offered FL WI SM (3.6 credit hrs/ 4.89 contact hrs) (Prerequisite: ELC 102 Circuits) Introduces relays, limit switches, timers, inductive and capacitive proximity sensors, magnetic reed switches, Hall-Effect sensors, photoelectric sensors, thermal sensors, including thermistors, thermocouples, and resistive temperature detectors (RTDs). Also included are power supplies, transistors and switching circuits, operational amplifiers, FETs, PWM and speed and power control. The hands-on labs focus on learning how these various electronic components function in circuits.

ELC 104 Motor Control

Offered FL WI SM (3.1 credit hrs/ 4.14 contact hrs) (Prerequisite: ELC 103A/B Sensors) Introduces basic safety requirements for control of motors, manual motor control and overload protection. Also included are basic construction and operation of a control transformers and electrical control circuits. Hands-on labs include working with these components to gain an understanding of how they work.

ELC 105 Relays & Sensors

Offered FL WI SM (3.4 credit hrs/ 4.54 contact hrs) (Prerequisite: ELC 104 Motor Control) Introduces control relays used to start and stop

electric motors, troubleshooting components in-circuit, control circuits and basic operation of electronic sensors in motor control circuits. Hands-on labs focus on using the components in actual circuits.

ELC 106 Timers & Motor Control

Offered FL WI SM (3.4 credit hrs/ 4.55 contact hrs) (Prerequisite: ELC 105 Relays & Sensors) Introduces the use of counters and timers in motor control circuits, how to safely reverse an electric motor, techniques used to stop AC motors, reduced voltage starting and controlling motor speed using variable frequency AC drives. Hands-on labs focus on using these techniques to control electric motors.

ELC 107 Drives & Motors

Offered FL WI SM (3.2 credit hrs/ 4.28 contact hrs) (Prerequisite: ELC 106 Timers & Motor Control) Introduces motor acceleration and deceleration methods used with variable frequency AC drives, troubleshooting of circuits that include variable frequency drives and SCRs used to control motor speed. Also included are methods for measuring, calculating and analyzing motor performance characteristics. Hands-on labs focus on using the methods introduced in the on-line modules.

ELC 108 Motors & Generators

Offered FL WI SM (3.6 credit hrs/ 4.82 contact hrs) (Prerequisite: ELC 107 Drives & Motors) Introduces AC electric motors, AC circuits with inductive loads, single-phase AC motors, squirrel-cage induction motors, DC generators, generation and distribution of AC power and basic electrical wiring including switches, lights, outlets, and circuit protection. Hands-on labs focus on understanding these electrical components and systems by using them in circuits.

ELC 109 Electrical Wiring

Offered FL WI SM (4.4 credit hrs/ 5.73 contact hrs) (Prerequisite: ELC 108 Motors & Generators) Introduces working with and bending conduit, EMT and IMC, selecting proper conductors and protection for applications, wire pulling techniques and how to install control wiring into electrical panels. Hands-on labs focus on wiring skills.

ELC 110 PLC 1

Offered FL WI SM (3.2 credit hrs/ 4.28 contact hrs) (Prerequisite: ELC 109 Electrical Wiring) Introduces the fundamental operation of a programmable logic controller (PLC), PLC programming using PLC software, using a PLC to control electric motors, interfacing a number of common I/O devices to the PLC and testing the interfacing. Hands on labs focus on using PLCs to accomplish the skills listed.

ELC 111 PLC 2

Offered FL WI SM (3.9 credit hrs/ 5.24 contact hrs) (Prerequisite: ELC 110 PLC 1) Introduces PLC's and event sequencing, reading and designing event sequencing programs, using PLC timer instructions, using counter instructions with PLCs, troubleshooting PLC systems and using math and data move instructions with PLCs. Hands on lab focuses on using a PLC to accomplish these skills.

ELC 112 Electrical Code

Offered FL WI SM (6.3 credit hrs/ 8.42 contact hrs) (Prerequisite: ELC 111 PLC 2) This nine module course covers various topics in the National Electrical Codes (NEC) including, terms and definitions, practices for safe and compliant wiring and over current protection, wire sizes, materials and voltage limitations, conductor protection in raceways, wiring methods for inside and outdoor installations. Also covered are Class I, II, and III, hazardous locations, including Divisions 1 and 2, commercial locations wiring practices as applied to electric signs, pre-wired office partitions. Other wiring principals focus on cranes and hoists, elevators, moving walks and chair lifts, community antenna television systems (CATV) used to distribute signals in buildings and sub-divisions as well as the NEC compliance in wiring. Also studied are the Michigan Department of Labor Electrical Code Rules. This course contains pages of on line study, a lab discussion and test of 66 questions.

English

ENG 051 Introduction to College Writing

Offered FL WI SM Lecture-4 (4 credit hrs/ 4 contact hrs) Diction, grammar, punctuation and usage; written assignments to develop effective sentences and paragraphs. Prepares students for additional courses in English or communications. It is recommended that students enroll concurrently in ENG 052 Introduction to College Reading.

ENG 052 Introduction to College Reading

Offered FL WI SM Lecture-4 (4 credit hrs/ 4 contact hrs) Basic principles of reading skills concentration on improving comprehension, reading rate, vocabulary, retention, and critical reading. Students will be diagnosed as to ability in vocabulary and comprehension and individualized practice on computer programs.

ENG 053 ESL Communication Skills

Offered FL WI Lecture-1 (1 credit hrs/ 1 contact hrs) (Recommended: ENG 051 Intro to College Writing & ENG 052 Intro to College Reading) Basic principles of reading, writing, and pronunciation for non-native students. Prepares students for additional courses in English or communications. Course may be repeated for a maximum of 3 credits.

ENG 098 Writing Essentials

Offered FL WI SM (3 credit hrs/ 3 contact hrs) A course designed to help students master the essential elements of good writing, in preparation for college level work. Class size is deliberately limited so that student can benefit from one-on-one work with the instructor and small group interaction as they quickly get up to speed on the requirements of writing across the college curriculum. The course meets concurrently with English Composition I.

ENG 101 College Learning Strategies

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) Assists students in the development of lifelong learning strategies necessary to reach their educational and career objectives. Critical thinking, problem solving, test-taking and study techniques, college resources, and reading strategies are introduced.

ENG 111 English Composition I

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 051 & ENG 052 with "C" or better or satisfactory ACT or COMPASS test) Written expository prose. Emphasis on generation and exploration of ideas as well as revising and editing. Various rhetorical forms studied; analysis practiced; library use and

documentation reviewed. Opportunity to read and discuss expository works.

ENG 112 English Composition II

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Comp I with "C" or better) Introduction to analytical and critical essays, writing argumentative and persuasive essays, research papers, and reports. Introduction to rhetorical argument and persuasion.

ENG 115 Creative Writing

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Comp I with "C" or better) Readings and exercises in various techniques of fiction and poetry writing. Concentration on individual student writing through workshop discussion.

ENG 200 Fiction Writing Workshop

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 115 Creative Writing with "C" or better or instructor permission) Students will engage in multiple, in-depth workshop exercises as well as the study of fiction writing techniques in a variety of forms as practiced by established authors. Students will develop a fiction portfolio and prepare at least one work for publication in a regional or national literary publication.

ENG 251 Introduction to Linguistics

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 112 English Composition II with "C" or better) Introductory linguistics course intended for students who have had no previous exposure to systematic language study. Students will examine the grammatical structures of the English language (syntax), its system of sounds (phonology), and the ways that languages instill words with meaning (morphology, semantics). Course will also address issues of current interest in linguistics, including language variation (dialects and styles), language acquisition, current attitudes about English dialects, and recent debates concerning the biological components of language.

ENG 257 Professional Writing

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Develops the rhetorical principles and writing practices necessary for producing effective business letters, memos, reports, and collaborative projects in professional contexts. The curriculum is informed by current research in rhetoric and professional writing and is guided by the needs and practices of business, industry, and society at large. Another major aspect of this class is teaching how to work effectively and professionally in collaborative settings.

ENG 298 Independent Study: Communications

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Study of principles and concepts of English. Objectives of the study are determined by mutual agreement between student and instructor.

ENG 299 Internship: Communications

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) A short-term work experience that provides students with the opportunity to gain experience in a specific field or career area. An internship can be paid or unpaid and may be taken for 3-6 credits (3 credits= 225 hours, 450 hours for 6 credits). The instructor and the appropriate Dean must approve the Internship.

Entrepreneur

ENT 115 Business Startup - Entrepreneurship

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) The entire process of originating a business will be studied from identifying opportunities to completing a business plan to get you started. Key topics will include: start-up options, forms of business ownership, financing a new venture, financial management, selecting a location, marketing, regulatory compliance, and understanding fundamental principles of business.

First-Year Seminar

FYS 101 First-Year Seminar

Offered FL WI Lecture-2 (2 credit hrs/ 2 contact hrs) The First Year Seminar is designed to help WSCC students identify and develop the beliefs, behaviors, and skills that create academic, professional, and personal success. Through self-assessment, readings, collaborative projects, classroom activities, and reflective writing students will learn how: to take responsibility for their own success, to increase self-motivation and self-awareness, to think critically and effectively communicate ideas at the college level, to create compelling college and life plans, and to navigate and make full use of college resources.

French

FRN 101 Elementary French I

Offered FL Lecture-4 (4 credit hrs/ 4 contact hrs) Through study of vocabulary; grammar; pronunciation; listening and reading comprehension; writing; and basic aspects of cultural awareness, students acquire the fundamentals of the language, with emphasis on conversational French.

FRN 102 Elementary French II

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: FRN 101 Elementary French I with "C" or better or equivalency) Continuation of FRN 101.

Geography

GEO 130 Geography of North America

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Survey of the physical, social, cultural, and human geography of North America.

GEO 133 World Regional Geography

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Regional analysis of the physical, cultural, economic, and natural conditions found throughout the world.

Geology

GOL 191 General Geology

Offered WI SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) This physical geology course will examine minerals and rocks of the Earth, age determination, role of water on sculpting the Earth's surface, earthquakes, volcanism, erosion and mass wasting and economic aspects of geology. Laboratory study of minerals, rocks, models, and maps with virtual field trips.

History

HIS 141 Western Civilization to 1600

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) A review of significant events in the rise of western civilization from prehistory to early modern times, including the study of the ancient

civilizations of Mesopotamia, Egypt, Greece, and Rome. Additional eras to be addressed include the Middle Ages, Renaissance, and Reformation. Emphasis will be placed on the development of religious, political, economic, and intellectual traditions.

HIS 142 Western Civilization 1600 to Pres

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) A review of the continuing development of modern institutions and traditions from the Ancien Regime to the present. Specific topics to be addressed include the Enlightenment, Napoleonic era, industrial revolution, rise of nation-states, imperialism, emergence of totalitarian dictators, and the cold war. A wide spectrum of political, economic, social, intellectual, and technological history is examined to better understand current world issues.

HIS 145 US History to 1877

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) A survey of American history from the time of first European contact to the Civil War and Reconstruction. Social, political, economic, and religious factors are considered as they pertain to European interaction with Native Americans, colonization, the development of slavery, American Revolution, Early Republic, Westward expansion, spread of American democracy, and the causes and effects of Civil War.

HIS 146 US History 1877-Present

Offered WI Lecture-3 (3 credit hrs/3 contact hrs) A survey of American history from the era of Reconstruction to the present. Specific topics to be addressed include the "Last" West, industrialization, Progressive Era, World Wars One and Two, "Roaring" Twenties, Great Depression and New Deal, civil rights, post-war society, politics, and the cold war. Important changes in American society, politics, the economy, and foreign affairs will be highlighted as the United States became an industrial giant and rose to a position of an international power.

HIS 214 History of Michigan

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) A survey of Michigan history from its earliest inhabitation by Native Americans to the present. Social, political, and economic factors are considered as they pertain to the history of the state. A range of topics will be addressed such as Native American culture and traditions, French and British settlement and rivalry, American Revolution, Michigan statehood and economic development, World Wars One and Two, Great Depression and New Deal, civil rights, postwar society, the turbulent 1960's, and beyond.

HIS 298 Independent Study - History

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor and the appropriate Dean must approve the Independent Study.

Humanities

HUM 103 Humanities in the Modern World

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Modern cultural ideas since the Renaissance. Impact of social and political revolutions, intellectual and spiritual problems associated with the rise of modern science, and the religious, philosophical, literary and artistic ideas that have influenced the contemporary world. Includes Western and Non-Western cultures.

HUM 106 Film Appreciation

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to the art and meaning of film. Course teaches basic concepts and critical skills involved in interpreting film. Topics include film history, criticism, aesthetics, and technique. Class screening include domestic and foreign films, documentaries, animated films and various short features, with emphasis on contemporary cinema.

HUM 108 Mindful Living

Offered FL WI Lecture-3 (3 credit hrs/3 contact hrs) Rooted in contemporary scientific research on the relationship between mental discipline and academic success, this writing intensive course presents opportunities to explore self-reflective behaviors through a variety of activities such as meditation, journaling, active listening, memorization, recitation, drawing, body work, outdoor activity, and class discussion.

HUM 110 Introduction to Humanities

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to the basics of art, music, dance, literature, drama, philosophy, and religion. Comparing and contrasting examples from pre-history to the present.

HUM 298 Independent Study: Humanities

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Approved application) Investigation and study of principles and concepts of the arts. Objectives of the study are determined by mutual agreement between student and instructor/coordinator. Field study programs may be conducted in the areas of art, music, and theatre.

HUM 299 Internship: Humanities

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Approved application) A short-term work experience that provides the student with the opportunity to gain experience in a specific field or career area. An internship can be paid or unpaid and may be taken for 3-6 credits (3 credits= 225 hours, 450 hours for 6 credits). The instructor and the appropriate Dean must approve the Internship.

Journalism

JRN 150 Introduction to News Writing

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Introductory course in news writing and reporting primarily for print media. Class focuses on defining news, general writing skills, constructing leads, interviewing techniques, and the creation of the college newspaper.

JRN 200 Advanced News Writing

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: JRN 150 Introduction to News Writing with "C" or better) Advanced course in news writing and reporting primarily focused for print media. Class focuses on refining skills in gathering, evaluating, and writing news for the college newspaper.

Learning Community

LCM 100 Learning Community

Offered as needed (6 credit hrs/ 6 contact hrs) Two courses from different areas taken together in order to show a connection between them. Often times assignments are shared, counting toward credit in each course.

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Offered as needed (6 credit hrs/ 6 contact hrs) Two courses from different areas taken together in order to show a connection between them. Often times assignments are shared, counting toward credit in each course.

LCM 102 Learning Community

Offered as needed (6 credit hrs/ 6 contact hrs) Learning Community will consist of two courses linked together. Students will earn six credits.

Literature

LIT 101 Introduction to Literature

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to fiction, poetry, and drama. Examination of multiple dimensions of literary form and meaning with focus on development of interpretive skills and accumulation of factual knowledge regarding famous works of literature and their authors. Readings are multicultural and from a variety of time periods.

LIT 151 Topics in Literature

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Course for the general student as well as the student who wishes to specialize in the study of poetry and fiction. Themes vary from semester to semester.

LIT 211 American Lit Pre Colonial-1865

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Survey of American prose and poetry through 1865. Development of national literary themes.

LIT 212 American Literature 1865-Present

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Survey of American prose, poetry, and drama since 1865 emphasizing the development of contemporary literature themes.

LIT 213 World Literature

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Survey of world's literary traditions from multi-cultural perspectives. Analysis and interpretation of narrative and lyric poetry; fiction; creative non-fiction; drama; and oral tradition works.

LIT 250 Introduction to Shakespeare

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: ENG 111 English Composition I with "C" or better) Introduction to the art of Shakespeare through an examination of five to seven plays.

Management

MGT 201 Principles of Management

Offered FL SM Lecture-3 (3 credit hrs/ 3 contact hrs) (Pre/Corequisite: BUS 100 Introduction to Business with "C" or better) Concept of scientific management, qualifications of executives, principles of planning, organizing and controlling work functions, relationship of decision making to the work of the organization; relationship of management, communications, morale, and motivation of people to the leadership concept of management.

MGT 202 Personnel Management

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: BUS 100 Introduction to Business with "C" or better) Principles, problems, and practices of modern business, government, and other organizations involved in handling employees from the recruiting stage through the post-retirement stage. Use of practices in keeping with the type and size of organization.

MGT 205 Small Business Management

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MGT 201 Principles of Management with "C" or better) For students who may ultimately own or manage a small business. Elements of entrepreneurial opportunities, creation of a business plan, marketing, managing, and financial management.

MGT 298 Independent Study: Bus Management

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Instructor approval and MGT 201 Principles of Management with "C" or better) Investigation and study of principles and concepts of management in the business field. Objectives of the study are determined by mutual agreement between student and instructor.

MGT 299 Internship: Business Management

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Manufacturing

MFG 01 MSSC Safety Core

Offered FL WI SM (2.63 credit hrs/ 2.63 contact hrs) This course is the equivalent of the MSSC-M1 Safety Core and is one of the four knowledge cores required by the Manufacturing Skill Standards Council (MSSC) for certification as a Certified Production Technician. The beginning modules in this core provide the learner with the knowledge and understanding of the overall importance of manufacturing to the U.S. economy and provide an overall level of organizational savvy of how manufacturing works. The later modules focus on the main purpose of this core, which is to provide the learner with the safety skills necessary to be a contributing member of a well-trained, highly skilled team of workers in advanced manufacturing today. These workers perform the highly complex and challenging tasks necessary to safely produce quality products at competitive prices. This core consists of 17 units (modules) that require approximately 35 clock hours to complete. At the conclusion of this core, the learner will take the certification exam for this core.

MFG 02 MSSC Quality & Continuous Imp Core

Offered FL WI SM (2.63 credit hrs/ 2.63 contact hrs) MFG 02 is the MSSC-M2 Quality and Continuous Improvement Core and is the second of the four knowledge cores required by the Manufacturing Skill Standards Council (MSSC) to be certified as a Certified Production Technician. The need for quality in manufacturing has resulted in a number of different theories and techniques. However, some of the central concepts shared by all of them include: 1) quality is everyone's job; 2) a focus on prevention; 3) monitoring quality throughout the complete process; and 4) the identification of the quality problems and the investigation of their root cause. The modules in this core provide the knowledge and skills to enable the learner to become a solid contributor to improved quality in manufacturing. Included in this knowledge and these skills is the

ability to: read blueprints, develop a working knowledge of geometric dimensioning and tolerancing, develop an understanding of precision measurement, dimensional gauging, and the use of precision measuring tools, develop a fundamental understanding of quality systems such as ISO 9000, TQM, Six-Sigma, develop an understanding of SPC including constructing and analyzing histograms, calculating Cpk, constructing X-bar and R control charts, develop an understanding to apply the principles of continuous improvement including PDCA, pareto charts, and cause and effect diagrams. This core consists of 10 modules which require approximately 35 hours to complete. At the conclusion of this core, the learner will take the certification exam for this core.

MFG 03 MSSC Mfg Processes & Production

Offered FL WI SM (2.63 credit hrs/ 2.63 contact hrs) MFG 03 is the MSSC-M3 Manufacturing Process and Production Core which is the third of the four knowledge cores required by the Manufacturing Skill Standards Council (MSSC) to be certified as a Certified Production Technician. The modules in this core help the learner develop the skills necessary to perform many of the necessary tasks in a high performance manufacturing enterprise. A basic understanding of the mechanical principles of common production machinery is provided along with an understanding of production materials, and production processes. An understanding of production planning and workflow, documentation of the process, and product packaging and distribution are provided. This core consists of 15 modules which require approximately 35 hours to complete. At the conclusion of this core, the learner will take the certification exam for this core.

MFG 04 MSSC Maintenance Awareness

Offered FL WI SM (2.63 credit hrs/ 2.63 contact hrs) MSSC-M4 Maintenance Awareness Core is one of the four knowledge cores required by the Manufacturing Skill Standards Council (MSSC) for certification as a Certified Production Technician. The importance of the use of electricity in manufacturing is demonstrated through modules that emphasize machine automation, machine operational modes, and electric motor control. Additional modules in this core, demonstrate the important use of pneumatics to drive mechanical actuators to perform machine operations. Modules in lubrication, coolants, bearings and couplings, belt drives, and chain drives give the would-be Certified Production Technician diversified understanding of how machines work in a High Performance Manufacturing. This core consists of 15 modules which require approximately 35 hours to complete. At the conclusion of this core, the learner will take the certification exam for this core.

MFG 10 MSSC Certified Logistics Associate

Offered FL WI SM (2.00 credit hrs/ 2.00 contact hrs) According to the Manufacturing Skills Standards Council (MSSC), "to remain competitive, logistics-related companies increasingly need a flexible, knowledgeable, problem-solving workforce. This means workers who can keep pace with rapid changes in tech technology and processes, be easily trainable and work in global environment. These workers must also be competent in the critical work activities common across all facilities within the supply chain; safety, quality control, communications, teamwork, good workplace conduct and familiarity with the key computer systems that underpin supply chain operations." In 2008, logistics industry subject matter experts identified skills standards for two levels of certification. This series of modules is for the 1st level of certification and is as follows: Certified Logistics Associate (CLA) is based upon the individual's command of the foundational knowledge and skills in the topical areas that includes such topical areas as: Global Supply Chain Logistics, The

Logistics Environment, Material Handling Equipment, Safety Principles, Safe Use of Material Handling Equipment, Quality Work, Teamwork and Workplace Conduct, Work Communication, Using Computers, Basic U.S. / Metric Conversions, and Common Logistics Terminology. Supply Chain Logistics (SCL) - Foundational Knowledge

MFG 20 MSSC-Certified Logistics Technician

Offered FL WI SM (2.00 credit hrs/ 2.00 contact hrs) According to the Manufacturing Skills Standards Council (MSSC), "to remain competitive, logistics-related companies increasingly need a flexible, knowledgeable, problem-solving workforce. This means workers who can keep pace with rapid changes in tech technology and processes, be easily trainable and work in global environment. These workers must also be competent in the critical work activities common across all facilities within the supply chain; safety, quality control, communications, teamwork, good workplace conduct and familiarity with the key computer systems that underpin supply chain operations." In 2008, logistics industry subject matter experts identified skills standards for two levels of certification. This series of modules is for the 1st level of certification and is as follows: Certified Logistics Technician (CLT) is based upon the individuals command of mid-level technical knowledge up to the level of the first line of supervision and includes knowledge and skills in the topical areas of Product Receiving, Product Storage, Order Processing, Packaging and Shipping, Logistics Documentation, Inventory Control, Safe Handling-Storage-Transportation of Hazardous Materials, Evaluation of Transportation Modes, and Dispatch-Tracking Operations.

Marketing

MKT 231 Social Media Marketing

Offered as needed Lecture-3 (3 credit hrs/3 contact hrs) Course offers an introduction to the world of social media marketing and will cover basic features and business uses for social media sites with an emphasis on Facebook and Twitter.

MKT 241 Principles of Marketing

Offered WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: BUS 100 Intro to Business or BUS 142 Principles of Retailing with "C" or better) Developing customer-oriented marketing strategies and managing technology for consumer and business-to-business organizations. Market segmentation, positioning, as well as strategies for product, price, distribution, and promotion. Strategic thinking and strategic implications of marketing concepts.

MKT 243 Principles of Salesmanship

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Fundamentals of effective personal selling. Analysis of the sales transaction with a sales demonstration. Consumer characteristics, buying motives, product performance, sales aid, overcoming customer objections, and closing the sale.

MKT 244 Advertising

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: BUS 142 Principles of Retailing or MKT 241 Principles of Marketing with "C" or better) Advertising department organization, procedure, planning and preparation of advertisements, copywriting, layout, and media selection. Some emphasis on applying advertising knowledge and skill to the preparation of non-personal selling media, including newspapers, radio, television, signs, billboards, and window displays.

MKT 298 Independent Study: Marketing

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Instructor approval and MKT 241 Principles of Marketing with "C" or

better) Investigation and study of principles and concepts of marketing in the business field. Objectives of the study are determined by mutual agreement between student and instructor.

MKT 299 Internship: Business Marketing

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Mathematics

MTH 051 Pre Algebra

Offered FL WI Lecture-4 (4 credit hrs/ 4 contact hrs) Topics include: integers, fractions, decimals, percents, geometry, unit conversions, graphs, and algebraic equations.

MTH 120 Introductory Algebra

Offered FL WI SM Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: MTH 051 Pre Algebra with "C" or better or satisfactory score on placement test.) Topics include: linear, quadratic, and rational expressions and equations, graphing linear equations, and extensive operations and factoring of polynomials.

MTH 121 Intermediate Algebra

Offered FL WI SM Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: MTH 120 "C" or better or satisfactory score on placement test.) Topics include: graphs, systems of equations, inequalities, absolute values, and radical, quadratic, exponential, and logarithmic functions.

MTH 122 Analytical Trigonometry

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Pre/Corequisite: MTH 121 with "C" or better or satisfactory score on placement test.) Topics include: angles in degrees and radians, functions, inverse functions, the unit circle, trigonometric functions, inverse trigonometric functions, trigonometric equations, right triangle trigonometry, sine law, cosine law, de Moivre's Theorem and applications.

MTH 123 Introduction to Statistics

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 120 Intro to Algebra with "C" or better or satisfactory score on placement test.) Basic theory of statistics including: data analysis, probability, random variables, sampling techniques, tests of hypotheses, confidence intervals, linear regression and correlation.

MTH 124 Graph Theory

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 120 Introduction to Algebra with "C" or better or satisfactory score on placement test.) An introduction to the theory and applications of graphs. Topics include graphs, diagraphs, trees, planar graphs, graph colorings, connected graphs and graph isomorphisms.

MTH 125 Mathematical Reasoning

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 120 Introduction to Algebra with "C" or better or satisfactory score on placement test.) An introduction to quantitative reasoning with the aim of developing the ability to comprehend and analyze the massive amount of quantitative information available in our modern society. Topics include mathematical modeling, logic, basic probability and statistics, mathematics of finance and practical applications.

MTH 126 Math for Elementary Teaching I

Offered FL as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 121 Intermediate Algebra with "C" or better or satisfactory score placement test. Designed for majors in elementary education and paraprofessional programs. Topics include sets, numeration systems, properties of natural numbers, algorithms for operations with natural numbers, rational numbers and decimals, and problem solving.

MTH 127 Math for Elementary Teaching II

Offered WI as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 121 Intermediate Algebra with "C" or better or satisfactory score on placement test.) Designed for majors in elementary education and paraprofessional programs. Topics include elementary probability and statistics, geometric figures, measurement, area and perimeter, volume and surface area, congruency, mappings, and problem solving.

MTH 151 College Algebra

Offered FL WI Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: MTH 121 Intermediate Algebra with "C" or better or satisfactory score on placement test.) Rigorous study of linear and quadratic equations, inequalities, functions and graphs, polynomial functions, rational functions, exponential and logarithmic functions, zeroes of polynomials, systems of linear equations, matrices, properties of determinates, complex numbers, conic sections, and sequences and series.

MTH 222 Calculus I

Offered FL Lecture-5 (5 credit hrs/ 5 contact hrs) (Prerequisite: MTH 122 Analytical Trigonometry and MTH 151 College Algebra with "C" or better or satisfactory score on placement test.) First course in the Calculus sequence. Both algebraic and transcendental functions will be covered. Topics include: limits, rates of change, derivatives, derivatives of inverse functions, rules of differentiation, applications of derivatives, the Fundamental Theorem of Calculus, definite and indefinite integration, applications of the definite integrals including volumes, arc length and work, introduction to differential equations and hyperbolic functions.

MTH 223 Calculus II

Offered WI Lecture-5 (5 credit hrs/ 5 contact hrs) (Prerequisite: MTH 222 Calculus I) Continuation of MTH 222 Calculus I. Topics include: techniques of integration, improper integrals, infinite sequences and series, power series including McClaurin series and Taylor series, parametric equations, polar coordinates, vectors, vector-valued functions, vector calculus, introductory linear algebra including the algebra of matrices, determinants, vector spaces, linear transformations, and eigenvectors and eigenvalues.

MTH 224 Calculus III

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 223 Calculus II) Continuation of MTH 223 Calculus II. Multivariable calculus. Topics include: functions of two or more variables, partial derivatives and their applications, directional derivatives, multiple integrals and their applications using Cartesian, cylindrical and spherical coordinates, vector fields, line integrals and their applications, surface integrals, Green's Theorem, divergence and curl, Stokes' Theorem and the Divergence Theorem.

MTH 231 Differential Equations

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: MTH 224 Calculus III) An introduction to solutions and applications of differential equations. Topics include: first order equations, higher

order linear equations, nonlinear equations, numerical methods, vector spaces, linear transformations, eigenvalues and eigenvectors, linear and nonlinear systems of differential equations, Laplace transforms and difference equations.

MTH 298 Independent Study: Mathematics

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with a valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor, division chair, and the appropriate Dean must approve the Independent Study.

Mathematics, Technical

TMA 113 Technical Math I

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MTH 051 Pre Algebra with "C" or better or satisfactory score on ACT or COMPASS math test). Applied mathematics for the technical-vocational student. Preparation in fractions, decimals, percentage, ratios, and measurement; use of electronic calculator, fundamentals of algebra applied to solution of trade-related formulas (Calculator required.)

TMA 114 Technical Math II

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: TMA 113 Technical Math I with "C" or better) Continuation of TMTH 113. Principles of plane geometry, solid geometry and trigonometry, and application to the solutions of trade-related problems. (Calculator required.)

Mechanical

MEC 101 Mechanical Drives 1

Offered FL WI SM (3.4 credit hrs/ 4.8 contact hrs) Introduces the concepts of weight, force, mass and friction and the role they play in various mechanisms, including levers, linkages, pulleys, cams, turnbuckles, gears, belts and chain drives. Lab sessions focus on assembling, mounting and leveling these components to build and test a mechanical system.

MEC 102 Mechanical Drives 2

Offered FL WI SM (4.6 credit hrs/ 6.5 contact hrs) (Prerequisite: MEC 101 Mechanical Drives 1) Introduces various drive systems including v-belts, synchronous belts, timing belts, high torque drive belts, chain drives, gear drive systems, couplings and bushings. Lab sessions focuses on aligning, maintaining and troubleshooting these drive systems.

MEC 103 Pneumatics

Offered FL WI SM (3.1 credit hrs/ 4.4 contact hrs) (Prerequisite: MEC 102 Mechanical Drives 2) Introduces pneumatic power and pneumatic circuits as well as how to draw circuits using pneumatic symbols, types of actuators, cylinders, motors and the use of directional control valves. The concept of flow control is explained and brought to life in the hands-on labs using the pneumatics trainer. Pneumatic maintenance, selection and operation of filters, lubricators, dryers and traps are included in this module.

MEC 104 Hydraulics

Offered FL WI SM (4.3 credit hrs/ 6.1 contact hrs) (Prerequisite: MEC 103 Pneumatics) Introduces the connection and operation of hydraulic components and systems, reading of circuit diagrams, systems monitoring and circuit design including hydraulic motors, flow control valves, check valves, relief valves and directional control valves. The hands-on experience includes assembling various hydraulic circuits and operating them.

MEC 105 Piping Systems

Offered FL WI SM (3.2 credit hrs/ 4.6 contact hrs) (Prerequisite: MEC 104 Hydraulics) Introduces cutting and threading metal pipe and the concepts of head loss in piping systems, also includes metal tubing, bending metal tubing, plastic piping, hoses, check valves and Sloan valves. The hands-on experience includes working with each of these various types of piping and piping components.

MEC 106 Pumps

Offered FL WI SM (4.3 credit hrs/ 6.2 contact hrs) (Prerequisite: MEC 105 Piping Systems) Includes the operation of the most common types of pumps – centrifugal and diaphragm pumps, teaches pump head and flow and how to install, maintain and trouble shoot these pumps. Also, cavitation, system head, pressure and flow and suction head are taught. The hands-on labs focus on pump operation and pump disassembly and inspection.

MEC 107 Robotics

Offered FL WI SM (4.5 credit hrs/ 6.4 contact hrs) (Prerequisite: MEC 106 Pumps) Introduces robotics using the Pegasus robot, includes safety, power-up, shutdown, manual movement, gripper operation and interfacing external input and output devices to the robot. The six-step process to writing robot programs and flow charting are taught. The hands-on labs focus on writing programs and running them using the Pegasus robot and the various input and output devices.

MEC 108 Electricity

Offered FL WI SM (2.8 credit hrs/ 3.7 contact hrs) (Prerequisite: MEC 107 Robotics) Introduces the basics of electricity, how it's used in the workplace and at home, how to trouble shoot electrical circuits using instrumentation to measure current, voltage and resistance and using Ohm's and Kirchhoff's laws to analyze circuits. Also includes electronic inductive and capacitive sensors, reed switches, Hall-Effect sensors and photoelectric sensors. The hands-on labs allow you to work with electrical circuits and learn how they work and how to trouble shoot them.

MEC 109 Machining

Offered FL WI SM (4 credit hrs/ 5.6 contact hrs) (Prerequisite: MEC 108 Electricity) Introduces the proper operation of basic hand and machine tools. These tools include the hacksaw, file, power band saw, drill press and lathe. Also teaches how to countersink, counter bore, ream and tap holes as well as chamfering and drilling with the lathe. In the hands-on labs you will get to use each of the above mentioned tools.

Mechatronics

MTR 102 Electrical Safety & Circuits

Offered FL WI SM (3.3 credit hrs/ 4.4 contact hrs) Introduces basic concepts of electricity, general safety procedures, Red Cross CPR and use of the Automated External Defibrillator (AED) including RED CROSS certification in CPR and AED. An overview of electronics is covered along with schematics, closed and open circuits, switches,

wires, wire resistance, basic circuit measurements, meter symbols, digital and analog multi-meters. Lab sessions focus on building and testing circuits.

MTR 103 Sensors

Offered FL WI SM (3.60 credit hrs/ 4.9 contact hrs) (Prerequisite: MTR 102 Electrical Safety & Circuits) Introduces control logic, relays, limit switches, timers, thermal sensors, including thermistors, thermocouples, and resistive temperature detectors (RTDs). Also included are power supplies, transistors and switching circuits, operational amplifiers, FETs, PWM, speed and power control, analog sensing and solid state switching. The hands-on labs focus on learning how these various electronic components function in circuits.

MTR 104 Motor Control

Offered FL WI SM (3.1 credit hrs/ 4.1 contact hrs) (Prerequisite: MTR 103 Sensors) Introduces thyristors, control relays to start and stop electric motors and basic safety requirements for control of motors, manual motor control and overload protection. Also included are basic construction and operation of a control transformers and electrical control circuits. Hands-on labs include working with these components to gain an understanding of how they work.

MTR 105 Relays & Sensors

Offered FL WI SM (3.8 credit hrs/ 5.10 contact hrs) (Prerequisite: MTR 104 Motor Control) Introduces troubleshooting components in-circuit, control circuits, basic operation of electronic sensors in motor control circuits and electrical control wiring. Hands-on labs focus on using the components in actual circuits.

MTR 106 PLC 1

Offered FL WI SM (2.8 credit hrs/ 3.8 contact hrs) (Prerequisite: MTR 105 Relays & Sensors) Introduces the fundamental operation of a programmable logic controller (PLC), PLC programming using PLC software, using a PLC to control electric motors, interfacing a number of common I/O devices to the PLC and testing the interfacing. Hands on labs focus on using PLCs to accomplish the skills listed.

MTR 107 PLC 2

Offered FL WI SM (3.9 credit hrs/ 5.2 contact hrs) (Prerequisite: MTR 106 PLC 1) Introduces reading and designing event sequencing PLC programs, using PLC timer instructions, using counter instructions with PLCs, troubleshooting PLC systems and using math and data move instructions with PLCs. Hands on lab focuses on using a PLC to accomplish these skills.

MTR 108 Mechanical Drives 1

Offered FL WI SM (3.6 credit hrs/ 5.1 contact hrs) (Prerequisite: MTR 107 PLC 2) Introduces the concepts of weight, force, mass and friction and the role they play in various mechanisms, including levers, linkages, pulleys, cams, turnbuckles, gears, v-belts, couplings and bushings. Lab sessions focus on assembling, mounting and leveling these components to build and test a mechanical system.

MTR 109A Pneumatics

Offered FL WI SM (1.8 credit hrs/ 2.6 contact hrs) (Prerequisite: MTR 108 Mechanical Drives 1) Introduces pneumatic speed control, types of actuators, cylinders, motors and the use of directional control valves. Pneumatic maintenance, selection and operation of filters, lubricators, dryers and traps are included in this module. The hands-on experience includes assembling various pneumatic circuits and operating them.

MTR 109B Pneumatics & Hydraulics

Offered FL WI SM (3.4 credit hrs/ 4.8 contact hrs) (Prerequisite: MTR 108 Mechanical Drives 1) Introduces pneumatic speed control, types of actuators, cylinders, motors and the use of directional control valves. Pneumatic maintenance, selection and operation of filters, lubricators, dryers and traps are included in this module. Also included is the connection and operation of hydraulic components and systems, reading of circuit diagrams, systems monitoring and circuit design including hydraulic motors, flow control valves, relief valves and directional control valves. The hands-on experience includes assembling various pneumatic and hydraulic circuits and operating them.

MTR 110A Robotics

Offered FL WI SM (2.3 credit hrs/ 3.3 contact hrs) (Prerequisite: MTH 109A Pneumatics) Introduces robotics using the Pegasus robot, includes safety, power-up, shutdown, manual movement, gripper operation and interfacing external input and output devices to the robot. The six-step process to writing robot programs and flow charting are taught. The hands-on labs focus on writing programs and running them using the Pegasus robot and the various input and output devices.

MTR 110B Robotics

Offered FL WI SM (4.5 credit hrs/ 6.4 contact hrs) (Prerequisite: MTR 109B Pneumatics & Hydraulics) Introduces robotics using the Pegasus robot, includes safety, power-up, shutdown, manual movement, gripper operation and interfacing external input and output devices to the robot. The six-step process to writing robot programs and flow charting are taught. The hands-on labs focus on writing programs and running them using the Pegasus robot and the various input and output devices.

MTR 111 Mechatronics 1

Offered FL WI SM (4.2 credit hrs/ 6.6 contact hrs) (Prerequisite: MTR 110B Robotics) Introduces the basic concepts of automated machine operation, component adjustments, material handling, programming, gauging systems, indexing systems, sensors, stepper motors, sorting and queuing and servo robotic assembly. The hands-on labs focus on programming, adjusting and using mechatronics hardware to assemble and actual product.

MTR 112A Mechatronics 2

Offered FL WI SM (1.2 credit hrs/ 1.8 contact hrs) (Prerequisite: MTR 111 Mechatronics 1) Introduces torqueing systems, Automatic Storage and Retrieval System, servo robotic, and pick and place inventory storage systems, discreet I/O handshaking.

MTR 112B Mechatronics 2

Offered FL WI SM (4.2 credit hrs/ 6.1 contact hrs) (Prerequisite: MTR 111 Mechatronics 1) Introduces torqueing systems, Automatic Storage and Retrieval System, servo robotic, and pick and place inventory storage systems, discreet I/O handshaking. Also included are: Introduction to Solid Modeling, Solid Model Creation, along with Solid Model Features using SolidWorks including how to control the views, navigate through the menus toolbars and create a solid model. Hands-on lab work will be required throughout this course.

Music

MUS 100 Music Appreciation

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) Explores a wide variety of areas pertaining to the development of music for students with or without musical experience. This class examines multiple

areas of music from basic music theory, music history from the middle ages to modern day, form composition, commercialization of music, and most importantly, listening. Provides interactive experiences of musical study through listening, discussion, readings, and technology.

MUS 101 Basic Music Theory I

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Basic components of music notation, rhythm, melody, harmony intervals and chords, major and minor tonalities. Emphasis on developing proficiency in reading music.

MUS 102 Basic Music Theory II

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: MUS 101 or permission of instructor. Basic computer knowledge/skills) Comprehensive course for potential music majors, minors or those electing a course that can lead to professional development. Previous knowledge of keys, notation, rhythm, and clefs. Emphasis on voice leading (four-part writing, chord progressions, ear-training, keyboard skills, and aural theory. Keyboarding and writing done in midi format with computer aided technology (Sibelius).

MUS 103 Introduction to Music Technology

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to a wide variety of technology in all styles of music for the creation of viable media, including recording, print, and video. Students will learn music theory, piano skills, recording software, and video editing to create a comprehensive short movie.

MUS 104 Advanced Music Technology

Offered WI Lecture - 3 (3 credit hours/3 contact hours) (Prerequisite: MUS 103 Introduction to Music Technology) An extension of Introduction to Music Technology, the course is designed for student learning in advanced sound engineering, MIDI arranging, instrumentation, video editing, music notation, and plug-ins. Students create quality music and video using current music technology.

MUS 105 History of Popular American Music

Offered FL WI Lecture-3 (3 contact hrs/ 3 credit hrs) History of Popular American Music (HPAM) offers students a unique musical experience. HPAM incorporates contemporary multicultural perspectives and social analysis into the appreciation of American popular music. Designed to cover a wide variety of areas, this course will investigate over 200 years of American music history. This class will reveal the metamorphosis American music has gone through and the "melting pot" popular American music has become, through the other countries' influence.

MUS 111 Concert Choir

Offered FL WI Lab-2 (1 credit hrs/ 2 contact hrs) An SATB ensemble for students and other community citizens which performs a variety of repertoire and at least one major choral work each semester. Course may be repeated to earn a maximum of six credits.

MUS 114 Piano Class I

Offered as needed Lecture-2 (2 credit hrs/ 2 contact hrs) A beginning piano/keyboarding musicianship course designed to provide a student with introductory skills including scales, chords, simple compositions and transpositions.

MUS 115 Guitar Class I

Offered as needed Lecture-2 (2 credit hrs/ 2 contact hrs) A beginning guitar musicianship course designed to provide a student with

introductory guitar skills including cords, guitar tablature reading and beginning performance skills.

MUS 116 Piano Class II

Offered as needed Lecture-2 (2 credit hrs/ 2 contact hrs) (Prerequisite: MUS 114 Piano Class I, or instructor permission) Intermediate level piano/keyboarding course. Builds on foundational skills acquired in MUS 114; scales, chords, improvisation, transposition of patterns and basic music theory at the keyboard. Includes performances of level appropriate pieces of piano literature.

MUS 117 Guitar Class II

Offered as needed (2 credit hrs/ 2 contact hrs) (Prerequisite: MUS 115 Guitar Class I, or instructor permission) Intermediate level guitar course. Builds on foundational skills acquired in MUS 115; basic music theory on the guitar, advanced chords, harmonization, guitar tablature reading and writing and improvisation. Includes performance of level appropriate pieces of guitar literature.

MUS 120 Wind Symphony

Offered FL WI Lab-2 (1 credit hrs/ 2 contact hrs) Opportunity for wind and percussion instrumentalists to perform and study challenging traditional and contemporary band literature as well as transcribed classic works. Course may be repeated to earn a maximum of six credits.

MUS 121 Jazz Band

Offered FL WI Lab-2 (1 credit hrs/ 2 contact hrs) Opportunity to study and perform big band jazz traditional and contemporary literature. Focus also on improving, improvising skills and ensemble playing. Course may be repeated to earn a maximum of six credits.

MUS 122 Percussion Ensemble

Offered FL WI Lab-2 (1 credit hrs/ 2 contact hrs) Opportunity to learn percussion techniques and literature through rehearsal and performance in a small ensemble setting. Literature selected from original compositions as well as traditional and contemporary music for this instrumentation. Course may be repeated to earn a maximum of six credits.

MUS 123 Symphony Orchestra

Offered FL WI Lab-1 (1 credit hrs/ 2 contact hrs) A performing ensemble dedicated to chamber and symphonic orchestral music of all periods. Course may be repeated to earn a maximum of six credits.

MUS 125 Collegiates

Offered FL WI Lab-2 (1 credit hrs/ 2 contact hrs) (Prerequisite: Successful audition) A performing organization whose musical focus ranges from the Big Band Jazz Era to the present. Course may be repeated for a maximum of six credits.

MUS 126 Chamber Winds

Offered FL WI Lab-2 (1 credit hrs/2 contact hrs) (Co-requisite: MUS 120 Wind Symphony) Opportunity for advanced wind and percussion instrumentalist to perform and study challenging and contemporary band literature as well as transcribed classic works. All participants must be concurrently enrolled in MUS 120 Wind Symphony. Selection for this ensemble is by appointment or audition only.

MUS 180 Applied Music Viola

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an

opportunity to study the viola with a private viola instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 181 Applied Music Double Bass

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study double bass with a private double bass instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 182 Applied Music Clarinet

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study clarinet with a private clarinet instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 183 Applied Music Saxophone

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study saxophone with a private saxophone instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 184 Applied Music Tuba

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study the tuba with a private tuba instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 185 Applied Music Percussion

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study percussion with a private percussion instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 190 Applied Music

Offered as needed Lecture-1 Studio-3 (1-2 credit hrs/ 2-4 contact hrs) (Prerequisite: Departmental approval) Course provides the student with an opportunity to study a musical instrument or to obtain individual voice training. The student may arrange for lessons with private music teachers approved by the college. Course open to all students, beginners and advanced. Requirements for academic level of performance will be determined by the music teacher and the chair of the division. Course may be repeated for a maximum of six credits.

MUS 191 Applied Music Voice

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study voice with private a voice instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 192 Applied Music Trumpet

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study trumpet with a private trumpet instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 193 Applied Music Trombone

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study trombone with a private trombone instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 194 Applied Music Euphonium

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study euphonium with a private euphonium instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 195 Applied Music French Horn

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study french horn with a private french horn instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 196 Applied Music Flute

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study flute with a private flute instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 197 Applied Music Oboe

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study oboe with a private oboe instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 198 Applied Music Bassoon

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study bassoon with a private bassoon instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 199 Applied Music Violin

Offered as needed (1-2 credit hrs/ 1-2 contact hrs) (Prerequisite: Departmental approval) Course provides a student with an opportunity to study violin with a private violin instructor. Assignment of private instructor done by music department. Course may be repeated for a maximum of six credits.

MUS 251 Music in Elementary School

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Pre/Corequisite: MUS 101 Basic Music Theory I MUS 114 Piano I or MUS 115 Guitar I) Deals with planning and presentation of musical experiences, techniques, and materials needed to provide creative activities for nursery through eighth grade students in the classroom.

MUS 298 Independent Study: Music

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved Application) A course designed to provide a student with experience of independent research, investigation, analysis and study of principles and concepts of topics related to the discipline of music. Objectives of the study are determined by mutual agreement between student and instructor/coordinator.

Nursing

NUR 105 Nurse Assistant

Offered FL WI SM Lecture-4 Lab-4 (6 credit hrs/ 8 contact hrs) (Prerequisite: Approved Application) Training in job entry skills needed to care for people with varying degrees of health and personal needs in an institution or home setting. Addresses attitudes and behaviors that promote physical and emotional health, basic nursing and personal care skills, communications, safety, and application of learned skills. Successful completion of this course prepares the student to take the state competency exam.

NUR 107 The Profession of Nursing

Offered FL Lecture-2 (2 credit hrs/ 2 contact hrs) (Prerequisite: Admission to Nursing Program and co-requisites NUR 106) Provides an overview of the profession of nursing and includes the legal-ethical framework within the practice of nursing. Addresses the process of communication and utilizes therapeutic communication skills necessary in the nurse-client relationship. Each component of the nursing process explained in detail.

NUR 110 Fundamentals of Nursing Practice

Offered FL Lecture-4 (4 credit hrs/ 4 contact hrs) (Co-requisites: NUR 111, NUR 134, SPE 110, ANP 230) This course will provide an overview of fundamental nursing concepts necessary to provide for the holistic needs of clients across the lifespan. Concepts include health assessment, physical examination, health history, planning for care, identifying outcomes and applying the nursing process to implement evidence based nursing interventions for patient care. Therapeutic communication skills and team collaboration will be emphasized.

NUR 111 Fund Nursing Clinical Practice

Offered FL Lab-8 (3 credit hrs/ 8 contact hrs) (Co-requisites: NUR 110, NUR 134, SPE 110, ANP 230) Demonstration of safe nursing care as taught in NUR 110 and NUR 134 in clinical settings, including assessment, assistance with basic nursing care procedures, and safe administration of medications using oral, topical, transdermal, sublingual, parenteral, rectal, and injection routes. The student documents patient information using an electronic health record.

NUR 136 Basic Pharmacology for Nurses

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Co-requisites: NUR 110, NUR 111, ANP 230, SPE 110) Application of evidence based concepts of pharmacology is applied to nursing practice. Includes the study of drug classifications, generic and brand names of drugs, and their physiologic actions. Drug therapy, premedication nursing assessments; indication(s) for use; common and serious adverse effects; pertinent drug interactions; therapeutic outcomes; and evaluation of intended therapeutic response to drug therapy will be studied.

NUR 160 Medical/Surgical Nursing I

Offered WI Lecture-3 (3 credit hrs/ 3 contact hours) (Prerequisites: NUR 110, NUR 111, NUR 136, ANP 230, SPE 110) (Co-requisites: NUR 161, NUR 170, NUR 171, ANP 231, PSY 161) Study of acute and chronic disease conditions. Focus on health care needs of clients in acute care settings. Nursing process provides a unifying framework for care. Application of technical skills, concepts and principles learned within class are practiced in the clinical setting. Care is provided for one to two medically stable clients. The lecture portion must be passed with a C (75%) or better and clinical must receive a "pass" to progress in the nursing program.

NUR 161 Medical/Surgical Nursing Clinical I

Offered WI Lab-8 (3 credit hrs/ 8 contact hours) (Prerequisites: NUR 110, NUR 111, NUR 136, ANP 230, SPE 110) (Co-requisites: NUR 160, NUR 170, NUR 171, ANP 231, PSY 161) Student demonstrates skills learned in NUR 160, including applying clinical judgment and the nursing process to common adult health problems in the acute care setting. Focused health assessments are performed, considering the holistic needs of the patient and the family. Principles of safety, collaboration, person-centered care, and effective patient and family education are applied to planning, implementing and evaluating care.

NUR 170 Obstetrics & Pediatric Nursing

Offered WI Lecture-3 (3 credit hrs/ 3 contact hours) (Prerequisites: NUR 110, NUR 111, NUR 136, ANP 230, SPE 110) (Co-requisites: NUR 160, NUR 161, NUR 171, PSY 161, ANP 231) Study of the concepts of maternal-child health including, antepartum, intrapartum, and postpartum periods. Understanding of the maternal experience, cultural impact and current evidenced based practices from professional organizations such as ANA, Nurses Code of Ethics, and AWOHNN. This class entails care of the newborn child through adolescence. Concepts in family dynamics during this experience will also be covered.

NUR 171 Obstetrics & Pediatric Clinical

Offered WI Lab-3 (1 credit hr/ 3 contact hours) (Prerequisites: NUR 110, NUR 111, NUR 136, ANP 230, SPE 110) (Co-requisites: NUR 160, NUR 161, NUR 170, PSY 161, ANP 231) This course will study the application of pharmacological, nutritional, pathophysiological, and psychosocial principles that will assist the student nurse to meet the physical, emotional, educational, spiritual, and cultural needs of the mother, child, and family. Students will apply the nursing process to provide safe, cultural, and ethically competent care for the obstetric and pediatric client and their family as part of an interdisciplinary team.

NUR 215 Nursing Transition

Offered FL Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) (Prerequisite: LPN Degree & Admission to 2nd-yr nursing) Designed to assist the returning LPN student in the curriculum leading to an Associate Degree in Nursing. Roles, functions, and practice settings for the LPN and Associate Degree Nurse will be compared and discussed. Focus will also be on the application of the nursing process in the clinical setting and review of skills used in the practice arena.

NUR 220 Mental Health Nursing Theory

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: Completion of Level I or LPN status, NUR 215) (Co-requisites: NUR 221, NUR 240/241) Study and application of the concepts of mental health care. Emphasis is on maintaining optimal mental wellness, associated treatment, through safe administration of medications and/or therapies, and recognizing the holistic nature of humans. Gain understanding of own behavior, establish and maintain a therapeutic environment, improve interviewing techniques.

NUR 221 Mental Health Nursing Clinical

Offered FL Lab-3 (1 credit hr/ 3 contact hrs) (Prerequisites: Completion of Level I or LPN status, NUR 215) (Co-requisites: NUR 220) Study and application of the concepts of mental health care. Emphasis is on maintaining optimal mental wellness, associated treatment, through safe administration of medications and/or therapies, and recognizing the holistic nature of humans. Gain understanding of own behavior, establish and maintain a therapeutic environment, improve interviewing techniques.

NUR 240 Medical Surgical Nursing II Theory

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisites: LPN Program Completion) (Co-requisites: NUR 241) Study of acute/chronic diseases of the adult and the nursing care required to regain or maintain optimal health or die with dignity. Lab includes review of medication administration (PO, SQ, IM) and introduction of IV pushes, IVPBs, use of IV pumps, IV site initiation and maintenance, blood administration, and chest tube maintenance. Clinical applications include direct care of small groups of acutely ill, but stable medical and surgical patients according to ANA Standards and Nurse's Code of Ethics.

NUR 241 Medical Surgical II Clinical

Offered FL Lab-8 (3 credit hrs/ 8 contact hrs) (Prerequisite: LPN Program Completion) (Co-requisite: NUR 240) Study of acute/chronic diseases of the adult and the nursing care required to regain or maintain optimal health or die with dignity. Lab includes review of medication administration (PO, SQ, IM) and introduction of IV pushes, IVPBs, use of IV pumps, IV site initiation and maintenance, blood administration, and chest tube maintenance. Clinical applications include direct care of small groups of acutely ill, but stable medical and surgical patients according to the ANA Standards and Nurse's Code of Ethics.

NUR 254 Professional Issues Nursing Theory

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisites: Successful completion of NUR 220/221 or NUR 240/241, ANP 230/231, BIO 232, and NUR 215 for Transition Students) (Corequisites: NUR 255, NUR 260/261, POL 151, PHL 104) Considers the role of the professional nurse regarding leadership, delegation, communication skills, interviewing process as well as portfolio building, legal/ethical issues, and role conflict as it pertains to nurses in a diverse setting. Additional topics include: educational needs of a diverse population covering the life-span, research and evidence based practices in a multidimensional environment.

NUR 255 Professional Issues Nursing Lab

Offered WI Lab-2 (1 credit hr/ 2 contact hrs) (Prerequisites: Successful completion of NUR 220/221 or NUR 240/241 and ANP 230/231, BIO 232, NUR 215 for Transition Students) (Corequisites: NUR 254, NUR 260/261, POL 151, PHL 104) Considers the role of the professional nurse regarding leadership, delegation, communication skills, interviewing process as well as portfolio building, legal/ethical issues, and role conflict as it pertains to nurses in a diverse setting. Additional topics include: educational needs of a diverse population covering the life-span, research and evidence based practices in a multidimensional environment.

NUR 260 Medical Surgical Nursing III Theory

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: Successful completion of NUR 240/241) (Co-requisite: NUR 261) Study of the needs and care of acutely and chronically ill medical and surgical patients as well as critically ill patients. The focus will be on assessment, interventions, and patient teaching. Clinical application includes leadership, organization of a team, medication administration, assessment, interventions, and evaluation of care.

NUR 261 Med Surgical Nursing III Clinical

Offered WI Lab-12 (4 credit hrs/ 12 contact hrs) (Prerequisite: Successful completion of NUR 240/241) (Co-requisite: NUR 260) Study of the needs and care of acutely and chronically ill medical and surgical patients as well as critically ill patients. The focus will be on assessment, interventions, and patient teaching. Clinical application includes leadership, organization of a team, medication administration, assessment, interventions, and evaluation of care.

NUR 298 Independent Study: Nursing

Offered FL (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved Application) Investigation and study of principles and concepts of topics related to the discipline of nursing. Objectives of the study are determined by mutual agreement between student and instructor.

Office Information Systems

OIS 105 Medical Office Coding & Ins Billing

Offered FL Lecture-2 (2 credit hrs/ 2 contact hrs) Prepares students in coding and billing skills necessary in a doctor's office and other medical office facilities. Includes ICD Coding, CPT Coding, Medicare Fraud and Abuse, and Evaluation Management.

OIS 106 Diagnostic & Procedural Coding

Offered WI Lecture-3 Lab-2 (4 credit hours/ 5 contact hours) (Prerequisite: ALH 104 Medical Terminology and ANP 118 Introduction to the Human Body with "C" or better) Introduction to ICD Diagnosis Coding and CPT Procedural Coding, Health Insurance Portability and Accountability Act of 1996 (HIPAA), and Medicare Fraud and Abuse Guidelines.

OIS 115 Security/Professional Issues Office

Offered FL Lecture-3 (3 credit hrs/ 3 contact hrs) Examine the legal and ethical aspects of information management. Emphasis is placed on legislation and regulations related to information management privacy and confidentiality, access, HIPAA directives, HITECH directives, ethical guidelines and decision making in a variety of office settings.

OIS 120 Electronic Medical Records

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) Focus on the function of an electronic medical/electronic health record (EMR/EHR) in ambulatory health care delivery with emphasis on the use of an EMR/EHR to enhance quality and safety in patient care. Students will learn to use EMR/EHR software, access a patient account, document per CMS requirements, and understand Clinical Quality Measures and Pay for Performance Concepts.

OIS 150 Fundamentals of Keyboarding

Offered FL WI SM Lecture-1 Lab-2 (2 credit hrs/ 3 contact hrs) For non-Office Information System students with no previous keyboarding experience who wish to use the personal computer for personal, academic, or professional written work.

OIS 151 Information Keyboarding I

Offered FL WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs) Introduction to the touch system on the personal computer with emphasis on keyboarding technique, business correspondence, tabulation, proofreading, and manuscripts; emphasis on speed and accuracy.

OIS 257 Administrative Assistant Procedures

Offered WI Lecture-4 Lab-0 (4 credit hrs/4 contact hrs) (Prerequisite: OIS 151 Information Keyboarding I and CIS 160 Desktop Applications with "C" or better) Analysis of office procedure, efficiency, human

relations, grooming, and the development of a desirable business personality. Students will study specific techniques in using the telephone, filing, electronic business equipment, and coordinating office communications.

OIS 298 Independent Study: Office Info Sys

Offered as needed (1-3 credit hrs/ 1-3 contact hrs) (Prerequisite: Approved application) Investigation and study of principles and concepts of office information systems in career settings. Objectives of the study are determined by mutual agreement between student and instructor.

OIS 299 Internship: Office Info Systems

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Philosophy

PHL 100 Introduction to Philosophy

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) Historical and thematic introduction to the major issues, theories, and methods of philosophy. Representative topics include truth, knowledge, reality, personal identity, free will, happiness, and the meaning of life.

PHL 102 Introduction to Ethics

Offered WI even years Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to the study of classical moral theories and their application to contemporary ethical issues such as war, capital punishment, animal rights, and sexual morality.

PHL 103 Introduction to Logic

Offered WI odd years Lecture-3 (3 credit hrs/ 3 contact hrs) Introduction to the study of formal and informal logic, including major types of inductive and deductive argumentation as well as good and bad forms of reasoning.

PHL 104 Bioethics

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Analysis of classical and contemporary moral problems in health care, medicine and medical research. Representative topics include abortion, euthanasia, cloning, genetic engineering, stem cell research, and patient rights.

PHL 151 Topics in Philosophy

Offered as needed. (3 credit hrs/ 3 contact hrs) (Prerequisite: Instructor Permission) Course may focus on any topic, thinker or school of thought in the history of Eastern and/or Western philosophy that is not substantially covered in other courses. The course is for the general student as well as the student who wishes to major in philosophy.

PHL 202 World Religions

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) Survey of the core beliefs and practices of the major world religions (Hinduism, Judaism, Buddhism, Daoism, Christianity, Islam, etc.) with an emphasis on cultural and historical context.

PHL 204 Philosophy of Religion

Offered FL Lecture-3 (3 credit hrs/3 contact hrs) Historical and thematic introduction to the philosophical study of religion and religious beliefs. Representative topics include the nature and

existence of God, the relationship between faith and reason, the problem of evil, and miracles and divine intervention.

PHL 298 Independent Study: Philosophy

Offered as needed (1-6 credit hrs/1-6 contact hrs) (Prerequisite: Approved Application) A course designed to provide a student with experience of independent research, investigation, analysis, and study of principles and concepts of topics related to the discipline of Philosophy. Objectives of the study are determined by mutual agreement between student and professor.

Photography

PHO 155 Digital Image Editing

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) Introduction to the capture, processing, and manipulation of digital images using image editing software. Students will learn to capture, correct and enhance digital images and prepare file for output. Introduces students to theories, terminology and applications of digital imaging technologies. Students will also be expected to purchase their own photographic paper. Student must have a basic understanding of the Windows or Macintosh computer operating systems. Course is intended for students who have interests in photography, graphic design and art.

PHO 156 Photographic Exploration

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: PHO 157 Photographic Technology I or Digital Photo I or Instructor Permission). Using the camera for creative image. An individualized approach to creating stronger, better photographic images. Includes demonstration in the classroom, in the field and on location. Assignments range from still life to portraiture and portrait lighting, outdoor/nature, photojournalism and abstract art. Students will also complete an in-depth study of an accomplished photographer and will learn and apply 20 concepts for building better/stronger images. Students must provide a digital camera with manual exposure settings. Student must have a basic understanding of the Windows or Macintosh computer operating systems.

PHO 157 Photographic Technology I

Offered FL WI Studio-6 (3 credit hrs/ 6 contact hrs) Introduction to photographic technology on both a theoretical and practical level. The student will learn camera types and related equipment, exposure controls, creative controls and beginning digital production skills including correcting and enhancing digital images and preparing files for output. Students must provide a digital camera with manual exposure settings. Student must have a basic understanding of the Windows or Macintosh computer operating systems. Students will also be expected to purchase their own photographic paper.

PHO 158 Photographic Technology II

Offered WI Studio-6 (3 credit hrs/ 6 contact hrs) (Prerequisite: PHO 157 Photographic Tech I or Digital Photo I or Instructor Permission) Students will learn intermediate and advanced digital imaging exposure, image processing and output controls and techniques. Students will acquire knowledge and skills to solve technical, aesthetic and communication problems. Students must provide a digital camera with manual exposure settings. Student must have a basic understanding of the Windows or Macintosh computer operating systems. Students will also be expected to purchase their own photographic paper.

Physical Health

PED 100 Aerobic Conditioning

Offered FL WI Studio-2 (1 credit hrs/ 2 contact hrs) A four-month program in the Wellness Center designed to improve total fitness via an aerobic-based conditioning program. Will include an individual fitness evaluation, computerized analysis of results, and a prescribed program using various pieces of training equipment and activities. Students will be responsible for scheduling a 2 1/2 hour group orientation session with a Wellness Center staff member. Following the orientation session, students will meet course requirements through an open schedule. May be elected two times for a total of two credits.

PED 105 Hockey I

Offered FL WI Lab-2 (1 credit hour/ 2 contact hrs) (Prerequisite: Some level of skating ability is required) Students will learn the fundamental skills, rules, and strategies of the game. Class will involve lectures, demonstrations and game play.

Physics

PHY 232 General Physics I

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: MTH 122 Analytical Trigonometry or MTH 151 College Algebra with "C" or better, or satisfactory score on placement test.) Trigonometry-based introductory physics. Applies Newton's laws to 1- and 2-dimensional linear motion and circular motion. Analyzes rotational dynamics. Covers the conservation of energy and momentum. Explores mechanical and thermal properties of matter (solid and fluid). Introduces the laws of thermodynamics and applies them to thermal processes and heat engines.

PHY 233 General Physics II

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: PHY 232 General Physics I with "C" or better) Trigonometry-based continuation of introductory physics. Introduces quantities and properties of oscillations and waves and applies them to matter, sound, and light. Explores wave and ray optics. Covers electrostatics and simple circuits. Examines the principles of magnetism and applies them to technology, including transformers, motors, etc.

PHY 236 Engineering Physics I

Offered FL Lecture-4 Lab-2 (5 credit hrs/ 6 contact hrs) (Corequisite: MTH 222 Calculus I) Calculus-based introductory physics. Modern mechanics focusing on the conservation of linear and angular momentum and energy with basic concepts of special relativity, nuclear, and particle physics embedded throughout. Covers 3-dimensional motion including rotational dynamics. Introduces energy quantization in atomic systems. Explores entropy and the laws of thermodynamics.

PHY 237 Engineering Physics II

Offered WI Lecture-4 Lab-2 (5 credit hrs/ 6 contact hrs) (Prerequisite: PHY 236 Engineering Physics I and Corequisite: MTH 223 Calculus II with "C" or better) Calculus-based continuation of introductory physics. Covers electrostatics and electrodynamics. Discusses the theory and application of circuits. Introduces basic concepts of semiconductors and their applications. Explores magnetism, induction, and radiation.

Political Science

POL 151 American National Government

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) A survey of the government of the United States. A range of institutions and topics will be examined, including the development of the Constitution; functions of the legislative, executive, and judicial branches; civil rights and civil liberties; and elections. Non-governmental influences upon governmental behavior also will be explored, such as political parties, media, and interest group activities.

Precision Machine Technology

PMT 101 Measurement & Print Reading

Offered FL WI SM (6.0 credit hrs/ 8.17 contact hrs) Introduces creating dimensional measurements using the U.S. Customary system and the SI Metric system and focuses on print reading, creating technical drawings, dimensions, line types, and line precedence. This course also focuses understanding sectional views, drawing scales, title blocks, using a dial caliper, micrometer, indicator, and demonstrates two Tolerancing methods, Conventional and Geometric Dimensioning and Tolerancing (GD&T). Hands-on lab work will be required throughout this course.

PMT 102 Tolerances & SPC

Offered FL WI SM (3.2 credit hrs/ 4.3 contact hrs) (Prerequisite: PMT 101 Measurement & Print Reading) Introduces measuring orientation tolerances: perpendicularity and parallelism, Form Tolerances, and Location Tolerances. Also focuses on the basics of statistical process control (SPC) along with control chart operation. Hands-on lab work will be required throughout this course.

PMT 103 Control Charts/Intro to Solid Works

Offered FL WI SM (3.1 credit hrs/ 4.36 contact hrs) (Prerequisite: PMT 102 Tolerances & SPC) Introduces Control Chart Analysis, SPC Problem Solving, including cause and effect charts, brainstorming, and provides a basic understanding of Computer Automated Drawings (CAD) fundamentals along with an Introduction to Technical Drawings. Hands-on lab work will be required throughout this course.

PMT 104 Solid Model

Offered FL WI SM (3.3 credit hrs/ 4.42 contract hrs) (Prerequisite: PMT 103 Control Charts/Introduction to Solid Works) Introduces concepts within the CAD system by creating multiview drawings. Topics cover Schematic Diagrams, Introduction to Solid Modeling, Solid Model Creation, along with Solid Model Features using SolidWorks. Also focuses on controlling the views, navigating the menus toolbars, creating a solid model, using an extrusion command to remove material from a solid model, and creating a drawing plane. Hands-on lab work will be required throughout this course.

PMT 105 Tooling

Offered FL WI SM (3 credit hrs/ 4.15 contact hrs) (Prerequisite PMT 104 Solid Model) Introduces concepts of animation using SolidWorks. Topics include Introduction to Manufacturing Hand Tools and Machining Processes. Also focuses on understanding cutting tools and how they work. Hands-on lab work will be required throughout this course.

PMT 106 Band Saw/Drill Press/Lathe

Offered FL WI SM (3.2 credit hrs/ 4.4 contact hrs) (Prerequisite PMT 105 Tooling) Introduces safely operating a band saw, drill press, and a manual lathe. Other focus points include turning operations and

processes used for tapping, drilling, reaming, and boring. Hands-on lab work will be required throughout this course.

PMT 107 Milling

Offered FL WI SM (3.8 credit hrs/ 5.22 contact hrs) (Prerequisite: PMT 106 Band Saw/Drill Press/Lathe) Introduces the Manual Milling Machine, Tooling for Tapping, and Tooling for Grinding. Focus points include special turning operations, creating an end cap, milling machine safety, basic milling operations, and methods of workholding for machining between centers. Hands-on lab work will be required throughout this course.

PMT 108 Part & Process Design

Offered FL WI SM (3.1 credit hrs/ 4.33 contact hrs) (Prerequisite: PMT 107 Milling) Introduces the Concepts of Design, Precision Part Design, Process Design, and Contour CAM Toolpaths. Also focuses on grinding wheels; product design, development, and cost; basics of precision part design; how to design a manufacturing process including organizing the data to determine the cost; and how to use a contour toolpath in a variety of applications. Hands-on lab work will be required throughout this course.

PMT 109 CAD/CAM/CNC

Offered FL WI SM (3.5 credit hrs/ 5.04 contact hrs) (Prerequisite: PMT 108 Part & Process Design) Introduces fine-tuning a toolpath using the CAM software's parameter pages, using the contour toolpath to make more complex cuts, drill and pocket toolpaths, and applications of the toolpaths. Also focuses on creating a program to machine a part on the CNC lathe, CNC Milling Machine, and creating a basic program to operate the machine. Hands-on lab work will be required throughout this course.

PMT 110 Programming/Speeds & Feeds

Offered FL WI SM (3.2 credit hrs/ 4.52 contact hrs) (Prerequisite: PMT 109 CAD/CAM/CNC) Introduces the fundamentals of CNC Mill programming, CNC commands, how to calculate speeds and feeds for CNC operations, and how canned cycles and subprograms are used to simplify CNC programming. Hands-on lab work will be required throughout this course.

PMT 111 CNC Mill & Lathe

Offered FL WI SM (3.7 credit hrs/ 5.15 contact hrs) (Prerequisite PMT 110 Programming/Speeds & Feeds) Introduces cutter compensation and mirroring to simplify CNC programs; CNC Lathe and components including commands, operation, programming, and its relation to the Cartesian coordinate system; and GE Fanuc controls including navigating the screen control keys, programming, screen controls, and machine operation controls. Hands-on lab work will be required throughout this course.

PMT 112 Machining Centers & Turning

Offered FL WI SM (3.9 credit hrs/ 5.26 contact hrs) (Prerequisite: PMT 111 CNC Mill & Lathe) Introduces the Principles of Machining Centers along with its components, systems, types, tools, operations, and applications. Also focuses on the function of turning centers, components, tools, and processes used for turning operations. Other topics to be covered include: tool holder and boring bar nomenclature systems' features and characteristics including ANSI and ISO systems. Hands-on lab work will be required throughout this course.

Psychology

PSY 161 Introduction to Psychology

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) Exploration of human behavior covering topics such as the brain and nervous system, behavioral genetics, sensory processes, consciousness, learning, memory, intelligence, cognition, lifespan development, personality, emotion, motivation, mental health and social interaction. Focus on critical thinking skills, basic research methods, and applications.

PSY 262 Child Psychology

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: PSY 161 Introduction to Psychology with "C" or better) Examines the psychological development of the child from conception through adolescence. Explores physical, cognitive, and socio-emotional domains. Emphasis on normative development, but attention also paid to cultural variation, physical and psychological problems. Application of psychological findings to child-rearing, guidance, and training by parents, teachers, and other interested adults. Involves research and a field experience.

PSY 263 Educational Psychology

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: PSY 161 Introduction to Psychology with "C" or better) Examines the psychological principles underlying teaching and learning. Focuses on fundamental questions about memory, learning, cognition, motivation, and individual differences. Explores how individual and cultural differences affect decisions about creating and maintaining learning environments. Familiarizes students with regulations and current trends affecting the practice of education. Involves research and a field experience.

PSY 264 Abnormal Psychology

Offered WI Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: PSY 161 Introduction to Psychology with "C" or better) Description and analysis of the prevalence, symptoms, causes, and social significance of a variety of psychological disorders. Focus on diagnostic and causal issues, but also seeks to develop empathic understanding of persons suffering from disorders. Addresses individual and cultural variations in the expression of psychological distress. Examines research methods and controversial issues in the diagnosis and treatment of mental illnesses.

PSY 266 Social Psychology

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: PSY 161 Introduction to Psychology or SOC 171 Introduction to Sociology with "C" or better) Exploration of how people think about, influence, and interact with each other. Explores topics such as self-concept, impression formation, intuition and reason, attitudes, persuasion, gender, attraction, liking and loving, conformity, obedience, aggression, media, peacemaking, helping, and sustainable futures. Also examines many of the interesting and creative ways social psychologists have researched these topics.

PSY 298 Independent Study - Psychology

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor and the appropriate Dean must approve the Independent Study.

Science, General

NSC 101 Life Science

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) A survey course for non-science major students, which includes the study of cells and cell theory, anatomy and physiology of selected plants and animals, the environment, and ecology.

NSC 102 Physical Science: Physics & Space

Offered FL WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: MTH 120 Introduction to Algebra with "C" or better) An introduction to the physical sciences: physics and space science. Topics within physics will include motion and forces, energy, heat and temperature, waves, electricity and light. Topics within space science will include the variety and evolution of stars, our understanding of the universe, our solar system and the earth-moon system. Sessions will include a mixture of hands-on experimentation, group problem solving, and class discussions.

NSC 104 Physical Science: Chemistry & Earth

Offered as needed Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: MTH 120 Introduction to Algebra with "C" or better) An introduction to chemistry and Earth Science. This introductory course explores important concepts of chemistry including the scientific method, matter and its properties, and chemical and nuclear reaction. Topics in Earth Science include geology such as minerals, the rock cycle, the role of water on sculpting the Earth's surface and the impact of human interactions on the Earth. Lab exercises will supplement these topics.

NSC 298 Independent Study: General Science

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved application) A course designed to provide a student with a valuable experience of independent research, analysis, and reporting that will enhance the grasp of a subject and develop the motivation, skills and discipline of independent work (1-6 credits). The instructor and the appropriate Dean must approve the Independent Study.

NSC 299 Internship: General Science

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) A short-term work experience that provides the student with the opportunity to gain experience in a specific field or career area. An internship can be paid or unpaid and may be taken for 3-6 credits (3 credits for 225 hours, 450 hours for 6 credits). The instructor and the appropriate Dean must approve the Internship.

Sociology

SOC 171 Introduction to Sociology

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) The application of the scientific method to the concepts and principles of sociology. Analyses focus on institutional features of modern society and the structure of social organizations.

SOC 274 Sociology of the Family

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) (Prerequisite: SOC 171 Introduction to Sociology or PSY 161 Introduction to Psychology with "C" or better or Instructor Permission) Sociological analysis of marriage and the family. Examines the family as a social institution, the position of the family in a changing society, courtship and mate selection, marital adjustment, parent-child interaction.

SOC 275 Social Problems

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs)
(Prerequisite: SOC 171 Introduction to Sociology or PSY 161 Introduction to Psychology with "C" or better or Instructor Permission) Cause and solutions of social dynamics in modern American society: alcoholism, mental illness, poverty, the aged, health, crime, minority groups, drug abuse.

SOC 276 Gender Roles in Society

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs)
(Prerequisite: SOC 171 Intro to Sociology or PSY 161 Introduction to Psychology with "C" or better or Instructor Permission) Course examines gender as a way of structuring social life. Emphasis will be on the description and explanation of male and female experiences in parenting, work, sexuality, education, health and violence. Gender role changes in society will also be explored. Emphasis will be on the United States, however, multicultural variations will be studied for comparison.

Spanish

SPN 101 Elementary Spanish I

Offered FL Lecture-4 (4 credit hrs/ 4 contact hrs) Through study of vocabulary; grammar; pronunciation; listening and reading comprehension; writing; and basic aspects of cultural awareness, students acquire the fundamentals of the language, with emphasis on conversational Spanish.

SPN 102 Elementary Spanish II

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: SPN 101 Elementary Spanish I with "C" or better or equivalency)
Continuation of SPN 101.

SPN 201 Intermediate Spanish I

Offered FL Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: SPN 102 Elementary Spanish II with "C" or better or equivalency) Review of grammar, reading, writing, and speaking Spanish. A study of Spanish culture through literature.

SPN 202 Intermediate Spanish II

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) (Prerequisite: SPN 201 Intermediate Spanish I with "C" or better or equivalency)
Continuation of SPN 201.

Speech

SPE 101 Principles of Speaking

Offered FL WI SM Lecture-3 (3 credit hrs/ 3 contact hrs) Practice in establishing speech skills, developing confidence and poise, and in improving voice control and quality. Opportunity to present extemporaneous speeches; to participate in group discussions; to practice leadership and problem solving.

SPE 110 Interpersonal Communications

Offered FL WI Lecture-3 Offered (3 credit hrs/ 3 contact hrs)
Introduction to the theory and practice of interpersonal communications, analysis of daily communication interactions; and practice in developing and building better interpersonal relationships in family, work, and social settings.

SPE 202 Introduction to Mass Communication

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Exploration of the evolution of media and how media develop and frame communication. Media studies include books, newspapers, radio, music, television, magazines, the Internet, and social media.

Additionally, students will examine the relationship between media, culture, gender, and communication.

SPE 203 Introduction to Radio Production

Offered FL WI SM (3 credit hrs/ 4 contact hrs) Introduction to radio and radio production. Emphasizes major events in radio broadcast history, terminology, and technical and managerial skills necessary for operating an online radio station. Students will produce work for online FM broadcast; opportunities to host a show may also be made available.

Theater

THE 101 Theater/Drama Appreciation

Offered FL WI Lecture-3 (3 credit hrs/ 3 contact hrs) How to enjoy theater -- both playgoing and the reading of plays. An appreciation of the various theater artists: actors, directors, designers, technicians. This is an appreciation course, not a performance course where students are expected to perform.

THE 121 Fundamentals of Acting

Offered as needed Lecture-3 (3 credit hrs/ 3 contact hrs) Theories of acting; practice in developing basic acting skills and communicating the content and meaning of a script.

THE 151 Stagecraft

Offered FL WI Lecture-2 Lab-2 (3 credit hrs/ 4 contact hrs)
Introduction to the theory and practice of play production including scenery, lighting, costuming and make-up.

THE 291 Applied Theater

Offered FL WI (1-3 credit hrs/ 1-3 contact hrs) Variable credit for supervised experience involving one or more aspects of theatrical expression through the college theater program. Nature of involvement to be determined between instructor and student. No more than six credits may be awarded.

Welding

WLD 100 Basic Oxy and Arc Welding

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Pre/Corequisite: WLD 101 Welding Technology I) Introduction to flat and vertical oxyacetylene welding, brazing of mild steel and cast iron. Basic shielded metal arc welding in flat, horizontal and vertical positions with mild steel electrodes. Basic safety principles, operation and application of arc welding, oxyacetylene, and torch cutting equipment.

WLD 101 Welding Technology I

Offered FL WI Lecture-2 (2 credit hrs/ 2 contact hrs) Technical lecture related to basic theories of welding safety, Oxy-Fuel and Shielded Metal Arc Welding processes, metallurgy, filler metal selection and welding terminology.

WLD 103 Welding Technology II

Offered FL WI Lecture-2 (2 credit hrs/ 2 contact hrs) (Prerequisite: WLD 101 Welding Technology I) Technical lecture relating to theory in the areas of Gas Tungsten Arc Welding, Gas Metal Arc Welding, Weld Testing and Inspection, Shielded Metal Arc Welding of pipe, related welding processes and the use and interpretation of welding symbols.

WLD 104 Basic Arc Lab

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Prerequisite: WLD 100 Basic Oxy & Arc Welding Pre/Corequisite: WLD 101 Welding

Technology I) Will enhance Shielded Metal Arc Welding skills in all positions using a variety of electrodes. Weld quality will be determined by producing guided bend and fillet fracture tests to American Welding Society standards.

WLD 106 Advanced Arc Lab

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Prerequisite: WLD 104 Basic Arc Lab; Pre/Corequisite: WLD 103 Welding Technology II) Will produce fillet and open root Single-Vee groove welds in all positions using large diameter electrodes with the Shielded Metal Arc Welding process. Weld quality will be checked using macro-etch and guided bend testing to American Welding Society standards. Prepares student for welding qualification tests.

WLD 110 Blueprint Reading for Welders

Offered WI Lecture-4 (4 credit hrs/ 4 contact hrs) Basic fundamentals of drawing interpretation as applied to the welding trade, with emphasis on coverage of welding symbols. Introduction to template development and layout.

WLD 111 Metallurgy

Offered FL Lecture-4 (4 credit hrs/ 4 contact hrs) Basic study of metals, effects of thermal cycles, tensile, bend, hardness and spark testing used to identify metals. Study of atomic structures, crystallization, and crystal structures, grain structures and heat treatments of metals.

WLD 113 Gas Metal Arc Lab

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Pre/Corequisite: WLD 103 Welding Technology II & WLD 104 Basic Arc) Practice in the setup of Semi-automatic Gas Metal Arc Welding equipment. Solid wire, self-shielded flux core, gas-shielded flux core and aluminum electrodes are used to produce butt, lap, tee, and vee-groove joints in all positions. Guided bend tests are utilized to determine weld quality to American Welding D 1.1 Standard.

WLD 114 Gas Tungsten Arc Lab

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Pre/Corequisite: WLD 103 Welding Technology II) Practice in the setup of Gas Tungsten Arc Welding equipment. Welding of mild steel, stainless steel and aluminum butt, lap, tee and corner joints in all positions. The student will determine weld quality by producing guided bend tests to American Welding Society standards.

WLD 115 Band Saw/Drill Press/Lathe

Offered FL WI SM (4 credit hrs/ 5.59 contact hrs) (Prerequisite: WLD 113 Gas Metal Arc Lab) Introduces safely operating a band saw, drill press, and a manual lathe. Other focus points include manufacturing hand tools, turning operations and processes used for tapping drilling, reaming, and boring. Hands-on lab will be required throughout this course.

WLD 116 Programming/Speeds & Feeds

Offered FL WI SM (3.60 credit hrs/ 5.02 contact hrs) (Prerequisite: WLD 115) Introduces the fundamentals of CNC Mill programming, CNC commands and how to calculate speeds and feeds for CNC operations. Hands-on lab work will be required throughout this course.

WLD 207 Pipe Welding Lab

Offered FL WI Lab-8 (4 credit hrs/ 8 contact hrs) (Prerequisite: WLD 106 Advanced Arc Lab) Shielded Metal Arc Welding on 4" schedule 80 pipe in the 1G, 2G and 5G positions. Vee-groove open root joint configuration tested to American Society Mechanical Engineers

section 1X standard. Designed to develop skills for the pipe welding industry.

WLD 212 Welding Fabrication

Offered FL WI Lecture-1 Lab-4-6 (3-4 credit hrs/ 5-7 contact hrs) (Prerequisite: Instructor approval) Designed to develop or improve the basic skills in design, layout, fabrication, and print reading. Areas studied include estimating labor and material rates, use of welding symbols, process selection, quality control inspection techniques, and fabrication methods.

WLD 298 Independent Study: Welding

Offered as needed (1-6 credit hrs/ 1-6 contact hrs) (Prerequisite: Approved Application) Investigation and study of the principles and concepts of advanced welding operations. Objectives of the study are determined by mutual agreement between the student and instructor.

WLD 299 Internship: Welding

Offered as needed (3-6 credit hrs/ 3-6 contact hrs) (Prerequisite: Approved application) Credit is granted for students that engage in learning knowledge and skills through a complex and carefully designed project or through part-time work experience. The hours will be determined between employer and faculty member.

Zoology

ZOO 211 Ornithology

Offered WI Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) A systematic approach to the study of birds. Anatomy, physiology, and behavioral characteristics will be studied. The identification of birds by sight and sound will be stressed.

ZOO 220 General Zoology

Offered FL Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) A survey of animals, anatomy, physiology, taxonomy, ecology, and distribution. Students will perform field studies on the Lake Michigan shoreline as well as local terrestrial environments.

ZOO 257 Fish Biology

Offered SM Lecture-3 Lab-2 (4 credit hrs/ 5 contact hrs) (Prerequisite: College level biology course or 1 year HS biology grade "C" or better) Fish anatomy and morphology, physiology, taxonomy, behavior, life history, and ecology with emphasis on freshwater species. Identification of live and preserved fish specimens. Laboratory and field work will focus on fishes in the Great Lakes region. Provide hands-on experience for applications such as aquaculture and fisheries field surveys.

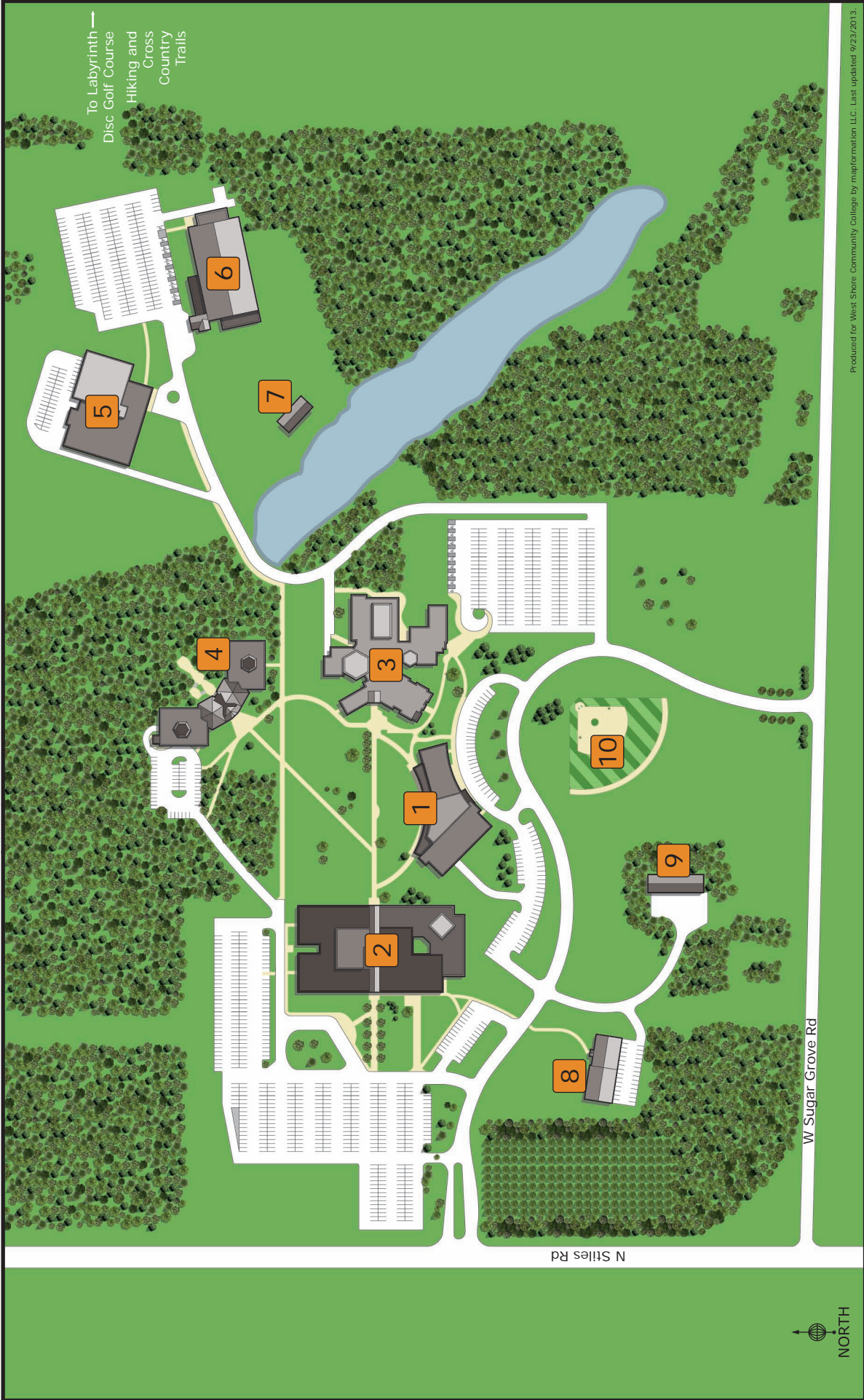
B. Online Courses

Courses available online vary by semester. Check with an academic advisor or view the schedule at my.westshore.edu for specific semester offerings.

ACC 128 Payroll Accounting
 ALH 104 Medical Terminology
 ALH 114 Growth & Development – Life Span
 ANP 118 Introduction to the Human Body
 ANP 230 Anatomy & Physiology I
 ANP 231 Anatomy & Physiology II
 ANT 112 Introduction to Cultural Anthropology
 ART 101 Art Appreciation
 BIO 122 General Biology I
 BIO 123 General Biology II
 BOT 221 Botany
 BUS 100 Introduction to Business
 BUS 142 Principles of Retailing
 CIS 160 Desktop Applications
 CIS 165 Advanced Desktop Applications
 CIT 100 Introduction to Operating Systems
 CIT 115 Advanced Operating Systems
 COR 210 Introduction to Corrections
 COR 215 Correctional Institution/Facilities
 COR 216 Client Growth and Development
 COR 217 Client Relations in Corrections
 COR 218 Legal Issues in Corrections
 CRJ 100 Introduction to Criminal Justice
 CRJ 211 Juvenile Delinquency
 ECE 101 Introduction to Early Childhood Education
 ECE 120 Early Childhood Education and Child Care I
 ECE 121 Early Childhood Education and Child Care II
 ECE 130 Childhood Development for Early Child Education
 ECE 132 Promote Early Literature and Language Development
 ECE 135 Current Issues Early Childhood Education
 ECE 150 Infant and Toddler Care
 ECE 250 Administration of Early Childhood Education Facilities
 ENG 111 English Composition I
 ENG 112 English Composition II
 ENG 251 Introduction to Linguistics
 GOL 191 General Geology
 HIS 141 Western Civilization to 1600
 HIS 142 Western Civilization 1600 to Present
 HIS 145 US History to 1877
 HIS 146 US History 1877 to Present
 LIT 211 American Literature Pre-Colonial to 1865
 MGT 201 Principles of Management
 MGT 202 Personnel Management
 MGT 205 Small Business Management
 MKT 241 Principles of Marketing

MKT 243 Principles of Salesmanship
 MKT 244 Advertising
 MTH 120 Introduction to Algebra
 MTH 121 Intermediate Algebra
 MTH 151 College Algebra
 MUS 100 Music Appreciation
 MUS 101 Basic Music Theory I
 MUS 105 History of Popular American Music
 OIS 150 Fundamentals of Keyboarding
 OIS 151 Information Keyboarding I
 PHL 100 Introduction to Philosophy
 PHL 104 Bioethics
 POL 151 American National Government
 PSY 161 Introduction to Psychology
 SOC 171 Introduction to Sociology
 SOC 275 Social Problems
 THE 101 Theater and Drama Appreciation
 TMA 113 Technical Mathematics I
 TMA 114 Technical Mathematics II
 ZOO 211 Ornithology





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- 1 Schoenherr Campus Center
- 2 Technical Center
- 3 West Shore Ice Arena
- 4 Arts & Sciences Center
- 5 Recreation Center
- 6 Maintenance Building
- 7 Eaton Picnic Pavilion
- 8 Auto Repair and Maintenance Center
- 9 Maintenance Building
- 10 Eaton Picnic Pavilion

To Labyrinth
Disc Golf Course
Hiking and
Cross
Country
Trails



N Stiles Rd

W Sugar Grove Rd