Choose Your Path

Metropolitan Community College

2010-2011 Catalog

Online
Blue River
Maple Woods
Longview
Penn Valley

Business & Technology
# MCC Information

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## NOTE

This catalog contains information that will familiarize you with Metropolitan Community College. Contents of this catalog are current as of the March 2010 publication. Material in the catalog relates to the operations and activities of Metropolitan Community College and is for informational purposes only. It does not represent enforceable contractual obligations of Metropolitan Community College. The college reserves the right to modify programs, course offerings, printed schedules, rules, regulations and operations at any time. Information about these changes is available from members of the counseling and advising staff at any of the campuses. Check out MCC's web site at www.mcckc.edu.
Welcome to Metropolitan Community College, and thank you for your interest in learning with us. Whether you are seeking career training, an associate’s degree, leisure classes or professional development, I trust you will find what you need at MCC.

Your success and satisfaction are important to us. That’s why we’re constantly finding new ways to better support your success:

• Services like mobile enrollment and drive-through book buy-back at MCC-Longview make life easier for on-the-go students.

• New facilities like the Precision Driving Center at MCC-Blue River, the Sports Training Center at MCC-Maple Woods and the Health Science Institute at MCC-Penn Valley enhance student learning with state-of-the-art equipment and resources.

• New and expanded curricula like green-energy courses at MCC-Blue River and the engineering technology program at MCC-Business & Technology provide students with more career options than ever before.

• Articulation agreements and dual admission agreements with local and regional universities offer students seeking a bachelor’s degree a simple and affordable way to achieve that goal.

• Partnerships with businesses and community agencies allow the MCC Institute for Workforce Innovation to help out-of-work Kansas Citians prepare for stable, high-demand jobs so they can get back to work fast.

• With recent MAPP test results showing that MCC does as well as, if not better than, other colleges at preparing students with general education courses, MCC is the right choice for students looking for a friendly, affordable way to get started.

With 95 years of providing quality higher education in Greater Kansas City, MCC has brought opportunity to hundreds of thousands of people. I am proud to have been a part of this great college for the past 15 of those years. In June, I will be retiring from MCC, and I will leave with full confidence that the college’s tradition of creating real impact in our city will continue with fervor. Mark James, MCC’s vice chancellor of administrative services, will assume the role of chancellor beginning July 1, 2010. I am pleased to be succeeded by such a capable, conscientious leader. I am also grateful to you—MCC students, friends and community partners—for the part that you have played in making MCC a great place to round out my 41-year career in education.

As always, MCC remains committed to our mission of preparing students, serving communities and creating opportunities. We will continue to make every effort to ensure the success of our students, the viability of our community and the accessibility of our services.

Jacqueline I. Snyder, Ed.D.
The Board of Trustees

David L. Disney,
President

Jeffrey A. Grubb,
Vice President

Robert H. Martin

J. Robert Ashcroft

Richard C. Tolbert

Mariann Tow

The Officers of the District

Jacqueline I. Snyder,
Chancellor

Mark James,
Executive Vice Chancellor,
Chancellor Designee

Paul Long,
Vice Chancellor of Educational Services,
IT and Institute for Workforce Innovation

Tuesday Stanley,
Vice Chancellor of Student Development & Enrollment Services and Administrative Services

Debbie Goodall,
President,
MCC-Business & Technology

Joe Seabrooks,
President,
MCC-Blue River

Fred L. Grogan,
President,
MCC-Longview

Merna S. Saliman,
President,
MCC-Maple Woods

Bernard Franklin,
President,
MCC-Penn Valley
Fall Semester 2010

New faculty orientation.................. August 19 and August 20
New adjunct faculty orientation.............. Saturday, August 21
Campus Inservice date, no day and evening classes
.............................................................. Monday, August 23
First date for day and evening classes
.............................................................. Tuesday, August 24
First date for Saturday classes .......... Saturday, August 28
Labor Day holiday observed, no classes
.............................................................. Monday, September 6
On-schedule state aid day .......... Monday, September 20
Midterm............................................. Friday, October 15
District Inservice, no classes day and evening
............................................................ Tuesday, October 19
Last date to withdraw without assessment
............................................................. Monday, November 15
Thanksgiving holiday begins at 4:00 p.m.
............................................................. Wednesday, November 24
Classes resume ........................................... Monday, November 29
Last date for Saturday classes ...... Saturday, December 11
Last date for day and evening classes
.............................................................. Friday, December 10
Final exams, day and evening
............................................................. December 13, 14, 15, 16, 17
Saturday final exams ...................... Saturday, December 18
Grades due Noon ......................... Monday, December 20
Holiday break/offices closed ........ December 24- January 1

Spring Semester 2011

Martin Luther King Jr. holiday, no classes
.............................................................. Monday, January 17
Campus Inservice date, no classes day and evening
.............................................................. Tuesday, January 18
First date for classes, day and evening
.............................................................. Wednesday, January 19
First date for Saturday class .......... Saturday, January 22
On-schedule state aid date .............. Monday, February 14
Midterm ............................................. Friday, March 11
Spring break ........................................ March 14-19
Classes resume ........................................... Monday, March 21
Last date to withdraw without assessment
.............................................................. Monday, April 15
Last date for Saturday classes ........ Saturday, May 7
Last date for classes, day and evening
............................................................. Wednesday, May 11
Reading date, evening finals only ........ Thursday, May 12
Final exams, day and evening
.............................................................. Friday, May 13, 16, 17, 18, 19
Saturday final exams ....................... Saturday, May 14
Last date for evening finals ............. Wednesday, May 18
Last date for day finals ..................... Thursday, May 19
Commencement .................. Friday, May 20
Grades due Noon ......................... Friday, May 20

Summer Semester 2011

First date for classes, day and evening .... Monday, June 6
On-schedule state aid date ................. Thursday, June 16
Independence Day observed, no classes
.............................................................. Monday, July 4
Last date to withdraw without assessment
............................................................. Thursday, July 14
Last date for classes, day and evening .... Thursday, July 28
Grades due Noon ......................... Monday, August 1

Fall Semester 2011

New faculty orientation.................. August 18 and August 19
New adjunct faculty orientation............. August 20
Campus Inservice date, no day and evening classes
.............................................................. Monday, August 22
First date for day and evening classes
.............................................................. Tuesday, August 23
First date for Saturday classes .......... Saturday, August 27
Labor Day holiday observed, no classes
.............................................................. Monday, September 5
On-schedule state aid day .......... Monday, September 19
Midterm............................................. Friday, October 14
District Inservice, no classes day and evening
............................................................ Tuesday, October 18
Last date to withdraw without assessment
............................................................. Monday, November 14
Thanksgiving holiday (No classes, Offices open)
............................................................. Wednesday, November 23
Thanksgiving holiday begins at 4:00 p.m.
............................................................. Monday, November 28
Classes resume ......................... Wednesday, November 29
Last date for Saturday classes
............................................................. Monday, December 10
Last date for day and evening classes
............................................................. Saturday, December 17
Reading date, evening finals only
............................................................. Monday, December 19
Final exams, day and evening
............................................................. Tuesday, December 20
Saturday final exams ..................... Tuesday, December 21
Last date for evening finals
............................................................. Wednesday, December 22
Last date for day finals ................. Wednesday, December 23
Grades due Noon ......................... Wednesday, December 24
Holiday break/offices closed ........ December 26- January 1
No matter where people live in the greater Kansas City metropolitan area, they’re just minutes away from one of the five Metropolitan Community College campuses. There’s MCC-Blue River in the east; MCC-Business & Technology, located near I-435 and Front Street; MCC-Longview to the south; MCC-Maple Woods in the Northland; and MCC-Penn Valley in Midtown.
In order to accomplish this mission, the board of trustees has empowered the chancellor, as executive officer, to implement its policies. The chancellor, with the other officers of the District, will provide leadership in the implementation of the mission of the District.

Vision

Learning is the focus of everything we do at Metropolitan Community College.

Student learning is central to our mission; employee learning is key to our strength; and organizational learning is the foundation for innovation and growth.

Learning is a lifelong process. Learners are whole persons with intellectual, physical, emotional, spiritual, social, ethical, vocational and economic dimensions.

As learners, as facilitators of learning, and as an organization, we accept responsibility to:
- Manage learning and commit the time and energy that meaningful learning requires.
- Encourage free, open and respectful exchange of ideas as a natural part of change.
- Synthesize tradition and innovation in order to enhance academic achievement.
- Design and implement structures and processes that promote learning.
- Draw on diversity to influence and inform learning.
- Engage in continuous assessment, reflection, and adaptation.
- Create a physical, social and intellectual environment that supports learning.
- Build partnerships that promote individual, institutional and community betterment.

Purpose Statements

- Provide courses and associate degree programs that prepare students to transfer to four-year colleges and universities to complete bachelor’s degrees.
- Provide courses, certificates and associate degree programs to prepare students to enter the work force in skilled jobs and careers.
- Provide courses, certificates and associate degree programs to assist adult workers to upgrade their job skills, change careers, or advance in their careers.
- Provide instruction in core academic skills that prepare students to succeed in college-level courses and programs.
- Provide student development and support services to assist students to achieve their academic, career and personal goals.
- Provide and support activities to enhance student learning outside the classroom.
- Provide a range of services and accommodations to help all prospective students overcome barriers to access college programs and opportunities.
- Provide courses and other educational and cultural activities to enrich the lives of members of the community.
- Provide business support services and other training and assistance to support the economic development of the community.
- Collaborate with other educational institutions, community-based organizations, agencies, businesses and industries to meet the needs of the community.

Commitment to Diversity

Metropolitan Community College is committed to achieving freedom from all forms of discrimination and harassment in its policies, practices and endeavors. Further, MCC is committed to fostering a diverse community and to promoting greater awareness of and sensitivity to issues of diversity.

Toward that end, MCC asserts the dignity and worth of every human being and the value of diversity as a source of its strength, including diversity of race, gender, ethnicity, national origin, culture, sexual orientation, religion, disability, and perspective among students, faculty, staff and administrators.

Core Values

Excellence. MCC strives for excellence in all that we do. We pursue innovation with thought and purpose. We constantly seek to achieve the highest level of quality in our processes, programs and services.

Success. The fundamental standard of our performance is the success of our students. We strive to support the successful development of our employees and our communities.

Access. MCC is committed to eliminating barriers to the pursuit of higher learning. We strive to provide affordable and accessible opportunities to all members of our community.

Diversity. MCC embraces diversity in our student body, work force, curriculum and community. We know that diversity supports learning, excellence and preparation for global citizenry.

Integrity. MCC adheres to the highest standards of honesty and integrity in all that we do, in academics, in communication with constituents, and in institutional policies and practices.

Inquiry. MCC supports academic freedom for faculty and freedom of inquiry for students in pursuit of knowledge and truth. We seek to engender the skills and values of a general education in all graduates.

Care. MCC is committed to establishing and maintaining a caring, safe and supportive environment, secured on a foundation of civility and respect for the dignity of all persons.

Community. MCC strives to build, nurture and improve the communities of which we are part, and to collaborate with partners to serve the common good.
In addition to the MCC-Foundation:

City.
Community College the first choice for higher education in Kansas is committed to forming partnerships that make the Metropolitan maintaining relationships with the greater community. The Foundation participates in planning, volunteering and administration as well as and leads the annual Capital Campaign. Our Board of Directors endowments, sponsors alumni and donor recognition events.

For the district, the Foundation administers 174 scholarships and better their lives through education. Scholarship requirements are education, but not the means. All students deserve the chance to students of lesser opportunities who have the desire for a college

Scholarships and emergency funds raised by the Foundation help MCC's fifth campus, the Business & Technology Campus.

In 2005, the five Metropolitan Community Colleges became one: Metropolitan Community College (no "s") with five campuses.

MCC-Longview
MCC-Longview overlooks Longview Lake in Lee's Summit and is on land donated to MCC by the family of R.A. Long, a pioneer lumberman. The campus includes an exceptional Recreational Center and a nationally prominent automotive technology program. MCC-Longview was the first community college to achieve Time magazine/Princeton Review's College of the Year honors.

Five years later, three colleges — Longview, Maple Woods, and Penn Valley — opened their doors. In the 80s and 90s, Blue Springs, Fort Osage, Independence and Park Hill School Districts voted to join MCC. A campus was established at Blue Springs in 1984 and in 1995, the maina campus at Independence was built. In 1997, these two campuses became Blue River Community College. In 1995, business services and technical training were centralized at a location near I-435 and Front Street. Several expansions later, this facility became MCC's fifth campus, the Business & Technology Campus.

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The following are the basic steps to apply for a scholarship.

1. Plan ahead. Most scholarships are reviewed in the spring for the following semester. If all MCC scholarships are not fully awarded or more funds become available later in the school year, MCC will reopen the review process for those funds still available. All scholarships are awarded based upon available funds.

2. Read requirements thoroughly. Read the scholarship and grant requirements carefully and refer to the contact information to find out where to obtain the right application. Meeting all the requirements of a scholarship does not automatically qualify you to receive a scholarship. A committee at each college awards the scholarships, unless otherwise noted. You must have a minimum 2.0 G.P.A. to be considered for any scholarships, unless a higher G.P.A. is noted.

3. Fill out an application. Fill out the MCC scholarship application and attach all the required information and documents. Applications with missing information will not be reviewed and you will miss your opportunity to qualify for a scholarship or grant. You may apply for up to six scholarships with one MCC application. Some require different applications. Metropolitan Community College Board of Trustee policy limits students from receiving more than one Institutional fee-paying scholarship per year. If the scholarship requires that you submit financial aid forms, you must complete a Free Application for Federal Student Aid. These forms are available from your high school counselor, your campus financial aid office or online at www.fafsa.ed.gov. When completing the form, use MCC’s school code 002484 to speed processing.

4. Ask questions. If you have questions, contact the financial aid office at the college you plan to attend. Financial aid office hours vary from campus to campus, so please call ahead.

MCC Foundation and Institutional Scholarships
(Available at more than one MCC campus)

For all MCC Foundation scholarships the priority application deadline date is April 1. Please contact your campus financial aid office for additional information or visit the online Scholarship Booklet at http://www.mcckc.edu/pubs/campusScholarshipLists.pdf.

For a full listing of MCC scholarships and grants, go to:

http://mcckc.edu/Scholarships
Admission Information

Eligibility

Students who want to enroll in Metropolitan Community College have several avenues that lead to admission: a high school diploma, a General Educational Development (GED) test that certifies the equivalency of high school graduation, or home-school graduation. International students are also welcome on the MCC campuses.

In some cases, those who are 18 and older and who haven’t graduated from high school or obtained a GED may be admitted as special students. During their first term, the college limits them to 12 credit hours and then re-evaluates their status during subsequent enrollments. High school students under 18 may be admitted if recommended by their principal or counselor and if their application is approved by the appropriate college official.

College Admission

To apply for admission, a student must follow these steps:

1. Complete the online MCC Application for Admission at www.mcckc.edu. Once MCC processes your application you are admitted to the college. Some MCC programs have special requirements.

   Note: Due to Missouri House Bill 1549, students may be required to provide documentation to verify legal status in the United States.

2. Request that the appropriate transcripts be sent to the MCC Student Data Center, 3200 Broadway, Kansas City, Missouri 64111. Once received, transcripts will be processed and evaluated.

   - First-time college students should ask the high school they last attended to send a transcript to the above address.
   - Students who have taken the GED test given by the Missouri State Department of Elementary and Secondary Education should have their scores sent to the above address.
   - Students who are transferring from another college or university should submit a transcript from each school attended.
   - Home-school students must provide documentation as required by Missouri State Statute 167.031.2 (2)(a), R.S. MO.

3. Students who are enrolled at a college or university other than MCC may take MCC courses as a visiting student.

4. If you have already earned a degree, you are not required to take the placement test. However, these services are available to assist you in selecting appropriate courses. If you are planning to pursue a degree or certificate with MCC, it is important you consult with an advisor to ensure your enrollment includes all the necessary courses.

5. Students seeking admission to MCC should apply and send the required documents to the Student Data Center several months or weeks before classes begin. Once received, the admissions/records office will send a letter confirming admission and notifying each student how, when and where to enroll in classes.

6. Students who want to enroll in the Affiliate Program must obtain permission from a parent or legal guardian. They may take a limited class schedule but only after getting approval from their high school official and the appropriate MCC administrator. After this approval, students should complete an Application for Admission, which is available online at www.mcckc.edu.

Admission of High School Students

High school students who want to enroll at MCC must obtain permission from a parent or legal guardian. They may take a limited class schedule but only after getting approval from their high school official and the appropriate MCC administrator. After this approval, students should complete an Application for Admission, which is available online at www.mcckc.edu.

MCC’s dual credit program offers college credit for courses as part of daily scheduled classes at area high schools. Dual credit tuition and fees may be different from those set for on-campus courses, but they are the same for all high schools. High school students must talk to their high school counselor regarding eligibility requirements before enrolling.

NOTE: Metropolitan Community College does not give high school credit.

Admission to JCCC and KCKCC Programs

Metropolitan Community College (MCC) has established affiliate agreements with Johnson County Community College and Kansas City Kansas Community College (referred to below as Affiliate Colleges) in career fields not currently offered by MCC. These agreements allow MCC students who are in-district and Missouri residents to enroll in selected career programs offered at these institutions and pay MCC’s tuition rates.

Policies and Procedures

1. A student in the Affiliate Program is responsible for tuition at the MCC rate.

2. Only courses that are not offered at MCC are covered by this Agreement. If you elect to take a course at the Affiliate College that is offered at MCC, you will be responsible for paying the out-of-state tuition.

3. Repeated course work is not covered by this Agreement. If you elect to repeat a course at the Affiliate College, you must pay the out-of-state tuition at that college.

4. Enrollment in the program is limited. Students must submit their transcripts and application for admission to the Affiliate College by the established deadline. Check with the Admissions Office at the Affiliate College.

5. Federal financial aid may not be granted by more than one college during each enrollment period. If you are seeking financial aid, contact the Financial Aid Office at the Affiliate College.

6. MCC reserves the right to make changes in the program at any time.

Admission and Enrollment Steps for MCC Affiliate Program Students

New Affiliate Program Students, complete steps 1 through 6.

1. Complete an application for admission and take a placement test at MCC.

2. Complete an Affiliate Program Student Agreement form and present it in person at any MCC Student Records Office. This form is available at www.mcckc.edu or any MCC Student Records Office.

3. Complete and submit an application for admission to the Affiliate College Admissions Office. For selective admission programs you must be accepted by the program director before you can enroll in the classes.

Continuing Affiliate Program Students, complete steps 4 – 6

4. See the appropriate program advisor at the Affiliate College and register for degree-specific classes. See class schedule for registration information.

5. Pay tuition and fees at the Affiliate College.

6. If you are applying for financial aid, apply through the Financial Aid Office at the Affiliate College.
International Students

Application Procedure for International Students

To be considered for admission, all applicants must complete requirements listed below:

- Submit a $50 application fee in U.S. dollars. This is a non-refundable fee that will be applied to your first semester's tuition.
- Submit a completed Application for Admission for International Students. This form must be completely filled in and submitted by the prospective student.
- Bank Statement and Affidavit of Support.
- Official School Transcripts (translated to English).
- Transfer Clearance Form. If you are transferring from another U.S. school, you must also submit a Transfer Clearance Form. The International Student Advisor at the college you are now attending must fill it out.

TOEFL is not required for admission. Applied Language Institute. The Applied Language Institute offers comprehensive English as a Second Language instructional programs for academic, personal or professional reasons. Grammar, composition, reading/vocabulary and speaking/listening classes are available at the beginning, intermediate and advanced levels. Day and evening sections are offered. Students wishing to attend ESL classes must take the placement test given by the institute. For more information about enrollment requirements, program curriculum and class scheduling, call (816) 604-4041.

International Student Application Deadlines

Students from Overseas

Fall Semester (August-December) July 1
Spring Semester (January-May) December 1
Summer Semester (June-July) May 1

Students Transferring from Another U.S. School (must have written authorization from that school)

Fall Semester (August-December) August 1
Spring Semester (January-May) January 2
Summer Semester (June-July) May 15

For more information visit www.mcckc.edu/international.

Placement Testing

To help students succeed, most MCC students must take placement tests in reading, writing, and mathematics. Placement tests are required for the following groups of students:

1. All first-time students taking six or more credit hours.
2. Students who are not graduates of an accredited secondary school or who do not have a GED certificate.
3. Returning or transfer students taking six or more credit hours who have not successfully completed a college-level reading, English, and math course with a grade of C or better.
4. All students not tested previously who plan to enroll in reading, English, or math classes.

Additional Notes:

- Visiting students who have approval for enrollment from their home college will not be required to take the placement test.
- If a student has taken the ACT examination in the last two years, he or she may be able to use those scores in place of parts of the placement test. The student must submit the ACT scores to the Student Data Center, or bring an official score report when they come to test.
- It is the policy of Metropolitan Community College that all non-native speakers of English take the Applied Language Institute's English Placement Test. This test is only offered at the campuses. Students will be placed at the appropriate level of instruction in the Applied Language Institute based on the results of the English Placement Test.
- Students with disabilities who need testing accommodations must contact the Access Office before scheduling their placement tests.

Based on their test scores, all students will be placed in the appropriate reading, English, and math classes. Students with below college-level scores are required to take classes designed to improve their reading, writing, or math skills.

The reading, English, and math departments have set MCC's required entry-level standards for students. Students who wish to appeal these standards should contact the appropriate department chair.

Resident Classification

Student tuition and fees are determined by the following definitions and criteria.

Definitions

Domicile. A residence established with the intent of making that residence a permanent home for an indefinite period.

Residency or Resident Status. That status achieved after proving a residency has been established.

Adult Student. A student who is twenty-one years or older.

Unemancipated Minor Student. A student younger than twenty-one years and who is under the care, custody, or support of a parent or legal guardian.

Emancipated Minor Student. A student younger than twenty-one years but who is not under the care, custody, or support of a parent or legal guardian.

District. The Metropolitan Community College District includes the following Missouri school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee's Summit, North Kansas City, Park Hill, and Raytown.

District Resident. A person whose residence status is in the district.

Out of District Missouri Resident. A person whose residence status is in Missouri, but not in the district.

Out of State Resident (Non Resident). A person who lives in the United States, but not in the state of Missouri, or a foreign national who is in the United States on an approved student visa status.

Resident Status

Adult Student. If a nonresident adult student provides sufficient proof of the establishment of a domicile within the district, then that student will be considered a district resident at the next enrollment.

If a nonresident adult student provides sufficient proof of the establishment of a domicile within the state of Missouri but not in the district, then that student will be considered a nondistrict Missouri resident at the next enrollment.

Unemancipated Minor Student. MCC assumes that an unemancipated minor student lives with his or her parents or legal guardians. If the parents or legal guardians establish a domicile within the district, the student will be considered a district resident at the next enrollment.
Once an unemancipated minor student has established resident status under this rule, the student may continue to qualify for resident status as long as he or she is continuously enrolled at MCC (excluding summer terms). The student will retain this status even if his or her parents or legal guardians move outside of the district.

Emancipated Minor Students. The domicile of emancipated minor students will be determined as if they were adults. A minor may become emancipated through marriage, formal court action, abandonment or leaving the home of his or her parents or legal guardians. However, the mere absence of a student from the home of his or her parents or legal guardian does not prove emancipation. A student will not be eligible for emancipation as long as he or she is taken as an income tax deduction by someone other than a spouse.

Members of the Military. Students will not gain or lose their resident status because of military service.

The resident status of a military member on active duty assigned to a Missouri duty station is determined by the location of that station. The person's spouse and unemancipated minor children have the same resident status.

Foreign Nationals. The domicile of a resident alien determines resident status. A foreign national in a student visa status approved solely for the purpose of education is an international student. The residence of a foreign national in a visa status permitting enrollment in education determines resident status.

**Determining Resident Status**

Students are responsible for providing documentation supporting resident status.

**Evidence of Eligibility**

Attendance at an institution of higher education is considered as temporary presence in the district or the state of Missouri and does not establish resident status.

**Evidence of Domicile**

The following offers sufficient proof of domicile.

1. Presence within the district or the state of Missouri for a minimum of twelve immediate past, consecutive months with proof of intent to make the district or the state of Missouri a permanent home for an indefinite period.
2. Presence within the district or the state of Missouri for the purpose of retirement, or full-time employment, professional practice or to conduct a business.

**Supporting Evidence**

The following will be given significant weight, but will not conclusively prove establishment of domicile.

1. Continuous presence in the district or the state of Missouri during those periods when not enrolled as a student.
2. Marriage to a district or Missouri resident and maintenance of a common domicile with the resident spouse.
3. Substantial reliance on sources within the district or the state of Missouri for financial support.
4. Maintaining a domicile within the district or the state while absent.
5. Ownership of a home within the district or the state of Missouri.

**Other Evidence**

Although the following factors indicate an intent to make the district or state of Missouri a permanent home for an indefinite period, they will be given less weight than those in the previous section. These factors will help determine status only in borderline cases.

1. Voter registration.
2. Part-time employment.
3. Statement of intention to establish a domicile in the district or the state.
4. Automobile registration with an address in the district or the state.
5. Valid driver's license with an address in the district or the state.
6. Tax receipts from income, personal, and property taxes paid to the district or the state.

**Certifying Residency**

Each student must pay fees and tuition to Metropolitan Community College based on his or her resident classification. If there is any possibility the student may owe the district more in fees and tuition than what has been assessed, it is the student's responsibility to raise the issue during registration.

**Penalty for Giving False Residency Information**

The student's record will not be certified to any agency until he/she has paid the difference between the fees and tuition paid and the amount owed by a person of that resident status.

**Students in the Military**

For those who qualify, MCC provides a 100% tuition and textbook refund for students called into active duty or given military transfer orders who must withdraw from classes prior to completing the semester. Contact the campus registrar's office for refund information.
Tuition and Fees

The Metropolitan Community College Board of Trustees approves the schedule of tuition and fees annually. Your residency determines the amount you will be charged per credit hour. Residency must be established prior to the term start date.

In District Rate- To qualify for this rate you must reside in one of the following school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee’s Summit, North Kansas City, Park Hill or Raytown.

Out of District Rate- To qualify for this rate, you must reside in the state of Missouri and outside of the school districts listed above.

Out of State (Non-Resident)- You are considered a non-resident if you do not reside in Missouri or are a foreign national who is in the U.S. in an approved student visa status.

Financial Responsibility

As a student at MCC, you become financially obligated and responsible for paying all charges for tuition and fees by the due date. If your financial aid award, scholarship, or payment from an external source becomes unavailable for any reason, you are ultimately responsible for the balance.

Delinquent Accounts

Students who are delinquent in paying their account balance will receive warning notices informing them that they must pay their debts by a certain date or they will be turned over to outside collections. This includes placing the balance owed with the State of MO income tax intercept program and/or an outside collection agency. Students are responsible for all collection costs incurred.

Returned Checks

Students are responsible for paying all returned checks plus a $25 fee. Failure to do so may result in the check being turned over to the County Prosecuting Attorney’s office for collection. A financial hold will be placed on your account, which will restrict enrollment and the ability to receive a transcript. You will also lose check-writing privileges for one year.

District Residents 65 and Older

Any resident of the district who is 65 or older may attend classes on a space-available basis without paying tuition. Some classes require a lab or studio fee.

Loss or Damage to District Property

A student may be asked to reimburse the district for the loss of or damage to district property including unreturned rental books. For example, students must pay for unreturned library books. If payment is not made after a student receives written notice, the student will not be allowed to enroll in any MCC class, will not be allowed to check out any further property, and official college records, including transcripts and grades, will be withheld. Privileges will be reinstated once the debt is paid.

Tuition Payment Plan

Students in good financial standing with MCC are eligible to sign up for the payment plan. A non-refundable fee plus the first installment payment is required to enroll in the plan. This plan is available online at myMCCKC.mcckc.edu. The college will assess a fee for each late payment. Students who use the payment plan must follow the regulations for withdrawals and refunds. Students who withdraw from one or more classes are still required to pay all installments on time. Students who add classes to their schedule after executing a payment plan must pay all additional charges in full at that time.

Financial Aid

One goal of Metropolitan Community College is to make higher education available and affordable to all area residents regardless of their personal finances. MCC students can take advantage of a variety of grants, loans, scholarships and part-time employment programs to help pay for their education. The federal government and state of Missouri fund some of these programs, while others are supported by contributions made to the MCC Foundation Alumni Association, by private citizens and civic organizations.

Information is available about student aid programs, their eligibility requirements, how to apply and what expectations and responsibilities recipients must meet. Access the MCC website (www.mcckc.edu), visit any of the campus financial aid offices, or call one of the following numbers:

- MCC-Blue River (816) 604-6566
- MCC-Business & Technology (816) 604-5252
- MCC-Longview (816) 604-2066
- MCC-Maple Woods (816) 604-3066
- MCC-Penn Valley (816) 604-4066

Students completing the Free Application for Federal Student Aid (FAFSA) should use the following number for all MCC campuses: 002484. The FAFSA may be found on the web at www.fafsa.ed.gov.

To receive financial aid, you are expected to attend all classes on which the financial aid award is based. Award funds may be delayed if you do not attend the first class. If you stop attending all of your classes before completing 60% of the semester, you will owe money back to federal aid programs.

Refund Policy

To be eligible for a refund, students must officially drop their classes by the deadline in the Refund Schedule. Students may find the specific dates for the Refund Schedule in the Class Schedule each term. All refunds will first be applied to any debts the student owes to MCC.

Students receiving financial aid refunds should go online to myMCCKC for disbursement information.
Academic Information

Academic Standards

For each course taken for college credit, students earn grades that become part of their permanent records. Metropolitan Community College uses the following grading system:

- **A**: Superior performance.
- **B**: Highly satisfactory performance.
- **C**: Satisfactory or average performance.
- **D**: Unsatisfactory, but passing performance.
- **F**: Failure; unsatisfactory performance.

Withdrawal from class. This grade is given to a student who has either withdrawn from class during the second or third quarter of the term or who has been doing satisfactory work and withdrawn during the last quarter of the term.

- **S**: Average or satisfactory (C or above) performance for assigned work when a student chooses the satisfactory-unsatisfactory option. (This option is discussed in the following section.)

- **U**: Below average (D or F) performance for assigned work when a student chooses the satisfactory-unsatisfactory option. No credit or grade points are assigned. (The satisfactory-unsatisfactory option is discussed in the following section.)

- **P**: Passing or better performance in continuing education or noncredit courses.

Incomplete work. A student receives this grade when he or she has completed all but a small part of the required coursework. The instructor decides if there is an acceptable reason (for example, a serious illness) why he or she hasn’t completed all of it. If the student makes up the work during the following semester, the instructor will change the incomplete to a letter grade. If the work isn’t made up, the incomplete will become an F on the student’s permanent record.

- **Au**: Audit. A student may choose to audit a class but receive no credit for it. The decision to audit must be made at registration.

Grade Reports

Final grade reports can be accessed online at myMCCKC.

Audit

Students may elect to audit a course rather than receive a grade. Students must pay the regular fee, but are not expected to complete assignments or take tests. Class attendance is optional. To sign up for an audit, students must complete a form from the records office at time of enrollment.

Note: Financial aid is not available for audited classes.

Satisfactory- Unsatisfactory Option

Each semester, students may select one course to receive either a satisfactory or unsatisfactory mark rather than a traditional letter grade. If they do average or better work (A, B, or C), they receive an S. They receive a U for less than average work (D or F). Students may only apply 15 credit hours of S marks toward a degree.

To sign up for the satisfactory-unsatisfactory option, students must fill out a form from the records office before the end of the first quarter of the class.

Scholarship Points

These are number values assigned to each letter grade that help determine a student’s grade point average.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Scholarship Points Per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>W (withdrawal)</td>
<td>0</td>
</tr>
<tr>
<td>S (satisfactory)</td>
<td>0</td>
</tr>
<tr>
<td>U (unsatisfactory)</td>
<td>0</td>
</tr>
<tr>
<td>P (passing)</td>
<td>0</td>
</tr>
<tr>
<td>Au (audit)</td>
<td>0</td>
</tr>
</tbody>
</table>

Grade Point Average (GPA)

To determine a student’s GPA, multiply the number of credit hours for each course by the number of scholarship points assigned to that grade. Add together the scholarship points from all classes and then divide that figure by the total number of credit hours attempted. When calculating GPA, do not include classes for which a student has received a W, P, I, S, U or Au or when duplicate courses have been repeated. The GPA does not include courses that have been excluded under academic forgiveness.

Repeating Classes

Students may repeat a class to try to improve their grades. Although all the grades earned in a particular course will be included on their MCC academic record, only the last grade will be used to determine GPA. Other colleges and universities may have different policies. There may be limits on the number of times a student may repeat the same class.

Final Exams

Final exams are given in all MCC classes, and students must take them. Toward the end of each semester, the administration at each MCC campus puts together a final exam schedule for all faculty members and students.

A student who has done satisfactory course work but who misses the final exam may be allowed to make it up if the instructor believes the reason for missing the exam was reasonable. However, if a student misses the exam and has no reasonable explanation for missing it, the instructor may give the student an F.

Students who can’t take a final exam because of illness or another valid reason should take the following steps:

1. Notify the instructor as soon as possible and provide a reason for their absence so the instructor can give them a grade of Incomplete (I).
2. Make up the final exam as soon as possible to remove the grade of Incomplete (I).

Grade Change

A change in a student’s grade will be made only in extraordinary circumstances.

A grade change may be made by the instructor during the three instructional terms following the assignment of the grade. After this period, a grade change may be made only with the approval of the instructor and the dean of instruction.

When the instructor is unavailable or unable, the division chair may initiate a grade change with the approval of the dean of instruction and the president.

Honors

An honor student must be enrolled in six semester hours or more and have a semester grade point average of 3.5 or higher for all courses in which scholarship points were earned. Each campus also has its own special honors programs. For more information, contact the academic advisors or counselors at the appropriate MCC campus.

Satisfactory Academic Progress

Students must maintain a certain grade point average and progress toward degree or certificate completion in order to continue enrollment.

All Federal financial aid recipients and some other scholarship recipients must meet specific standards for satisfactory academic progress. Students are advised to become familiar with the requirements of their scholarships and to seek assistance from the campus financial aid office or to refer to the Financial Aid Handbook at www.mcckc.edu.
Academic Record

The college keeps an official academic record for each student, which includes the following:

1. The student’s cumulative record including directory information, a list of all the courses the student has been enrolled in, the grades and scholarship points for those classes, the number of credit hours the student has attempted and earned, the cumulative grade point average, honors earned by the student and degrees or certificates the college has awarded to the student.
2. The student’s degree plan.
3. The student’s high school transcript and/or transcripts from other colleges and universities.

All items are kept in compliance with federal and state regulations.

According to federal law, the only people who have access to student records are MCC faculty and staff members carrying out the business of the college. This includes those who maintain the student’s records, counsel the student or provide academic advice.

Academic Intervention and Support

Students whose grade point average falls below 2.0 will be offered academic intervention and support. Students whose grade point average consistently remains below 2.0 even after academic intervention and support may be subject to additional intervention including academic restrictions, academic probation, and finally, academic exclusion for one semester.

Academic Renewal

Students may be eligible to have past poor academic performance excluded from calculation of current academic progress at MCC. Students requesting academic renewal may have grades earned at least five years prior to such a request eliminated from calculation of their current grade point averages at MCC. Other colleges and universities may have different policies.

Academic Integrity

MCC, as an academic community, expects all administrators, faculty, staff and students to behave as responsible members of the college community and to be honest and ethical in their academic work. To falsify or fabricate the results of one’s research; to present the words, ideas, data, or work of another as one’s own; or to cheat on an examination corrupts the essential process of higher education.

Students assume full responsibility for understanding and complying with MCC standards for academic integrity. If academic dishonesty is demonstrated, students may be subject to failure in an assignment, a course, or subject to even more severe consequences, including expulsion from MCC.

For more information on penalties and procedures related to academic dishonesty, see the Student Code of Conduct.

Transcripts

MCC will provide transcripts of a student’s academic record after receiving a written or on-line request. Official copies of the transcript, which bear the MCC seal, will be sent directly to other colleges and universities. MCC charges no fee for providing transcripts requested on-line.

Credit by Certification

Credit for noncollege experience may be given to entering freshmen and other students who meet certain certification guidelines. However, only experiences that relate specifically to a program offered by MCC will be eligible for certification credit.

Credit by Examination

Entering freshmen and other students may be given credit in certain subjects by passing examinations. Only 30 semester hours of credit may be earned this way.

Credit for Advanced Standing

Courses taken at other colleges and universities become part of a student’s permanent record. However, only courses equivalent to those in a student’s MCC program will be applied toward an MCC degree or certificate.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 (FERPA) was enacted to protect student privacy and to provide for the right to inspect and review education records. More detailed information on MCC’s FERPA policies can be found on page 15.

Attendance

The college expects students to attend every meeting of every course they’re enrolled in. If attendance is a problem, MCC may dismiss a student from class for the following reasons:
1. If a student has been absent for two consecutive weeks or the equivalent time period during a shorter term.
2. If the student has missed one-third of sessions scheduled for the class that semester.

In some cases, due to the subject matter of the course, an instructor may enforce an even stricter attendance policy. However, if a student has a valid reason for being absent, he or she should consult with the instructor who may grant the student permission to make up the work.

Attendance-Financial Aid

To receive financial aid, you are expected to attend all classes in which the financial aid award is based. Award funds may be delayed if you do not attend the first class. If you stop attending all of your classes before completing 60% of the semester, you will owe money back to federal aid programs.

Dropping a Course

Students may drop classes at any time throughout the semester; however, they must officially withdraw from classes by dropping the class through myMCCKC. Student officially withdraws from a class during the final quarter of the term students who withdraw will receive a W if they’re passing the class or an F if they’re failing. During the first quarter of the class, a withdrawal removes the class from the transcript. In the second or third quarter, a withdrawal assigns a W to the class.

NOTE: Students are responsible for withdrawing from courses they stop attending.
Withdrawal from College

Students who want to withdraw from all classes before the end of the semester should officially withdraw by dropping their classes through myMCCKC. The date the withdrawals are processed becomes the official date of withdrawal on a student's permanent record. That date may determine the student's semester grades. For example, if a student withdraws from a class during the last quarter of the semester and he or she is doing unsatisfactory work, then the recorded grade will be an F.

Students who receive federal or state financial aid, including loans:

If you stop attending all of your classes before completing 60% of the semester, you owe money back to the aid program(s).

Students are responsible for withdrawing from classes they stop attending. A student who fails to officially withdraw might receive an F for the class.

Student Load

A full load is carrying at least 12 credit hours during the fall and spring semesters and at least six hours during the summer term. However, if students want to complete 62 credit hours and earn an associate's degree in four semesters, they must take 15 or 16 hours each semester. For some programs requiring more than 62 credit hours, students may need to take 18 hours each semester.

Students with unsatisfactory academic records may be limited to taking less than a full load. However, students with superior records may receive permission to carry more than 18 hours.

Student Conduct

Metropolitan Community College expects students to conduct themselves in a manner appropriate for an educational setting. This includes complying with federal, state and municipal laws prohibiting certain activities in general and others that pertain to public school property and college-sponsored functions. Students who act inappropriately or who show disruptive behavior may be disciplined by MCC as well as face criminal charges.

Weapons including firearms, whether visible or concealed, shall not be permitted on district facilities or at district events. No person shall possess or carry any weapon as defined in Section 571.010, RSMo. including a firearm, whether concealed or visible, on district property. This prohibition shall also apply to vehicles on district property unless any such vehicle is operated by a commissioned police officer.

In addition to demonstrating honesty and integrity, students are expected to comply with all policies, regulations and procedures of Metropolitan Community College. They should follow the college traffic code and the directions of all college representatives acting in an official capacity.

For more complete information about the Student Code of Conduct, please consult PRP7.35010 in the Metropolitan Community College manual of Policies, Regulations, and Procedures, which is available online, or from the office of the dean of student development.

Student Disciplinary Procedure

A student who is charged with misconduct which requires disciplinary action will be required to meet with the appropriate dean. The student may request a hearing by committee. This request is made through the dean of student services. The committee will determine if the misconduct charge is justified and if disciplinary action is appropriate. The committee also may recommend to the college president how the student should be disciplined.

Student Grievances

According to MCC regulations and procedures, a student who has complaints about a course should first talk with the instructor or instructors involved. If the issue cannot be resolved, then the student should go to the appropriate division chairperson. If the student is still not satisfied, then he or she should discuss the situation with the dean of instructional services. If the problem persists at this level, then the dean of instructional services will appoint a faculty committee to resolve the issue.

Students who have complaints about issues outside the classroom should see the dean of student services.
Student Services

Academic Advising

Academic advisors are available to assist students with selecting classes and creating schedules each semester or term as needed. Advisors help students access MCC programs and services. They are also familiar with the academic programs and transfer requirements of the colleges and universities to which MCC students transfer. They provide valuable assistance to students throughout their stay at MCC.

For those interested in transferring, the counseling or development center has large catalog collections from four-year colleges and universities as well as information about requirements needed for specific programs at other area institutions.

Student Employment Services

Make the connection between school and work with Student Employment Services. This office provides resource materials, computers, and expert advice on resumes, cover letters and interview questions. Preparing for the next career step is important and SES Coordinators are available to make individual appointments to assist with students’ unique situations.

Opportunities on Project HIRE, the MCC Internet job bank, are easily accessed at www.projecthire.net and includes links to Kansas City’s largest employer web sites. Watch for campus career fairs, a great way to network with company representatives, along with internships; available throughout the year. SES also helps students looking for work on-campus whether it is for Federal Work Study or regular student jobs, a convenient way to go to school and earn extra money.

Students should consider visiting their closest MCC-Student Employment Services office before graduation to help with job decisions.

Counseling

MCC’s professional counselors are available to assist students with their career, educational, and personal concerns. Students may schedule individual conferences with counselors.

As part of the enrollment process at MCC, students can talk with a counselor who will help them select a program of study that best fits their interests, values and career goals. Then, throughout their stay at MCC, the college encourages them to meet regularly with their counselors or advisors to further discuss their educational progress and future plans. Inventories that help students assess their skills, interests, values and personality style for career planning purposes are available through the counseling or development center.

Support Services

Child Care Centers

So parents with small children can attend classes, MCC provides child care centers at MCC-Maple Woods and MCC-Penn Valley. Educational programs are also available for children age two-and-a-half to five. For more information, call the centers:

MCC-Maple Woods (816) 604-8780
MCC-Penn Valley (816) 604-4142

Every full-time staff person at the child care centers is trained in early childhood education. MCC-Penn Valley offers its own program in Child Growth and Development. Call (816) 604-4539 to learn more about the program.

Parking

A parking sticker is required to park on campus. Obtain a free sticker at the campus Public Safety Office (at Blue River, the information desk).

Textbooks and College Bookstores

MCC provides a bookstore at each of the district campuses. These stores are operated according to guidelines and policies approved by the Chancellor and the Board of Trustees.

Book costs are determined by the publishers of each title and MCC uses an industry standard markup on new textbooks to cover the costs of operating the bookstores. A full-time student should expect to pay $300-$700 per semester for textbooks. At the end of each semester, the bookstores hold a textbook buyback where texts being used for the next semester may be purchased from the student for approximately 50% of the new text price. Those texts will then be available for students to purchase for the next semester.

In an effort to control the rapidly rising costs of textbooks, MCC has implemented a textbook rental program for selected classes using a tiered pricing structure. Students may rent a book, use it for the semester and return it in resalable condition to the bookstore before the posted deadline. Check with each store to see which classes have rental textbooks available.

For more information regarding MCC’s bookstores and their policies, go to www.bookstores.mcckc.edu

College Libraries

Metropolitan Community College (MCC) libraries provide a variety of resources and services to assist students in their research needs. More than 70 online databases provide access to magazine, journal, and newspaper articles, plus reference information on current events, careers, law, health, history, science, business, literature and more. These databases may also be accessed by students from computers off-campus.

Each library has a collection of books and periodicals for class work, research, and leisure reading; video, and audio. Students attending one campus can use materials from any of the other MCC libraries. Borrowing procedures are similar on all campuses.

The MCC libraries belong to MOBIUS (Missouri Bibliographic Information User System), a consortium of over 60 academic libraries in the state. Through MOBIUS, library users have access to over 18 million items.

Our local MOBIUS cluster is WILO (Western Inter Library Organization), which is made up of the libraries of MCC, Avila, Kansas City Art Institute, Midwestern Baptist Theological Seminary, Rockhurst, St. Paul School of Theology, and William Jewell. Books from these libraries can be obtained using your library card or through the library interlibrary loan service.

The library staff includes professional librarians who provide assistance in reference and research. The libraries offer computers for access to the databases, the book catalog, and the Internet, as well as space for individual study or research.

More information is available at the MCC Library website, which is located at http://mcckc.edu/library. Individual campus libraries can also be accessed through this site. Reference assistance is also available online through “Reference Librarian Chat.”

Computer Lab Services

All MCC campuses provide computer labs for student use — including Internet access — although some are restricted to specific programs such as math and science. Check with each campus for more information about hours of operation and available services.

E-mail Access

All MCC students taking classes for credit will be given an e-mail address and have access to e-mail messages. This allows them to electronically communicate with instructors, other students, MCC’s many student service providers, and others. A copy of the student e-mail policy is available at www.mcckc.edu.
Disability Services

Each MCC campus has an Access Office that provides assistance for any student with documented physical, learning, psychiatric, brain injury, or other disabilities at no cost above tuition/fees. Arrangements can be made for aids and adjustments to help ensure equal access to programs and services. Please apply for services at least a month before enrolling, so that accommodations can be arranged in a timely manner.

For more information, or to make an appointment, call:

- MCC-Blue River (816) 604-6651
- MCC-Business & Technology (816) 604-3192
- MCC-Longview (816) 604-2254
- MCC-Maple Woods (816) 604-3192
- MCC-Penn Valley (816) 604-4089

For relay calls, dial 711.

For more information, visit the MCC website at: www.mcckc.edu/access.

ABLE Program

The ABLE program (Academic Bridges to Learning Effectiveness), offered at Longview and Penn Valley, provides a more intensive level of services for students with Learning Disabilities (LD), Traumatic Brain Injuries (TBI), autism spectrum disorders (ASD) and other neurological diagnoses to help students make the transition into college. A learning disabilities specialist works individually with each student to design a program that fits his or her needs. The student also takes special courses to learn basic skills, communication skills, and college survival strategies.

By providing a structured curriculum, as well as extra counseling and academic support, the ABLE program gives students a solid foundation for success. Additional fees are charged for students opting to enroll in this program. For information about ABLE, call Longview at (816) 604-2053 or Penn Valley at (816) 604-4717.

Visit the ABLE website at

www.mcckc.edu/programs/able.html

Learning Assistance Centers

Each campus has a learning assistance center or teaching/learning center where students can receive individual or small-group tutoring for many of their courses. Daily labs are scheduled to provide help with writing, math and accounting either on a walk-in basis or by appointment. Math study groups and computer-assisted instruction are also available.

Other noncredit services are offered to help students improve their study skills. These include listening and note-taking, reducing test anxiety, test-taking strategies and research paper pointers. All of these services are provided free to currently enrolled students.

Reading Centers

Reading centers also offer MCC students services such as diagnostic testing, tutoring and special classes. These reading classes range from basic skill building in word recognition and spelling to advanced levels of critical and speed reading. Programs can be designed to fit a student's special needs. For more information about MCC's reading study centers, call the following campuses:

- MCC-Blue River (816) 604-6770
- MCC-Longview (816) 604-2665
- MCC-Maple Woods (816) 604-3309

www.mcckc.edu/tutoring

Reentry Programs

For adults who have been away from school for several years, MCC has special reentry programs to make the transition from working or homemaking back to the classroom as easy as possible. Reentry students receive individual attention from counselors and advisors and referrals to special MCC services. For instance, the Reentry Center at Longview provides a place to connect with other adult students, have a hot beverage, and get answers to questions from the Reentry staff. Some campuses also offer a four-credit section of ENGL 101 designed to make the transition to college easier by teaching composition as well as college success skills. At all campuses, a counselor oversees a special tuition and child care grant program for single parents and displaced homemakers.

To find out more about these programs, call the campuses at the following numbers:

- MCC-Blue River (816) 604-6577
- MCC-Longview (816) 604-2237
- MCC-Maple Woods (816) 604-3095
- MCC-Penn Valley (816) 604-4089

Project Success

The Student Support Services program (SSS) at Penn Valley is one of the Federal TRIO programs funded through the U.S. Department of Education. SSS is appropriately called Project Success on the Penn Valley campus. Project Success is designed to encourage the success of 250 low-income, first generation college students or persons with a documented disability each academic year by providing:

- academic tutoring that supplements the classroom experience,
- transfer coordination to expose the participants to the opportunities that await them at four-year colleges and universities,
- counseling to provide academic assistance and assist with managing the daily stress,
- cultural enrichment to extend the social dimensions of the participants served,
- workshops to teach and/or strengthen skills needed for success.

These expanded services increase the likelihood of success. Call the Project Success office, (816) 604-4313, to schedule an appointment or visit its website:

www.mcckc.edu/pennvalley/success
Campus Life and Leadership

The mission of Campus Life and Leadership is to complement the academic program and enhance the sense of community on campus. This goal is accomplished by providing opportunities for students to develop, implement and participate in social, cultural, intellectual, recreational, governmental, and community service programs and events. These co-curricular experiences provide students with leadership skills that can be utilized in future educational, community and professional work environments.

Campus Life and Leadership also sponsors leadership and other activities throughout the year. For specific clubs and organizations, opportunities for involvement or how to start a club or organization, contact the Office of Campus Life and Leadership at your campus.

Athletics

MCC offers students the chance to participate in intramural sports and recreational sports. In addition, four campuses are involved in intercollegiate athletics. As members of the Region XVI National Junior College Athletic Association (NJCAA), MCC-Longview and MCC-Maple Woods field baseball teams. MCC-Longview also competes in volleyball and cross-country for women, while MCC-Maple Woods offers women’s softball. MCC-Penn Valley, which is a member of the Greater Kansas City Community College Conference, and NJCAA has men’s and women’s basketball teams. In addition, MCC-Blue River and MCC-Maple Woods offer men’s and women’s soccer.

Fitness Centers

The MCC campuses have fitness centers. Students pay a small fee to use the centers each term. All feature excellent equipment, locker rooms, towel service, fitness coordinators and a variety of fitness, aerobics and wellness classes. In addition, the MCC-Longview recreational center includes a huge swimming pool. Since each campus has its own use and operating procedures, please call the following numbers for more information.

MCC-Longview (816) 604-2400
MCC-Maple Woods (816) 604-3555
MCC-Penn Valley (816) 604-4222

Kansas City Area Student Exchange

If MCC doesn’t offer a course a full-time student (one enrolled in at least 12 credit hours) wants to take, then he or she may enroll in that course at another area college without paying additional fees. The following area colleges belong to the Kansas City Area Student Exchange (KCASE): Avila College, Kansas City, Mo.; Kansas City Art Institute, Kansas City, Mo.; Park College, Parkville, Mo.; Rockhurst University, Kansas City, Mo.; and the University of Missouri-Kansas City, Mo. Contact the admissions and records office at any of the MCC campuses for more information.

Educational Opportunity Center (EOC)

The Educational Opportunity Center provides prospective college students with college selection and admissions guidance, scholarship search, assistance in completing the Free Application for Federal Student Aid (FAFSA), career counseling, default student loan counseling, and GED referral and placement. Students already enrolled in college may also take advantage of these services. All services are free.

The EOC is funded by the U.S. Department of Education. The center is located at 3100 Main, Suite 100, Kansas City, MO 64111. For more information about EOC or to make an appointment with a counselor, call (816) 604-4400.
Business & Learning Solutions

MCC Business & Learning Solutions provides customized solutions to workplace issues for business and industrial clients in and around Greater Kansas City. Seasoned performance consultants help each employer identify the company’s needs, tailor a training program or consulting service to suit those needs, and deliver a solution that will improve the company’s bottom line. The consultants, who have a proven record of success merging academic style with business acumen, are full-time subject matter experts in the fields of Assessment, Manufacturing Technology, Quality, Environmental Health & Safety, and Organizational Training & Development.

MCC Business & Learning Solutions is uniquely positioned to draw on the resources and facilities of MCC while still being able to partner with businesses in a way that extends beyond the normal realm of a community college, including providing the opportunity for participants to earn college credit. Additionally, with its workforce focus and a unique collaboration with the State of Missouri, the Business & Learning Solutions team is often able to help businesses secure state funding for their training initiatives. Long-standing clients include Harley-Davidson, Ford, Honeywell, and many others.

Cancellation of Classes

The campuses may find it necessary to cancel classes because of insufficient enrollment or other circumstances. Whenever possible, a class will be cancelled before the first meeting and enrolled students will be notified. If a suitable alternate course isn’t available, students will receive a complete refund of tuition and fees for the canceled courses.

Compliance With Federal Laws and Regulations

Certification of Accuracy

I certify that the statements in this catalog are a true and accurate representation of the policies of Metropolitan Community College.

Jacqueline I. Snyder
Chancellor

Nondiscrimination

This public “NOTICE OF NON-DISCRIMINATION” is required by several federal laws and regulations including those implementing Title VI, Title VII, Title IX, Americans with Disabilities Act, Section 504 and the Age Discrimination Act. This notice serves to inform all members of the Metropolitan Community College faculty, staff, student body and guests, that Metropolitan Community College prohibits discrimination on the basis of race, color, religion, sex, sexual orientation, age, birth, ancestry, national origin, or disability in admissions; educational programs, services, or activities; and employment. Following are the applicable federal and state Civil Rights laws that prohibit discrimination:

Title I of the Americans with Disabilities Act of 1990 prohibits employment discrimination against qualified individuals with disabilities by employers with 15 or more employees. The U.S. Equal Employment Opportunity Commission and the Office for Civil Rights are the agencies assigned to enforce Title I of the ADA.

Title II of the Americans with Disabilities Act of 1990 prohibits disability discrimination by public entities, including public colleges and universities whether or not they receive federal financial assistance. The Office for Civil Rights (U.S. Department of Education) is the law enforcement agency charged with enforcing Title II of the ADA.

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in any program or activity receiving federal financial assistance. Programs and activities that receive federal financial assistance from the United States Department of Education are covered by Title VI. The Office for Civil Rights (U.S. Department of Education) is the law enforcement agency charged with enforcing Title VI.

Title VII of the Civil Rights Act of 1964 protects individuals against unlawful employment practices based on their race, color, sex, and national origin. The Civil Rights Act of 1991 significantly extended plaintiffs’ rights under Title VII. The U.S. Equal Employment Opportunity Commission is the law enforcement agency charged with enforcing Title VII.

Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs or activities and extends to employment and admission to institutions that receive federal financial assistance. The Office for Civil Rights (U.S. Department of Education) is the law enforcement agency charged with enforcing Title IX.

Age Discrimination Act of 1975 protects people from discrimination based on age in programs or activities receiving federal financial assistance. The U.S. Equal Employment Opportunity Commission is the law enforcement agency charged with enforcing the ADA of 1975.

Age Discrimination in Employment Act of 1967 protects individuals who are 40 years of age or older. The U.S. Equal Employment Opportunity Commission is the law enforcement agency charged with enforcing the ADEA.


Equal Pay Act of 1963 protects men and women who perform substantially equal work in the same establishment from sex-based wage discrimination. The U.S. Equal Employment Opportunity Commission is the law enforcement agency charged with enforcing the EPA.

Section 504 of the Rehabilitation Act of 1973 protects people from discrimination in admission, employment, treatment, or access based on disability in programs or activities receiving federal financial assistance. The Office for Civil Rights (U.S. Department of Education) is the law enforcement agency charged with enforcing Section 504.

Executive Order 11246 requires certain government contractors to engage in affirmative action and to not discriminate based on race, sex, or national origin. The Office of Federal Contract Compliance Programs (U.S. Department of Labor) is the agency charged with enforcing EO 11246 and ensuring that federal contractors are in compliance.

COLLEGE NONDISCRIMINATION STATEMENT:

The College’s nondiscrimination statement, cited below, prohibits discrimination and harassment against individuals based on characteristics protected under federal and state law, as well as on the basis of sexual orientation. The college also prohibits retaliation based upon reporting of such violations.

Metropolitan Community College is committed to a policy of nondiscrimination on the basis of race, color, religion, sex, sexual orientation, age, birth, ancestry, national origin, or disability in admissions; educational programs, services, or activities; and employment; as specified by federal laws Title VI; Title VII; Title IX, section 504; the Americans with Disabilities Act; and state laws and regulations.

Metropolitan Community College
Americans with Disabilities Act

Metropolitan Community College complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act which prohibit discrimination in admission or access to its programs based on disability. Each MCC campus has an Access Office that provides special services for students with documented disabilities. Arrangements can be made for aids and adjustments to help ensure equal access to programs and services. The campus Access Office also has information regarding the existence and location of services, activities, and facilities that are accessible to and usable by persons with disabilities.

Inquiries may be addressed to:

**MCC-Blue River**
Jon Burke, Dean of Student Development, 20301 E. 78 Highway, Independence, Missouri 64057-2053; telephone (816) 604-6620

**MCC-Business & Technology**
Karen Moore, Associate Dean of Student Services, 1775 Universal Avenue, Kansas City, Missouri 64120-1318; telephone (816) 604-5229

**MCC-Longview**
Janet Cline, Dean of Student Development, 500 SW Longview Road, Lee’s Summit, Missouri 64081-2015; telephone (816) 604-2326

**MCC-Maple Woods**
Shelli Allen, Dean of Student Development, 2601 NE Barry Road, Kansas City, Missouri 64156-1299; telephone (816) 604-3175

**MCC-Penn Valley**
Lisa Minis, Dean of Student Services, 3201 Southwest Trafficway, Kansas City, Missouri 64111-2764; telephone (816) 604-4114

Inquiries may also be addressed to the Assistant Secretary for Civil Rights, U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202-1100; telephone 1-800-421-3481.

For relay calls dial 711.

Federal citations:
The regulations implementing Title VI, Title IX, Section 504, the Age Discrimination Act, and Title VII contain requirements for recipients to issue notices of nondiscrimination. 34 C.F.R. Sections 100.6(d), 106.9, 104.8, 110.25, 41 C.F.R. Sections 60-1.42(a), respectively. The Title II regulation also contains a notice requirement that applies to all units of government, whether or not they receive federal aid. (See 28 C.F.R. Section 35.106.)

MCC is an equal-opportunity employer.

Inquiries concerning MCC’s compliance may be addressed to the following persons:

**MCC District**
Carolyn Baskett, Associate Vice Chancellor of Human Resources, 3217 Broadway, Kansas City, Missouri 64111-2429; telephone (816) 604-1166

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For relay calls dial 711.
Sexual Harassment

Metropolitan Community College strongly believes that the classroom and workplace should be free of sexual harassment, including unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct or communication of a sexual nature. Sexual harassment will not be tolerated either in the classroom or in the workplace. Sexual harassment is prohibited by Federal and State law as well as Board of Trustee Policy. Anyone found to be in violation of such laws or policy will be subject to serious disciplinary action, including expulsion and termination. If you have questions or believe that you have been subjected to sexual harassment, you should contact the college counseling department or the dean of students office listed on page 22.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 (FERPA) was enacted to protect student privacy and to provide for the right to inspect and review education records. In compliance with FERPA (Public Law 93-380) and with Board Policy and District Regulation 7.30010, MCC has established the following with respect to students’ education records:

1. Students are guaranteed the right to inspect and review their education records, and the right to request amendment of records they believe to be inaccurate or misleading. MCC also guarantees that a student’s written consent will be obtained prior to releasing personally identifiable information from education records, other than basic directory information.

2. Basic directory information is not required by law to be restricted; however, the college does not release this information except for evident valid reasons. Directory information means information contained in an education record of a student that would not generally be considered harmful or an invasion of privacy if disclosed. It includes, but is not limited to, the student’s name, address, telephone listing, electronic mail address, photograph, date and place of birth, major field of study, dates of attendance, grade level, enrollment status (e.g., undergraduate or graduate, full-time or part-time), participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees, honors, and awards received, and the most recent educational agency or institution attended. Students who desire to restrict any of the above directory information must apply in writing to the college records office at the time of enrollment each semester.

3. Certain exceptions to this policy exist when the disclosure of information from an education record is to school officials with legitimate educational interest, to other schools to which a student is transferring, to specified officials for audit or evaluation purposes, to appropriate parties in connection with financial aid to a student, to organizations conducting certain studies for or on behalf of the school, to accrediting organizations, to comply with a judicial order or lawfully issued subpoena, to appropriate officials in cases of health and safety emergencies, or in other circumstances allowed by FERPA.

4. MCC designates a school official as a person employed by the college in an administrative, supervisory, academic or research, or support staff position (including law enforcement personnel); a person or company with whom the college has contracted as its agent to provide a service instead of using college employees or officials (such as an attorney, auditor, collections agent, or organization such as the National Student Clearinghouse); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the college.

5. Upon written request to the college registrar, students may inspect information in their education record and will be given the opportunity to request amendment of any records they consider inaccurate or misleading. If necessary, college regulations and procedures provide for a hearing process.

6. Students have the right to file a complaint with the Family Policy Compliance Office in Washington, D.C., which handles FERPA complaints.

Nonimmigrant Alien Students

Metropolitan Community College is authorized under Federal law to enroll nonimmigrant alien students.

Drug Free Schools and Communities Act

Metropolitan Community College subscribes to the Drug Free Schools and Communities Act. Board policy expressly forbids the possession, use and/or distribution on college premises of alcohol, illegal drugs and all other controlled substances. Metropolitan Community College will distribute annually to all students and employees information about its drug prevention program, including information relative to college sanctions for violation of the board policy, legal sanctions, health risks and drug and alcohol counseling, treatment and/or rehabilitation programs.

Right to Know

MCC complies with the provisions of “The Crime Awareness and Campus Security Act of 1990.” A provision of this act requires higher education institutions to provide students an annual report that contains occurrences of criminal offenses and arrests on campus and adjacent public property. This report is available at www.mccck.edu/crime年报. html website. For a printed copy, please call (816) 604-1070 or stop by the campus public safety offices.

Other Information

Other information which must, according to Federal laws and regulations, be included in this catalog may be found on the pages indicated.

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You may request information from one of the offices listed below:

Admissions Coordinator
MCC-Blue River
Telephone (816) 604-6548
20301 East 78 Highway
Independence, MO 64057

Outreach Coordinator
MCC-Business & Technology
Telephone (816) 604-5216
1775 Universal Avenue
Kansas City, MO 64120-2427

Admissions Coordinator
MCC-Maple Woods
Telephone (816) 604-3167
2601 NE Barry Road
Kansas City, MO 64156-1299

Admissions Coordinator
MCC-Blue River
Telephone (816) 604-6548
20301 East 78 Highway
Independence, MO 64057

Admissions Coordinator
MCC-Penn Valley
Telephone (816) 604-4623
3201 Southwest Trafficway
Kansas City, MO 64111-2764
Continuing and Community Education

Continuing Professional Education: Get Ready for Work

MCC Continuing Professional Education provides a diversity of offerings and formats for people who want or need to update their skills or expand their skill sets.

Healthcare
- Pharmacy Technician certification
- Phlebotomy certification
- Certified Nurse Assistant (CNA) certification
- Certified Medication Technician (CMT) certification
- CNA and CMT challenge examinations
- Insulin Administration
- Certified Restorative Nurse Assistant
- Level I Medication Aide

Information Technology
- Microsoft Certified Application Specialist
- Microsoft Certified Desktop Support Technician
- Microsoft Certified System Analyst
- Microsoft Certified System Engineer
- Microsoft applications training
- Microsoft Certified Project
- A+ certification
- Net+ certification

Green/Energy
- Deconstruction – Basics and Crew Chief
- Asbestos and Lead Abatement
- National Sustainable Building Advisor Program
- Certified Indoor Air Quality Manager (online)
- Certified Indoor Environmentalist (online)
- Biofuel Production Operations (online)
- Wind Energy Apprentice (online)
- Natural Gas Plant Operations (online)
- Senior Certified Sustainability Professional (online)
- Certified Green Supply Chain Professional (online)

Safety
- OSHA Training Institute Education Center
- Environmental Health & Safety

Technical Skills
- Welding
- Gas Utility Technician

Plus 50 Initiative
- BoomerBlast 2010
- Encore Career Workshop

Transportation
- CDL-A Truck Driver Training
- Railroad Conductor Training

Online Courses
- Healthcare, Nutrition and Fitness
- Business and Professional
- IT and Software Development
- Media and Design
- Hospitality and Gaming
- Skilled Trades and Industrial
- Sustainable Energy and Going Green
- Accounting
- Entrepreneurship
- Writing and Publishing
- Criminal Law, Legal Careers and Enforcement
- Sales and Marketing
- Grant Writing and Non-Profit Management

MCC-Longview
(816) 604-2030; mcckc.edu/lvcommed
- Adult leisure
- College for Kids/TeenLink
- ACED (classes for adults with developmental disabilities)
- FOCIS (divorce education classes)

MCC-Blue River
(816) 604-6518; mcckc.edu/brcommed
- Driver’s education
- Computer classes
- C.E.R.T. emergency response training
- Spanish classes
- Online classes for business and personal interest
- Personal interest (exercise, art, life experiences)
- ACED (classes for adults with developmental disabilities)
- Ed2Go online classes

Community Education:
Leisure and Lifelong Learning
MCC Community Education offers lifelong learning opportunities for the enrichment, education and enjoyment of our neighbors.

MCC-Maple Woods
(816) 604-3011; mcckc.edu/mwcommed
- Motorcycle safety
- College for Kids
- Storytelling
- College Experience for Adults with Developmental Disabilities
- Spanish classes
- Computer classes
- Professional development
- Ed2Go online classes
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graduation requirements.
Transfer Degree Programs

Degrees

Metropolitan Community College awards five degrees that can be transferred to a four-year college or university. They are:

- Associate in Arts
- Associate in Arts Teaching
- Associate in Computer Science
- Associate in Engineering
- Associate in Science

These transfer degree programs are described on the following pages. NOTE: Transfer requirements vary for different majors and/or for different four-year colleges and universities. In some cases, an associate degree equals the first two years of a bachelor’s degree, while in other cases, an associate degree may not be necessary to transfer. Therefore, it’s very important for students to meet with an advisor or counselor early on to make sure they’re enrolling in classes that will transfer. Students are also encouraged to select as soon as possible the four-year college or university where they’ll complete their bachelor’s degree as well as their major area of study.

Degree Graduation Requirements

Credentials

Each graduation candidate must have on file in the admissions office the following documents.

1. A transcript of all high school work or scores from the General Education Development (GED) Test or state-required documentation for home-school graduates.

2. Transcripts of all prior college work.

NOTE: High school transcripts are not required from students who have successfully completed 15 semester hours of credit at another accredited college or university.

Scholarship

Each graduate must achieve a minimum MCC 2.0 grade point average on a four-point grading scale.

Enrollment

Each graduate must meet one of the following requirements:

1. They must complete at least 15 credit hours at an MCC campus and be enrolled during the academic year they qualify for a degree.

2. They must complete a minimum of 56 credit hours at an MCC campus if they are not enrolled during the academic year they qualify for a degree.

Total Credits

Each MCC graduate must be successfully complete at least 62 credit hours, although some degrees require more. (See specific requirements on the following pages.) Students earning any of the five associate degrees offered by MCC must take several general education courses. For the Associate in Arts degree, at least 62 credits are required — 42 of them in general education courses and 17 hours in electives. The Associate in Computer Science, Associate in Engineering, and Associate in Science also require an area of specialization. In addition to these general education and specialization courses, students must take electives that will bring their total number of credits up to the amount required for the degree. Only courses numbered 100 or higher can be applied toward the degree.

Students who plan to earn a bachelor’s degree in certain fields, such as education or nursing, are required to take very specific courses. MCC has negotiated many transfer and articulation agreements with four-year universities and colleges that outline a specific program of study for successful transfer. Students should meet with an advisor or counselor for transfer information and assistance in selecting the right classes. Similarly, students who transfer to MCC from another accredited college or university are encouraged to meet with an advisor or counselor to determine how many of their previous credits will transfer and which classes they will still need to take. Visit MCC’s website at www.mcckc.edu for more information.

State Requirement

Missouri law states that all college or university graduates should complete a course covering the federal and state constitutions as well as American history and government. Students who transfer from out-of-state schools should check with the MCC counseling or development center to find out how they can meet this requirement.

Application for a Degree

The semester before completing all of their degree requirements, prospective MCC graduates must file an application for receiving their degrees with the admissions/records office. Once the form is filed, students will receive an evaluation and additional information. Visit the admissions/records page at www.mcckc.edu for more information.
The Associate in Arts Degree

MCC’s Associate in Arts degree generally provides the first two years of college work a student might complete at a four-year college or university. The program includes 45 hours of general education courses, as well as enough electives to reach the required 62 credit hours.

Students who plan to earn an Associate in Arts degree should meet with an advisor or counselor to make sure they’re taking the right classes. This degree prepares them for further study in any of the following areas:

Art  Mass Communications
Biology  Mathematics
Business  Music
Chemistry  Nursing
Criminal Justice  Philosophy
Economics  Physical Education
Education  Physics
English  Political Science
Foreign Language  Psychology
Geography  Social Work
Geology  Sociology
History  Speech and Theater Arts
Human Services  Teacher Education
Journalism

Degree Requirements

To receive an Associate in Arts degree, students must complete the following:

1. The graduation requirements for transfer degrees listed on page 25.
2. The general education requirements listed below.
3. Sufficient electives to bring their total number of credits to 62.

General Education Requirements

The general education courses strengthen students’ basic skills and provide them with knowledge to competently function in a variety of environments-school, work and day-to-day life. MCC’s general education outcomes provide students with opportunities to cultivate competencies in effective communication and critical thinking; value learning as an ongoing, lifelong process; acquire quantitative literacy skills; understand the principles of natural and physical sciences; appreciate the human condition through the study of humanities; and achieve an awareness of social, political, and behavioral environments. For more information, go to http://mcckc.edu/gened

American Institutions–6 credits
Rationale: The American Institutions requirement will enable students to understand and participate in the political institutions of the United States and Missouri, and to critically evaluate relationships among cultural, historical, and social environments. Such study will also enhance students’ communication, critical thinking, and problem solving skills.

Complete two courses from the following:
(One must be HIST.)
HIST 120  United States History to 1865
HIST 121  United States History Since 1865
POLS 135  Introduction to Political Science
POLS 136  Introduction to American National Politics
POLS 137  Introduction to State and Local Politics

If a student has not completed one course which is the equivalent of HIST 120, HIST 121, POLS 135, POLS 136, or POLS 137 at a Missouri institution of higher education, the student must arrange with his/her home MCC college to satisfy the Missouri Constitution requirement either through additional course work or special exam.

Communications–9 credits
Rationale: The Communications requirement will provide students with opportunities to practice and hone active listening, effective speaking, analytical reading, and purposeful writing. Students will draw on analytical and creative thought processes to find and retrieve reliable information, evaluate the relevance of source material, synthesize and draw conclusions from ideas, reflect upon their own and others’ ideas and experiences, and conceptualize new ways of perceiving ideas. They will design carefully reasoned and creative presentations, both spoken and written.

Complete the following:
ENGL 101  Composition and Reading I and
ENGL 102  Composition and Reading II and
SPDR 100  Fundamentals of Speech or
SPDR 102  Fundamentals of Human Communication

Humanities–9 credits
Rationale: The Humanities requirement will engage students in content and activities in which they must demonstrate their ability to deal with abstractions, complexities, and subtleties of thought and language, and to understand the aesthetic value of human creativity. Students will develop intellectual agility that allows for lifelong learning, adaptability, and appreciation of differences.

Complete one 3-credit course in each of any three different areas. One of the courses must be in literature or philosophy.

Art History – any course
Literature – any course
Foreign Language – any course (101 or above)
SPDR 104  Conversation and Group Leadership
History
HIST 133  Foundations of Western Civilization
HIST 134  Modern Western Civilization II
Humanities – any course
Music
MUSI 108  Music Appreciation
MUSI 116  Evolution of Jazz
MUSI 160  Music of the World’s Cultures

Philosophy – any course
Speech and Drama
SPDR 103  Interpersonal Communication
SPDR 104  Discussion and Group Leadership
SPDR 106  Theater Appreciation
SPDR 110  Argumentation and Debate
SPDR 112  Oral Interpretation of Literature
SPDR 114  Theater and Western World
SPDR 128  Introduction to Film
SPDR 133  Intercultural Communication
SPDR 228  African Film

Mass Communications
MSCM 112  Introduction to Modern Communications

Mathematics– 3 credits
Rationale: The Mathematics requirement will enhance the students’ ability to think critically; use mathematics to solve problems; use quantitative processes to analyze, evaluate, and interpret solutions; and communicate ideas using mathematical language and symbols.

Complete the following:
MATH 119  College Mathematics or
higher-numbered MATH course

Natural Sciences–9 credits
Rationale: The Natural Sciences requirement will enable students to demonstrate understanding of natural environments and methods for gaining such knowledge including the scientific method and empirical methods of scientific inquiry.
Complete two laboratory sciences—one in biological science and one in physical science. The physical sciences include the following disciplines: chemistry, geology, physical geography, meteorology and physics.

**Social Sciences—6 credits**

Rationale: The Social Sciences requirement will help students develop a more complete understanding of the social environment and broaden social and historical knowledge bases. Completion of this requirement will enhance students’ skills in critical thinking, problem solving and communication.

Complete one course from two different areas. Courses selected for the American Institutions or Humanities requirement will not fulfill the Social Science requirement.

**Anthropology — any course**

**Economics — any course**

**Geography**
- GEOG 105 World Geography
- GEOG 111 Geography of the Western World
- GEOG 112 Geography of the Eastern World
- GEOG 113 Cultural Geography
- GEOG 114 Introduction to Geography
- GEOG 207 Geography of the U.S. and Canada

**History — any course**

**Social Sciences — any course**

**Political Science — any course**

**Psychology — any course**

**Sociology — any course**

The above requirements constitute the 42-credit hour block that upon completion will transfer by state policy in its entirety to any public college or university in Missouri and to those private colleges or universities that are signatories to the Missouri Credit Transfer Agreement.

**Other Associate in Arts Degree Requirements**

**Learning Enhancement Requirements**

Rationale: Learning enhancement requirements provide special opportunities for pursuit of individual learning objectives and to achieve interdisciplinary, human diversity, or integrative study objectives. The courses may fulfill any other requirement for the Associate in Arts degree.

Complete a Writing Intensive course:

- A course designated Writing intensive will allow the student to develop greater, deeper, and more permanent command of the content material and to produce gains in problem solving abilities and critical thinking skills. Writing Intensive courses will contribute to the clarity of thought and ability to express ideas more precisely. This course may be used to meet the requirements of any other area. English 101 will be a prerequisite for any writing intensive course.

Complete one of the following:

- An Interdisciplinary Learning Community structured around a single theme of two or more linked courses. At least one of the courses included will be numbered 100 or above. Learning communities provide students with a learning environment that encourages integration of content and skills from different disciplines and provides a more structured socialization process to enhance adaptation to a collegiate/academic environment. This option will enhance retention from semester to semester and will promote more successful learning in future semesters.

- A designated Human Diversity course to expose students to content intended to help them learn about behavior generated and reflected by the ideals, values and beliefs of diverse groups of people. Students will examine the sources of emotions, community, commonality and conflict associated with diversity and will gain cognitive awareness of their own perspectives as they relate to other groups and to other societies in the world. These courses will allow students to develop a deeper awareness and a greater understanding of issues related to race, ethnicity, gender, religion, sexual orientation, and political ideology within their own society or other societies.

**Computer—3 credits**

Rationale: The Computer Science requirement will enable students to better understand the effect of computer-related technologies on society; to recognize responsible uses of computer-related technology; to apply these technologies in communication, solving problems, managing information, and thinking critically; to enhance general academic studies and business productivity; and to support life-long learning.

Complete the following:

- CSIS 110 Technology and Information Management
- or
- higher-numbered CSIS course

**Electives—17 credits**

Rationale: Electives will prepare students for a life of learning by expanding choices and enriching possibilities. These electives encourage a wide range of courses that explore insights into several fields of inquiry, develop an active understanding of the natural world, and allow an opportunity to apply communication skills.

Complete 17 credits of electives to total a minimum of 62 hours.

- Courses numbered 100 or above may be applied to bring the total number of credit hours to the minimum of 62 credit hours required for the degree. The student may apply up to four hours of credit selected from music performance and up to four hours of credit from physical education activity courses.

Total credits required for the A.A. degree 62
### The Associate in Arts Degree

**General Education Requirements**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
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<tr>
<td><strong>American Institutions:</strong> (2 courses—one must be HIST)</td>
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<tr>
<td>HIST 120, 121, POLS 135, 136, 137</td>
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<td><strong>Communications:</strong></td>
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<tr>
<td>ENGL 101</td>
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<tr>
<td>ENGL 102</td>
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<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>SPDR 100 or SPDR 102</td>
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<td><strong>Mathematics:</strong></td>
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<td>MATH 119: College Mathematics or higher</td>
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<td><strong>Humanities:</strong> (3 courses, 3 areas of study, 1 course must be Lit. or Phil.)</td>
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<tr>
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<td>Literature</td>
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<tr>
<td>HIST/HUMN 133 or 134</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>BIOL (Must include laboratory)</td>
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<tr>
<td>CHEM, GEOG, GEOL (excluding GEOL 225), or PHYS (Must include laboratory)</td>
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<td>ANTH</td>
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<td>ECON</td>
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<td>SOSC</td>
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<td><strong>Total General Education Courses</strong></td>
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<td><strong>Computer Science:</strong></td>
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<td>CSIS 110 or higher CSIS course or credit by examination</td>
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<tr>
<td><strong>Electives:</strong> (courses must be numbered 100 or higher)</td>
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<tr>
<td>The student may apply up to four hours of credit selected from music performance and up to four hours of credit from physical education activity courses.</td>
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<tr>
<td><strong>Total Credit Hours Required</strong></td>
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</table>

- All courses must be at least 100 level or higher
- Courses can only be used once to meet degree requirements
- You must complete a Writing Intensive course AND either a Human Diversity course or Learning Community as part of the degree Requirements.
### The Associate in Arts Business Degree

The Associate in Arts Business degree offers an MCC student the opportunity to transfer seamlessly into a four-year Missouri college or university as a junior, and to achieve his or her Bachelor’s degree in Business with two more years of college work. Because there are slight variations in the requirements for Business credit at receiving institutions, students are advised to check with the school to which they plan to transfer or speak with an MCC advisor to make sure they are taking the right classes.

### A.A.S. Business

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<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
<td><strong>American Institutions:</strong> (2 courses— one must be HIST)</td>
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<tr>
<td>American Institutions: (2 courses—one must be HIST)</td>
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<td>MATH 40/40L or appropriate placement test score</td>
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<tr>
<td>HIST 120, 121, POLS 135, 136, 137</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td><strong>Communications:</strong></td>
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<td>BIOL (Must include laboratory)</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<td>CHEM, GEOG, GEOL (excluding GEOL 225), or PHYS (Must include laboratory)</td>
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<tr>
<td>ECON 210 (required)</td>
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<td>One course from the following:</td>
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<td>GEOG (excluding 104,110 and GIS Courses)</td>
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<td>HIST</td>
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</tr>
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<td>CSIS 110 or higher CSIS course or Credit by Examination</td>
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<tr>
<td><strong>Required Business Electives (12 credits)</strong></td>
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<td>BSAD 101 Principles of Accounting I</td>
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<td>BSAD 101 or two years of high school accounting</td>
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<td>BSAD 102 Principles of Accounting II</td>
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<td>BSAD 270 Legal Environments of Business</td>
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<td>ECON 211 Principles of Economics</td>
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<td>MATH 40 or 40L or a satisfactory score on the placement test</td>
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<tr>
<td><strong>Required Electives</strong></td>
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<tr>
<td>MATH 115 Statistics</td>
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<td>MATH 110 or satisfactory score on Math placement test</td>
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<tr>
<td>Business Elective (course must be numbered 100 or higher)</td>
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<tr>
<td>Working closely with both campus advisors and MCC business faculty is imperative when selecting electives. Electives will vary based on transfer institution and 4-year degree plan.</td>
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</tr>
<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td>63</td>
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</tbody>
</table>

All courses must be at least 100 level or higher. Courses can only be used once to meet degree requirements. Students must complete a Writing Intensive course AND either a Human Diversity course or Learning Community as part of the degree Requirements.
## Associate in Arts Criminal Justice Degree

The Associate in Arts Criminal Justice degree offers an MCC student the opportunity to transfer seamlessly into a four-year Missouri college or university as a junior, and to achieve his or her Bachelor’s degree in Criminal Justice with two more years of college work. Because there are slight variations in the requirements for Criminal Justice credit at receiving institutions, students are advised to check with the school to which they plan to transfer or speak with an MCC advisor to make sure they are taking the right classes.

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<td>SOSC</td>
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<tr>
<td><strong>Total General Education Courses</strong></td>
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<td><strong>Criminal Justice Electives (must take 6 of the 7 courses)</strong></td>
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<td>CRJU 101 Introduction to Criminal Justice</td>
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<td>CRJU 105 American Corrections</td>
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<td>CRJU 101</td>
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<td>CRJU 165 Criminology</td>
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<tr>
<td>CRJU 168 Juvenile Delinquency</td>
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<tr>
<td>CRJU 200 Internship in Criminal Justice</td>
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<td>The student must complete 15 hours of Criminal Justice including CRJU 101 before taking this course.</td>
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<td>CRJU 203 Criminal Investigations</td>
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<td>CRJU 223 Criminal Law</td>
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<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td><strong>63</strong></td>
<td></td>
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</tbody>
</table>
The Associate in Arts Teaching Degree

The Associate in Arts Teaching (AAT) is a pre-professional degree that prepares students to transfer to a four-year college or university offering a Bachelor's Degree in Teacher Education. The AAT is a state-wide approved program and when completed in its entirety meets the first 2 years certification requirements for individuals pursuing either an early childhood, elementary or secondary education degree.

### Degree Requirements

In order to receive the degree of AAT, students must complete the required courses below, obtain at least state required scores on the C-BASE, and earn a minimum 2.5 GPA. Because requirements may vary, students should consult the School of Education at the four-year transfer institution. In addition to verifying specific university minimums, education students should explore which elective courses will be accepted.

All education courses are open to both degree seeking and non-degree seeking students. For a complete list of education courses, refer to the Education section of the Course Descriptions.

#### Associate in Arts Teaching Degree

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
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<td>Art History or ART 108</td>
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<tr>
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<td>Literature</td>
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<tr>
<td>MSCM 112</td>
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<tr>
<td>MUSI 108, 116 or 160</td>
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<td>PHIL</td>
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<td>SPDR 103, 104, 106, 108, 112, 114, 128 or 133</td>
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<td>HIST/HUMN 133 or 134</td>
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<tr>
<td><strong>Natural Sciences:</strong> (2 courses, 1 Biological and 1 Physical)</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<tr>
<td>BIOL (Must include laboratory)</td>
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<tr>
<td>CHEM, GEOG, GEOL, PHYS, or PHSC (Must include laboratory)</td>
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<tr>
<td><strong>Social Sciences:</strong> (2 courses, 2 areas of study)</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<tr>
<td>ANTH</td>
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<tr>
<td>ECON</td>
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<tr>
<td>GEOG (excluding 104,110 and GIS Courses)</td>
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<td>HIST</td>
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<td>POLS</td>
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<td>PSYC</td>
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<tr>
<td>SOCI</td>
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<td>SOSC</td>
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<td>EDUC 200 Foundations of Education</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>EDUC 201 Teaching Profession with Field Experience</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>EDUC 270 Educational Psychology</td>
<td>3</td>
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<td>PSYC 140</td>
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<td>EDUC 280 Technology for Teachers</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
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<td><strong>Electives:</strong> (courses must be numbered 100 or higher)</td>
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<tr>
<td>Working closely with both campus advisors and MCC education faculty is imperative when selecting electives. Electives will vary based on transfer institution and 4 year degree plan. Additionally there are elective courses that will be extremely beneficial for passing the C-BASE exam. (EDUC 285 Education of Exceptional Learners can be used as an elective.)</td>
<td></td>
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<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td>62</td>
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</tbody>
</table>

- All courses must be at least 100 level or higher
- Courses can only be used once to meet degree requirements
- Students must complete a Writing Intensive course AND either a Human Diversity course or Learning Community as part of the degree Requirements.
- Students must achieve a minimum GPA of 2.5
- Students must achieve minimum scores of 235 on each section of the C-BASE
- We recognize that four-year transfer institutions may have additional requirements including higher GPA, higher C-BASE scores, or additional courses that could be taken at the community college level. Students are encouraged to work closely with an advisor from the receiving institution so that they may understand and prepare to meet all entrance requirements.
The Associate in Computer Science Degree

The Associate in Computer Science (ACS) degree is a preprofessional program that prepares students to transfer to a four-year college or university. It should not be confused with the Associate in Applied Science degree in Computer Science and Information Systems that prepares students for immediate employment.

Because computer science requirements vary at each four-year college or university, students should check with the school they plan to transfer to or speak with an advisor or counselor to make sure they’re taking the right classes.

A.C.S. Computer Science

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American Institutions</strong></td>
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<tr>
<td><em>Two of the following (one must be HIST):</em></td>
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<tr>
<td>HIST 120 United States History to 1865</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>HIST 121 United States History Since 1865</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>POLS 135 Introduction to Political Science</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>POLS 136 Introduction to American National Politics</td>
<td>3</td>
<td></td>
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<td>POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
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<tr>
<td><strong>Communications</strong></td>
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</tr>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>SPDR 100 or SPDR 102</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td><strong>Humanities (2 courses, 2 areas of study, 1 course must be Literature or PHIL)</strong></td>
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<tr>
<td>Art History</td>
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</tr>
<tr>
<td>Foreign Language 101 or higher or SIGN 101 or 102</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>HUMN 133, 134</td>
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<td>Literature</td>
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<tr>
<td>MSCM 112</td>
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<td>MUSI 108, 116, 160</td>
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<tr>
<td>PHIL</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 103, 104, 106, 110, 112, 114, 128, 133</td>
<td>3</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>HIST/HUMN 133 or 134</td>
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<tr>
<td><strong>Natural Sciences (one lab course)</strong></td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>BIOL, CHEM, GEOG, GEOL, PHYS (must include lab)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social Sciences (one course)</strong></td>
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<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>ANTH</td>
<td>3</td>
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</tr>
<tr>
<td>ECON</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>GEOG 105, 111, 112, 113, 114, 207</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<tr>
<td>HIST</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>POLS</td>
<td>3</td>
<td></td>
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<tr>
<td>PSYC</td>
<td>3</td>
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</tr>
<tr>
<td>SOCI</td>
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<td>SOSC</td>
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</table>

Students must complete a Writing Intensive course and either a Human Diversity course or Learning Community course as part of the degree Requirements.
The Associate in Computer Science Degree (cont)

A.C.S. Computer Science (cont)

<table>
<thead>
<tr>
<th>Specific Program Requirements - Choose an Emphasis</th>
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<tbody>
<tr>
<td><strong>Computer Science Emphasis</strong></td>
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<tr>
<td><strong>Five of the following:</strong></td>
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<tr>
<td>CSIS 123  Programming Fundamentals</td>
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</tr>
<tr>
<td>CSIS 223  Object-Oriented Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS/MATH 141 Discrete Structures for Computer Science I</td>
<td></td>
</tr>
<tr>
<td>CSIS 221  Introduction to Computer Architecture</td>
<td>15</td>
</tr>
<tr>
<td>CSIS 233  Web-Centric Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS/MATH 241 Discrete Structures for Computer Science II</td>
<td></td>
</tr>
<tr>
<td>CSIS 265  Graphical User Interface Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 271  Data Structures and Algorithm Analysis</td>
<td></td>
</tr>
<tr>
<td><strong>15 Credit Hours from the following:</strong></td>
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<tr>
<td>MATH 150  Precalculus</td>
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<tr>
<td>MATH 180  Analytic Geometry &amp; Calculus I</td>
<td>15</td>
</tr>
<tr>
<td>MATH 190  Analytic Geometry &amp; Calculus II</td>
<td></td>
</tr>
<tr>
<td>MATH 210  Analytic Geometry &amp; Calculus III</td>
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<tr>
<td>MATH 230  Differential Equations</td>
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</tr>
<tr>
<td>Electives: CSIS or General Education</td>
<td>3</td>
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<tr>
<td><strong>Computer Information Systems Emphasis</strong></td>
<td></td>
</tr>
<tr>
<td>MATH 120  College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150  Precalculus</td>
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<tr>
<td><strong>15 Credit Hours from the following:</strong></td>
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</tr>
<tr>
<td>CSIS 123  Programming Fundamentals</td>
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<tr>
<td>CSIS 223  Object-Oriented Programming</td>
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<tr>
<td>CSIS/MATH 141 Discrete Structures for Computer Science I</td>
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<tr>
<td>CSIS 221  Introduction to Computer Architecture</td>
<td>15</td>
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<tr>
<td>CSIS 233  Web-Centric Programming</td>
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<tr>
<td>CSIS/MATH 241 Discrete Structures for Computer Science II</td>
<td></td>
</tr>
<tr>
<td>CSIS 265  Graphical User Interface Programming</td>
<td></td>
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<tr>
<td>CSIS 271  Data Structures and Algorithm Analysis</td>
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<tr>
<td>Electives: General Education, BSAD or CSIS</td>
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</table>

**Total Credit Hours Required** 62

Students must complete a Writing Intensive course and either a Human Diversity course or Learning Community course as part of the degree Requirements.
## The Associate in Engineering Degree

**Associate in Engineering**

Engineering ........................................... 64-70 Credits  
Land Surveying ........................................... 71 Credits

The Associate in Engineering degree is a preprofessional program that prepares students to transfer to a four-year college or university offering a Bachelor of Science degree in Engineering. Most MCC students transfer to the University of Missouri-Columbia, the University of Missouri-Kansas City or the Missouri University of Science and Technology. Students should check the catalog of the school they plan to transfer to or speak with an engineering program advisor or counselor to make sure they’re taking the right classes.

### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>HIST 120</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 210</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
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</tr>
<tr>
<td>SPDR 100</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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**Engineering Emphasis Specific Program Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>CHEM 111</td>
<td>5</td>
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<td>MATH 120 (or appropriate placement test score) or two units of high school algebra and CHEM 107 or high school chemistry (CHEM 111)</td>
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<tr>
<td>ENGR 101</td>
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<tr>
<td>ENGR 104</td>
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<td>MATH 120 and 130 or MATH 150 (ENGR 104) MATH 40/40L or appropriate placement test score (CSIS 123)</td>
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<td>CSIS 123</td>
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<tr>
<td>ENGR 113</td>
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<td>MATH 110 (ENGR 113) MATH 40/40L (ETEC 152)</td>
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<td>ETEC 152</td>
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<tr>
<td>ENGR 229</td>
<td>3</td>
<td></td>
<td>MATH 190 and PHYS 220</td>
</tr>
<tr>
<td>MATH 180</td>
<td>5</td>
<td></td>
<td>MATH 130 or 150</td>
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<td>5</td>
<td></td>
<td>MATH 180</td>
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<tr>
<td>MATH 210</td>
<td>5</td>
<td></td>
<td>MATH 190 or appropriate placement test score</td>
</tr>
<tr>
<td>MATH 230</td>
<td>3</td>
<td></td>
<td>MATH 190</td>
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<tr>
<td>PHYS 220</td>
<td>5</td>
<td></td>
<td>Enrollment in or completion of MATH 190</td>
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<tr>
<td>PHYS 221</td>
<td>5</td>
<td></td>
<td>PHYS 220 and enrollment in or completion of MATH 210</td>
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</table>

**Two of the following seven courses:**

<table>
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<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CHEM 221</td>
<td></td>
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<td>CHEM 112 (CHEM 221)</td>
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<tr>
<td>CHEM 222</td>
<td></td>
<td></td>
<td>CHEM 221 (CHEM 222)</td>
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<tr>
<td>ENGR 215</td>
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<td></td>
<td>MATH 190 (ENGR 215)</td>
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<td>ENGR 223</td>
<td></td>
<td></td>
<td>MATH 190 and PHYS 220 (ENGR 223)</td>
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<td>ENGR 230</td>
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<td>ENGR 229 (ENGR 230)</td>
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<tr>
<td>ENGR 233</td>
<td></td>
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<td>ENGR 229 (ENGR 240)</td>
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<td>ENGR 240</td>
<td></td>
<td></td>
<td>PHYS 221 or concurrent enrollment (ENGR 233)</td>
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</table>

**Total Credit Hours Required**

64-70

*Students may substitute BIOL 101 or CHEM 112 for either ENGR 104 or ENGR 113.*
### Land Surveying Emphasis

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
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<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102 Composition and Reading II</td>
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<td>ENGL 101</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or</td>
<td>3</td>
<td></td>
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<tr>
<td>HIST 121 United States History Since 1865</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 210 Macroeconomics or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics or</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<table>
<thead>
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<th>Land Surveying Emphasis Specific Program Requirements</th>
<th>Credits</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGR 104 Programming for Engineers and Scientists</td>
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<td>MATH 120, 130 or 150</td>
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<tr>
<td>ETEC 152 Engineering Graphics and CADD I</td>
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<td>MATH 40/40L or appropriate placement test score</td>
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<tr>
<td>ETEC 153 Descriptive Geometry</td>
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<td>ETEC 153</td>
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<tr>
<td>GEOL 101 Physical Geology</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>MATH 180 Analytic Geometry and Calculus I</td>
<td>5</td>
<td></td>
<td>MATH 130 or 150</td>
</tr>
<tr>
<td>MATH 190 Analytic Geometry and Calculus II</td>
<td>5</td>
<td></td>
<td>MATH 180</td>
</tr>
<tr>
<td>MATH 210 Analytic Geometry and Calculus III</td>
<td>5</td>
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<td>MATH 190 or appropriate placement test score</td>
</tr>
<tr>
<td>PHYS 220 Engineering Physics I</td>
<td>5</td>
<td></td>
<td>Enrollment in or completion of MATH 190</td>
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<tr>
<td>PHYS 221 Engineering Physics II</td>
<td>5</td>
<td></td>
<td>PHYS 220 and enrollment in or completion of MATH 210</td>
</tr>
<tr>
<td>SRVY 135 Elementary Surveying</td>
<td>3</td>
<td></td>
<td>MATH 105 or 130 or 150</td>
</tr>
<tr>
<td>SRVY 137 Subdivision Planning and Layout</td>
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<td></td>
<td>SRVY 135 and ETEC 152</td>
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<td>SRVY 235 Advanced Surveying</td>
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<td>SRVY 135</td>
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<tr>
<td>SRVY 236 Boundary Control and Legal Principles</td>
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<td></td>
<td>SRVY 135</td>
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<td>SRVY 237 Evidence and Procedures for Boundary Location</td>
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<td>SRVY 135</td>
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</table>

**Total Credit Hours Required** 71
The Associate in Science Degree

The Associate in Science degree program prepares students to transfer to a four-year college or university to major in either biology or chemistry. Because requirements vary at each four-year college or university, students should check with the school they plan to transfer to or an advisor or counselor to make sure they're taking the right courses.

### Degree Requirements

In order to receive the Associate in Science degree, the student must complete the requirements for all degrees listed on page 25, the general education requirements listed below and the specialized education requirements for either Biology or Chemistry.

#### A.S. Biology

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102 Composition and Reading II</td>
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<td>ENGL 101</td>
</tr>
<tr>
<td><strong>Two of the following:</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HIST 120 United States History to 1865</td>
<td>6</td>
<td></td>
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</tr>
<tr>
<td>HIST 121 United States History Since 1865</td>
<td></td>
<td></td>
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<tr>
<td>POLS 135 Introduction to Political Science</td>
<td></td>
<td></td>
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<tr>
<td>POLS 136 Introduction to American National Politics</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
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</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>Humanities Elective</td>
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<td><strong>Specific Program Requirements</strong></td>
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<tr>
<td>BIOL 104 General Botany</td>
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<tr>
<td>BIOL 106 General Zoology</td>
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<td>BIOL Elective: At least 3 hours must be 200 or above.</td>
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<tr>
<td>CHEM 112 General College Chemistry II</td>
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<td>CHEM 111</td>
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<td>CHEM 112 (CHEM 221), CHEM 221 (CHEM 222), MATH 130 (PHYS 130), MATH 130 (PHYS 131)</td>
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<tr>
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<td>MATH 115 Statistics and MATH 120 College Algebra</td>
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<td>MATH 130 or 150 (MATH 180)</td>
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<tr>
<td>MATH 180 Analytic Geometry and Calculus I</td>
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<td><strong>Electives</strong></td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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#### A.S. Chemistry

<table>
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<td><strong>Two of the following:</strong></td>
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<td>HIST 120 United States History to 1865 and HIST 121 United States History Since 1865</td>
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<td>SPDR 100 Fundamentals of Speech</td>
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<tr>
<td><strong>Specific Program Requirements</strong></td>
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</tr>
<tr>
<td>CHEM 111 General College Chemistry I</td>
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<td>CHEM 111</td>
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<tr>
<td>CHEM 112 General College Chemistry II</td>
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<tr>
<td>CHEM 221 Organic Chemistry I</td>
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<td>CHEM 221</td>
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<tr>
<td>CHEM 222 Organic Chemistry II</td>
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<td>CHEM 221</td>
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<td>MATH 180</td>
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<tr>
<td>MATH 210 Analytic Geometry &amp; Calculus III</td>
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<td>MATH 190</td>
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<td>PHYS 220 Engineering Physics I</td>
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<td>Enrollment in or completion of MATH 190</td>
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<tr>
<td>PHYS 221 Engineering Physics II</td>
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<td>PHYS 220 and enrollment in or completion of MATH 210</td>
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<td><strong>Total Credit Hours Required</strong></td>
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</tr>
</tbody>
</table>
Certificates

In addition to two-year associate degrees, Metropolitan Community College awards certificates to students who complete various career and technical programs. While each campus offers some of the same certificates, others are offered only at one of the MCC campuses.

Associate in Applied Science Degree

MCC also awards the Associate in Applied Science degree for various occupations. Again, while each campus offers some of the same Applied Science degrees, others are offered only at one of the campuses.

Graduation Requirements for A.A.S. Degrees

Credentials

Each graduation candidate must have on file in the admissions office the following documents:

1. A transcript of all high school work or scores from the General Education Development (GED) test or state-required documentation for home-school graduates.
2. Transcripts of all prior college work.

NOTE: If a student has successfully completed 15 semester hours at another accredited college or university, then high school transcripts are not required.

Scholarship

Each graduate must achieve a minimum MCC 2.0 grade point average on a four-point grading scale.

Enrollment

Each graduate must meet one of the following requirements:

1. They must complete at least 15 credit hours at an MCC campus and be enrolled during the academic year they qualify for a degree or certificate.
2. They must complete a minimum of 56 credit hours at an MCC campus if they are not enrolled during the academic year they qualify for a degree.

Total Credits

Graduates must successfully complete a course of study that requires at least 62 credit hours for an Associate in Applied Science degree.

Each degree includes both general education requirements and specialized requirements. Some programs also require general education or other electives to bring students’ total credits to the number needed for a degree. Specific requirements for each program are described on pages 39 to 133. A minimum of 18 credit hours of general education is required for an A.A.S. degree. Within these 18 credit hours, all A.A.S. degrees will have nine credit hours in Communications and American Institutions. The remaining nine credit hours will provide students with educational experiences to complement MCC’s established general education components.

A.A.S. General Education Core Curriculum

ENGL 101 Composition & Reading I 3
SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communications 3
One of the following American Institutions courses:
HIST 120 United States History to 1865
HIST 121 United States History Since 1865
POLS 135 Introduction to Political Science
POLS 136 Introduction to American National Politics
POLS 137 Introduction to State and Local Politics 3
Any course(s) numbered 100 or above from the following disciplines:
ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMAN, MUSC, MUSI, PHIL, POLS, PSYC, SIGM, SOSC, SOCi, SPDR 3-6
Any course(s) numbered 100 or above from the following disciplines:
BIOL, CHEM, GEOG (104 & 110), GEOG, MATH, PHSC, PHYS 3-6
Minimum Total General Education Credit Hours 18

Only courses numbering 100 or higher can be used to earn credit toward degrees and certificates. Students who transfer credits to MCC from another accredited college or university should meet with an advisor or counselor to make sure they have taken the right courses.

State Requirement

Missouri law states that all college or university graduates should complete a course covering the federal and state constitutions as well as American history and government. Students who transfer from out-of-state schools should check with the MCC counseling or development center to find out how they can meet this requirement.

Application for a Degree

The semester before completing all of their degree requirements, prospective MCC graduates must file an application for receiving their degrees with the admissions/records office. Once the form is filed, students will receive an evaluation and additional information. Visit the admissions/records page at www.mcckc.edu for more information.
Accreditation

The Metropolitan Community College District—including Blue River, Longview, Maple Woods, Penn Valley and Business & Technology—is accredited by the Higher Learning Commission of the North Central Association. For information on this accreditation association, contact the Commission online at www.ncahigherlearningcommission.org or by phone at 312-263-0456. To review MCC’s accreditation materials, please contact the chancellor’s office at 816-759-1050.

In addition to institutional accreditation, many programs have individual accreditations. Please check program websites for additional information.

Program Eligibility

In addition to the requirements for admission to the college, students must meet specific conditions before they may enroll in certain Career and Technical programs. For many of these, a student must make application and be accepted for the program. Information about how to apply for these programs is provided on the program websites and further information is available from academic advisors or counselors.

<table>
<thead>
<tr>
<th>Program</th>
<th>College</th>
<th>Application Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Assisting</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/dentalassisting">www.mcckc.edu/dentalassisting</a></td>
</tr>
<tr>
<td>Electrical Utility Line Technician</td>
<td>MCC-Business &amp; Technology</td>
<td><a href="http://www.mcckc.edu/linetech">www.mcckc.edu/linetech</a></td>
</tr>
<tr>
<td>Emergency Medical Technician</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/emt">www.mcckc.edu/emt</a></td>
</tr>
<tr>
<td>Fire Academy</td>
<td>MCC-Blue River</td>
<td><a href="http://www.mcckc.edu/fireacademy">www.mcckc.edu/fireacademy</a></td>
</tr>
<tr>
<td>Ford Automotive</td>
<td>MCC-Longview</td>
<td><a href="http://www.mcckc.edu/automotive">www.mcckc.edu/automotive</a></td>
</tr>
<tr>
<td>General Motors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Service Educational</td>
<td>MCC-Longview</td>
<td><a href="http://www.mcckc.edu/automotive">www.mcckc.edu/automotive</a></td>
</tr>
<tr>
<td>Health Information Technology</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/healthtech">www.mcckc.edu/healthtech</a></td>
</tr>
<tr>
<td>Medical Transcription</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/medTranscription">www.mcckc.edu/medTranscription</a></td>
</tr>
<tr>
<td>Occupational Therapy Assistant</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/occupationaltherapy">www.mcckc.edu/occupationaltherapy</a></td>
</tr>
<tr>
<td>Paramedic</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/emt">www.mcckc.edu/emt</a></td>
</tr>
<tr>
<td>Physical Therapist Assistant</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/physicaltherapy">www.mcckc.edu/physicaltherapy</a></td>
</tr>
<tr>
<td>Police Academy</td>
<td>MCC-Blue River</td>
<td><a href="http://www.mcckc.edu/policescience">www.mcckc.edu/policescience</a></td>
</tr>
<tr>
<td>Practical Nursing</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/pvnursing">www.mcckc.edu/pvnursing</a></td>
</tr>
<tr>
<td>Professional Nursing</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/pvnursing">www.mcckc.edu/pvnursing</a></td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/radiology">www.mcckc.edu/radiology</a></td>
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<tr>
<td>Respiratory Care</td>
<td>MCC-Penn Valley/JCCC</td>
<td><a href="http://www.mcckc.edu/respiratorycare">www.mcckc.edu/respiratorycare</a></td>
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<td>Surgical Technology</td>
<td>MCC-Penn Valley</td>
<td><a href="http://www.mcckc.edu/surgicaltech">www.mcckc.edu/surgicaltech</a></td>
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<tr>
<td>Veterinary Technology</td>
<td>MCC-Maple Woods</td>
<td><a href="http://www.mcckc.edu/veterinary">www.mcckc.edu/veterinary</a></td>
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</tbody>
</table>
## Apparel and Textiles

**Offered at MCC-Penn Valley**

This program leads to an Associate in Applied Science degree and prepares students for careers in design and illustration.

### A.A.S. Apparel and Textiles-Design and Product Development

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101 General Biology or higher or CHEM 101 Survey of Chemistry or higher</td>
<td>5</td>
<td></td>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score.</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History since 1865</td>
<td>3</td>
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<tr>
<td>Foreign Language: any foreign language</td>
<td>3-5</td>
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<td></td>
</tr>
<tr>
<td>MATH 100 Mathematics for Business or higher</td>
<td>3</td>
<td></td>
<td>MATH 20 or 20L or appropriate placement test score.</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
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<td></td>
<td>ENGL 30 or appropriate placement test score.</td>
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</table>

Any Art History course.

### Specific Program Requirements

**Courses offered at MCC-Penn Valley**

| ART 110 Drawing I | 3 |
| ART 130 Fashion Illustration I | 3 |
| APTX 100 Introduction to Apparel Studies | 3 |
| APTX 111 Aesthetics and Design for Apparel and Textiles | 3 |
| APTX 112 Apparel Construction | 3 |
| APTX 113 Advanced Clothing Construction | 3 | APTX 111 and 112 |
| APTX 118 Costume History-Ancient Mesopotamia Through the Nineteenth Century | 3 |
| APTX 211 Pattern Design-Flat Pattern | 3 | APTX 113 |
| APTX 212 Textiles | 3 |
| APTX 215 Pattern Design-Draping | 3 | APTX 113 |
| APTX 217 20th Century Costume History | 3 | APTX 118 |
| APTX 225 Pattern Design-CAD | 3 | APTX 211 and 215 |
| APTX 250 Computer Aided Fashion Illustration | 3 | ART 130 |
| APTX 275 Portfolio Presentation | 3 | ART 108, 150, 151, or 159 and ART 130, and APTX 211 and 215 |

### Electives

Suggested Electives:

- ART 102 Computers in Design
- ART 131 Fashion Illustration II
- ART 142 Fiber
- ART 244 Digital Photography
- ART 245 Web Design (Prereq: ART 102 & 244)
- APTX 240 Special Topics in Clothing Construction

### Total Credit Hours Required

68-70
### Human Sciences

#### A.A.S. Apparel and Textiles-Merchandising and Marketing

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
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<tr>
<td>Any Art History course.</td>
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#### Specific Program Requirements

| BSAD 101 Accounting Principles I                | 3       |                |                                               |
| BSAD 205 Marketing                              | 3       |                |                                               |
| BSAD 102 Accounting Principles II              | 3       |                | BSAD 101 or 2 years of high school accounting |
| APTX 100 Introduction to Apparel Studies        | 3       |                |                                               |
| APTX 111 Aesthetics and Design for Apparel and Textiles | 3 | | |
| APTX 112 Apparel Construction                   | 3       |                |                                               |
| APTX 118 Costume History - Ancient Mesopotamia Through the Nineteenth Century | 3 | | |
| APTX 119 Visual Merchandising                   | 3       |                | APTX 100 and 111                              |
| APTX 212 Textiles                              | 3       |                |                                               |
| APTX 217 20th Century Costume History           | 3       |                | APTX 118                                      |
| APTX 218 Merchandising Field Experience         | 3       |                | APTX 119, 220 and 221                         |
| APTX 220 Merchandising I                       | 3       |                | APTX 100, MATH 100 or above                   |
| APTX 221 Merchandising II-Global Issues         | 3       |                | APTX 220 or concurrent enrollment             |
| ECON 210 Macroeconomics                        | 3       |                | MATH 40L/40L or appropriate placement score   |

#### Electives

| CSIS 116 Desktop Publishing                     | 3       |                |                                               |
| CSIS 129 E-Commerce                             |         |                |                                               |
| CSIS 128 Web Development                        |         |                |                                               |

**Total Credit Hours Required** 68-70
Audio Engineering

Offered at Kansas City Kansas Community College
Coordinated at MCC

A.A.S. Audio Engineering.......................... 67-69 Credits

This is a terminal degree program for students who wish to find employment in a recording-related aspect of the music business or who wish to transfer to another school and pursue a bachelor's degree in a field such as music composition or music technology. Because requirements differ by institution, students wishing to transfer should check with the music faculty or the transfer institution regarding variations in this degree program.

A.A.S. Audio Engineering

Specific Program Requirements
Must be taken at one of the MCC campuses

<table>
<thead>
<tr>
<th>Course</th>
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<td>ENGL 101</td>
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<tr>
<td>SPDR 100 Speech</td>
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<td>ENGL 101</td>
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<tr>
<td>PSYC 140 General Psychology or SOCI 160 Sociology</td>
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<td>MATH 120 College Algebra</td>
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<td>MUSI 108 Music Appreciation</td>
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<td>Humanities Core</td>
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Specific Program Requirements
Must be taken at Kansas City Kansas Community College

<table>
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<th>Prerequisites</th>
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<td>HUDV 101 Strategies for Excellence/Lifelong Learning</td>
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<tr>
<td>ENGR 108 Electronic Circuit Fundamentals</td>
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<tr>
<td>ENGR 115 Circuit Analysis I</td>
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<tr>
<td>MUSC 106 Music Applications for Computer</td>
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<tr>
<td>MUSC 136 Introduction to the Music Business</td>
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<tr>
<td>MUSC 250 Audio &amp; Recording Techniques</td>
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<tr>
<td>MUSC 260 Advanced Recording Techniques I</td>
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<tr>
<td>MUSC 261 Advanced Recording Techniques II</td>
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<td></td>
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<tr>
<td>MUSC 262/63 Recording Practicum &amp; Portfolio</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be taken at KCKCC or MCC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 111 Music Theory I (MUSI 110)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 112 Music Theory II (MUSI 111)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 240 Sound Editing &amp; Synthesis</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Groups (2 semesters) or Piano Class/ Applied Piano (2 semesters)</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>Voice Class/ Applied Voice (2 semesters) or Other Applied Lessons (2 semesters)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NASC 130 Introductory Physics (at KCKCC) or PHYS 101 Introductory Physics (at MCC)</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>Electives: 6 credit hours from the following:</td>
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<tr>
<td>MUSC 107 Advanced Music Computing (3)</td>
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<tr>
<td>MUSC 157 Live Sound Reinforcement I (1)</td>
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</tr>
<tr>
<td>MUSC 158 Live Sound Reinforcement II (1)</td>
<td></td>
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<tr>
<td>MUSC 201 Songwriting</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MUSC 230 Music and Multimedia (3)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MUSC 233 Music Video Practicum (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 240 Sound Editing &amp; Synthesis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSC 264 Automated Mixing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours Required 67-69

Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.
Automotive Technology

A.A.S. Automotive Technology

Two options open to all qualified students are the Mechanical and Technical Merchandising options. The *Mechanical Option* prepares students to work in dealerships, service centers, or independent repair facilities. The *Merchandising Option* prepares students to work as an assistant service manager, automotive service center trainee, automotive salesperson, factory service representative, parts counterperson, or service salesperson. The *Collision Repair Technology Option*, which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.

Two additional degree options include *General Motors ASEP Option* and the *Ford ASSET Option*. (Note: These 2 programs have special admission requirements.)

The Automotive Technology Department also offers three certificate programs.

### Automotive Technology Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 150 Automotive Power Plants</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 160 Diagnosis and Repair</td>
<td>6</td>
<td></td>
<td>AUTO 150, 166 and 176</td>
</tr>
<tr>
<td>AUTO 166 Automotive Electrical Systems</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 170 Automotive Braking Systems</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 172 Automotive Suspension and Steering</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 174 Automotive Power Trains</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 176 Emissions and Fuel Control Systems</td>
<td>6</td>
<td>AUTO 150 and 166</td>
<td></td>
</tr>
<tr>
<td>AUTO 264 Air Conditioning</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 272 Automatic Transmissions</td>
<td>6</td>
<td></td>
<td>AUTO 279</td>
</tr>
<tr>
<td>AUTO 279 Automotive Electronic Systems</td>
<td>6</td>
<td>AUTO 166</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**: 52

The *Mechanical Option* prepares students to work as a technician in dealerships, service centers, independent garages or service stations.

### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>HIST 121 United States History Since 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 102 Fundamentals of Human Communication</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
<td></td>
</tr>
<tr>
<td>Any course(s) numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 &amp; 110), HIST, HUMN, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI</td>
<td>3-6</td>
<td>ENGL 30 or appropriate placement test score</td>
<td></td>
</tr>
<tr>
<td>Any course(s) numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 &amp; 110), GEOL, MATH, PHYS</td>
<td>3-6</td>
<td>ENGL 30 or appropriate placement test score</td>
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</tr>
<tr>
<td>Minimum Total General Education Credit Hours</td>
<td>18</td>
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</tbody>
</table>

### Specific Program Requirements

#### Mechanical

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 150 Automotive Power Plants</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 160 Diagnosis and Repair</td>
<td>6</td>
<td></td>
<td>AUTO 150, 166 and 176</td>
</tr>
<tr>
<td>AUTO 166 Automotive Electrical Systems</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 170 Automotive Braking Systems</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 172 Automotive Suspension and Steering</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 174 Automotive Power Trains</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 176 Emissions and Fuel Control Systems</td>
<td>6</td>
<td>AUTO 150 and 166</td>
<td></td>
</tr>
<tr>
<td>AUTO 264 Air Conditioning</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 272 Automatic Transmissions</td>
<td>6</td>
<td></td>
<td>AUTO 166</td>
</tr>
<tr>
<td>AUTO 279 Automotive Electronic Systems</td>
<td>6</td>
<td>AUTO 166</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**: 200201

The *Mechanical Option* prepares students to work as a technician in dealerships, service centers, independent garages or service stations.
### Merchandising

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 100</td>
<td>Automotive Internship I or Management Internship I</td>
<td>3</td>
<td>One semester automotive coursework for AUTO 100</td>
</tr>
<tr>
<td>BSAD 127</td>
<td>Management Internship I</td>
<td>3</td>
<td>AUTO 100 (for AUTO 101) or BSAD 127 (for BSAD 128)</td>
</tr>
<tr>
<td>AUTO 101</td>
<td>Automotive Internship II or Management Internship II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 128</td>
<td>Management Internship II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
<td>AUTO 150, 166 and 176</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO</td>
<td>Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 100</td>
<td>Introduction to Accounting or Accounting Principles I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 106</td>
<td>Principles of Salesmanship</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BSAD 112</td>
<td>Retailing Principles</td>
<td>3</td>
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</tr>
<tr>
<td>BSAD 205</td>
<td>Marketing</td>
<td>3</td>
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</tbody>
</table>

The Merchandising Option prepares students to work as an assistant service manager, automotive service center trainee, automotive salesperson, factory service representative, parts counterperson, or service salesperson.

### Ford/ASEP

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 105</td>
<td>Cooperative Work Experience I</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 106</td>
<td>Cooperative Work Experience II</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 107</td>
<td>Cooperative Work Experience III</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 108</td>
<td>Cooperative Work Experience IV</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
<td>AUTO 150, 166 and 176</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Automotive Suspension and Steering</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emissions and Fuel Control Systems</td>
<td>6</td>
<td>AUTO 150 and 166</td>
</tr>
<tr>
<td>AUTO 260</td>
<td>Advanced Diagnosis</td>
<td>6</td>
<td>Be a student in good standing in the General Motors ASEP or Ford Motor Co. ASSET program</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 278</td>
<td>Electronic Engine Control</td>
<td>6</td>
<td>AUTO 166 and be a student in the Ford Motor Co. ASSET program</td>
</tr>
</tbody>
</table>

### GM/ASEP

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 105</td>
<td>Cooperative Work Experience I</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 106</td>
<td>Cooperative Work Experience II</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 107</td>
<td>Cooperative Work Experience III</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 108</td>
<td>Cooperative Work Experience IV</td>
<td>3</td>
<td>Approval of automotive coordinator</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
<td>AUTO 150, 166 and 176</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
<td></td>
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<tr>
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<td>Automotive Braking Systems</td>
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</tr>
<tr>
<td>AUTO 172</td>
<td>Automotive Suspension and Steering</td>
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<td></td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emissions and Fuel Control Systems</td>
<td>6</td>
<td>AUTO 150 and 166</td>
</tr>
<tr>
<td>AUTO 260</td>
<td>Advanced Diagnosis</td>
<td>6</td>
<td>Be a student in good standing in the General Motors ASEP or Ford Motor Co. ASSET program</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 277</td>
<td>Specialized Electronics Training</td>
<td>6</td>
<td>AUTO 166 and class member of General Motors ASEP class.</td>
</tr>
</tbody>
</table>

### Total Credit Hours Required

- Automotive Undercar Job Ready Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 103</td>
<td>Fundamentals of Automotive Technology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Automotive Suspension and Steering</td>
<td>4</td>
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</tr>
</tbody>
</table>

**Total Credit Hours Required**: 17
### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 215 Technical Writing or ENGL 102 Composition and Reading II</td>
<td>3</td>
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<td>ENGL 101</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>MATH 100 Mathematics for Business</td>
<td>3</td>
<td></td>
<td>MATH 20 or 20L or appropriate placement test score</td>
</tr>
<tr>
<td>PHYS 104 Foundations of Physical Science or PHYS 101 Introductory Physics</td>
<td>5</td>
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</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
</tbody>
</table>

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 100 Introduction to Accounting</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSAD 109 Principles of Supervision</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHSS 100 Intro to Environmental Health and Safety</td>
<td>3</td>
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</tr>
</tbody>
</table>

### Specific Program Requirements (Provided by participating articulation agreement schools)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 120 MIG and Structural Welding</td>
<td>3</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 125 Structural Analysis and Damage Repair</td>
<td>6</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 130 Non-Structural Analysis and Damage Repair</td>
<td>6</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 135 Plastics and Adhesives</td>
<td>3</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 140 Automotive Painting</td>
<td>4</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 141 Automotive Refinishing</td>
<td>4</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 166 Automotive Electrical Systems</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 172 Automotive Suspension and Steering</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 264 Air Conditioning</td>
<td>4</td>
<td></td>
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</tr>
</tbody>
</table>

**Total Credit Hours Required**: 69

The **Collision Repair Technology Option**, which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.

### Collision Repair Technology Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
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<td>AUTO 125 Structural Analysis and Damage Repair</td>
<td>6</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 130 Non-Structural Analysis and Damage Repair</td>
<td>6</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 135 Plastics and Adhesives</td>
<td>3</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 140 Automotive Painting</td>
<td>4</td>
<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
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<tr>
<td>AUTO 141 Automotive Refinishing</td>
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<td></td>
<td>Accepted into the articulation program for Auto Collision Repair</td>
</tr>
<tr>
<td>AUTO 166 Automotive Electrical Systems</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUTO 172 Automotive Suspension and Steering</td>
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<tr>
<td>AUTO 264 Air Conditioning</td>
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</tbody>
</table>

**Total Credit Hours Required**: 40

The **Collision Repair Technology Option**, which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.
The Biotechnology Associate of Science degree program will prepare students who wish to pursue a baccalaureate degree in the biological sciences. Upon completion of this degree, students will be able to find entry-level or higher positions in the diverse field of biotechnology. Along with the basic and more advanced courses, students will take specialized courses in subjects such as laboratory safety and biotechnology methods. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

### A.S. Biotechnology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>CHEM 111</td>
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<td>CHEM 112</td>
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<td>Introduction to International Relations</td>
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<td>Oral Communications Elective</td>
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<td>Electives</td>
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<td>ECON/Social Science Electives</td>
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<td>PHED</td>
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<td>BIOL 208</td>
<td>Microbiology* *(MCC) or JCCC</td>
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<td>Microbiology* *(JCCC)</td>
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<td>BIOL 135</td>
<td>Principles of Cell &amp; Molecular Biology*</td>
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<td>BIOL 150</td>
<td>Biology of Organisms*</td>
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<td>BIOT 230 Microbiology for Biotechnology</td>
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<tr>
<td>BIOT 160</td>
<td>Introduction to Biotechnology*</td>
<td>2</td>
<td>See JCCC course descriptions in the Courses section of this catalog for individual course prerequisites.</td>
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<td>BIOT 165</td>
<td>Laboratory Safety*</td>
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<td>BIOT 205</td>
<td>General Genetics*</td>
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<td>BIOT 260</td>
<td>Biotechnology Methods*</td>
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<td>BIOT 265</td>
<td>Biotechnology Internship <em>(Optional)</em></td>
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## Health

### A.A.S. Biotechnology

<table>
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<th>Specific Program Requirements</th>
<th>Credits</th>
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<th>Prerequisites</th>
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<td><strong>Must be taken at one of the MCC Campuses</strong></td>
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<td>BIOL 109 Anatomy &amp; Physiology</td>
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<td>CHEM 105 Introductory Chemistry for Health Sciences</td>
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<td>ENGL 101 Composition and Reading I</td>
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<td>MATH 103 Technical Mathematics I (or higher)</td>
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<td>MATH 40 or 40L</td>
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<td>HUMN Humanities Elective</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<td>PHED Physical Education Elective</td>
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**May be taken at any MCC campus of JCCC**

| BIOL 208 Microbiology (MCC)* or | 5 | | |
| BIOL 230 Microbiology (JCCC)* | 3 | | |

**Must be taken at Johnson County Community College**

| BIOL 135 Principles of Cell & Molecular Biology* | 4 | | |
| BIOL 145 Human Anatomy and Physiology Dissection* | 1 | | |
| BIOT 155 Introduction to Bioethics* | 3 | | |
| BIOT 160 Introduction to Biotechnology* | 2 | | |
| BIOT 165 Laboratory Safety* | 1 | | |
| BIOT 205 General Genetics* | 4 | | |
| BIOT 260 Biotechnology Methods* | 5 | | |
| BIOT 265 Biotechnology Internship* | 4 | | |
| PHYS 133 Applied Physics* | 5 | | |

**Total Credit Hours Required** 67-71

Humanities Electives that will transfer from MCC to JCCC: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 127, 142, 150, 151, 165, 220, 221, 222, 223, GERM 203, SPAN 203, 204, HIST 120, 121, 133, 134, 140, HUMN 133, 134, 140, 145, MUSI 108, PHIL 100, 101, 200, 201, SPDR 114, 128

Social Science Electives that will transfer from MCC to JCCC: ANTH 100, ECON 110, 210, 211, GEOG 111, 112, HUSC 162, POLS 135, 136, 137, PSYC 140, SOCI 160, 162, 163, 170

*Prerequisite/corequisite required

### Biotechnology Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td><strong>Must be taken at one of the MCC Campuses</strong></td>
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<tr>
<td>CHEM 105 Introductory Chemistry for Health Sciences</td>
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<td>CHEM 105 or CHEM 111</td>
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<td>CHEM 205 Organic Chemistry</td>
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<td>CHEM 105 or CHEM 111</td>
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<td>MATH 103 Technical Mathematics I (or higher)</td>
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<td>MATH 40 or 40L</td>
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**May be taken at any MCC campus or JCCC**

| BIOL 208 Microbiology* (MCC) | 5 | | BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, 104, 106, 108, 109, or 110 |

**Must be taken at Johnson County Community College**

| BIOL 135 Principles of Cell & Molecular Biology* | 4 | | |
| BIOT 160 Introduction to Biotechnology* | 2 | | |
| BIOT 165 Laboratory Safety* | 1 | | |
| BIOT 260 Biotechnology Methods* | 5 | | |
| PHYS 133 Applied Physics* | 5 | | |
| BIOT 265 Biotechnology Internship (Optional)* | 4 | | |

**Total Credit Hours Required** 33-41

*Prerequisite/corequisite required
## A.A.S. Business Accounting Emphasis

<table>
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<th>General Education Requirements</th>
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<td>MATH 40/40L or appropriate placement test score</td>
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<td>ENGL 101 Composition and Reading I</td>
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<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<td>HIST 120 United States History to 1865 or</td>
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<tr>
<td>HIST 121 United States History Since 1865 or</td>
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<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td>3</td>
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<tr>
<td>POLS 136 Introduction to American National Politics or</td>
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<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
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<td>MATH 100 Mathematics for Business or</td>
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<td>MATH 110 Intermediate Algebra or higher</td>
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<td>PSYC 140 General Psychology or</td>
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<td>SOCI 160 Sociology</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech or</td>
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<tr>
<td>SPDR 102 Fundamentals of Human Communication</td>
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### Specific Program Requirements

| BSAD 101 Accounting Principles I                    | 3       |                |                                                    |
| BSAD 102 Accounting Principles II                   | 3       |                | BSAD 101 or two years of high school accounting    |
| BSAD 204 Business Management                         | 3       |                |                                                    |
| BSAD 205 Marketing                                   | 3       |                |                                                    |
| BSAD 221 Business Communications                     | 3       |                | ENGL 30 or appropriate placement test score        |
| BSAD 254 Business Law I or                           |         |                |                                                    |
| BSAD 255 Business Law II or                          |         |                |                                                    |
| BSAD 270 Legal Environment of Business               | 3       |                |                                                    |
| ECON 211 Principles of Economics                     | 3       |                | MATH 40 or 40L or a satisfactory score on the placement test |
| CSIS 115 Intro to Microcomputer Applications         | 3       |                |                                                    |
| MATH 115 Statistics                                  | 3       |                | MATH 110 or satisfactory score on Math placement test. |

### Electives

Any course numbered 100 or above

### Specific Emphasis Requirements

#### Accounting

| BSAD 102 Accounting Principles II                    | 3       |                | BSAD 101 |
| BSAD 153 General Ledger Accounting Systems, PC       | 3       |                | BSAD 101 |
| BSAD 154 Managerial Accounting                       | 3       |                | BSAD 101 |
| BSAD 155 Accounting Applications Using Spreadsheet   | 3       |                | BSAD 101 |
| BSAD 202 Intermediate Accounting I                   | 3       |                | BSAD 102 |
| BSAD 252 Individual Income Tax                        | 3       |                | BSAD 101 |
| BSAD Electives                                       | 3       |                |          |
### A.A.S. Business Logistics Management Emphasis

<table>
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<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
<td>POLS 135 Introduction to Political Science or</td>
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<tr>
<td>POLS 136 Introduction to American National Politics or</td>
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<td>MATH 40/40L or appropriate placement test score (MATH 110)</td>
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<td>PSYC 140 General Psychology or</td>
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<td>SOCI 160 Sociology</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>SPDR 102 Fundamentals of Human Communication</td>
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**Specific Program Requirements**

- BSAD 101 Accounting Principles I
- BSAD 204 Business Management
- BSAD 205 Marketing
- BSAD 221 Business Communications
- BSAD 254 Business Law I or
- BSAD 255 Business Law II or
- BSAD 270 Legal Environment of Business
- CSIS 115 Intro to Microcomputer Applications
- Electives Any course numbered 100 or above

### A.A.S. Business Management Emphasis

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<th>Credits</th>
<th>Semester Taken</th>
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**Specific Program Requirements**

- BSAD 101 Accounting Principles I
- BSAD 204 Business Management
- BSAD 205 Marketing
- BSAD 221 Business Communications
- BSAD 254 Business Law I or
- BSAD 255 Business Law II or
- BSAD 270 Legal Environment of Business
- CSIS 115 Intro to Microcomputer Applications
- Electives Any course numbered 100 or above

**Management**

- BSAD 105 Human Resources Management
- BSAD 109 Principles of Supervision
- BSAD 120 Organizational Behavior
- BSAD 127 Management Internship I
- BSAD 128 Management Internship II
- BSAD Electives

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Metropolitan Community College
### A.A.S. Business Office Management Emphasis

<table>
<thead>
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<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
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<td>ENGL 30 or appropriate placement test score</td>
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<tbody>
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<tr>
<td>BSAD 204 Business Management</td>
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### Administrative Support Assistant Certificate

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<th>Prerequisites</th>
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<td>BSAD 150 Business Essentials</td>
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<td>BSAD 161 Professional Development and Business Careers</td>
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<td>BSAD 221 Business Communications</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>CSIS 103 Document Processing I</td>
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### Financial Services Program Certificate

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<tr>
<td>BSAD 103 Business English</td>
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<td>BSAD 113 Special Problems in Business</td>
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<td>BSAD 120 Organizational Behavior</td>
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<td>BSAD 155 Accounting Applications Using Spreadsheets</td>
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<td>BSAD 101</td>
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<td>BSAD 221 Business Communications</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>CSIS 115 Introduction to Microcomputer Applications</td>
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</table>

### Total Credit Hours Required

- A.A.S. Business Office Management Emphasis: 63
- Administrative Support Assistant Certificate: 30
- Financial Services Program Certificate: 21
Child Growth and Development

Offered at MCC-Penn Valley

A.A.S. CDCG ................................. 65-67 Credits
Child Growth & Development Certificate ......................................... 30 Credits

This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, prepares students for jobs in child care. Requirements for the degree and certificate are listed below.

Admission to the Program
To be admitted to the program, students must complete the following application process:
2. Complete a "Request for Child Abuse or Neglect/Criminal Record." Every student must complete this process, which involves completing a form, paying the MDHSS fee and mailing the complete form. Information received by MCC-Penn Valley pertinent to this process will be used solely for MCC-Penn Valley's internal purposes in determining the suitability of the applicant for admission to the program.
3. Complete the MCC-Penn Valley admissions process.

For more information, go to www.mcckc.edu/cdcg

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
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<td>SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communication</td>
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<td>ENGL 30 or appropriate placement test score</td>
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Specific Emphasis Requirements

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<tr>
<td>CDCG 113 Child Growth and Development I</td>
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<tr>
<td>CDCG 128 Curriculum in Early Childhood Education</td>
<td>3</td>
<td>CDCG 113</td>
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<tr>
<td>CDCG 132 Learning Environment I</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>CDCG 149 Child Development Internship I</td>
<td>3</td>
<td>CDCG 113, ENGL 101</td>
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<tr>
<td>CDCG 201 Language Development</td>
<td>3</td>
<td>CDCG 113 and 132, ENGL 101</td>
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<td>CDCG 213 Child Growth &amp; Development II</td>
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<td>CDCG 217 Literature for Children</td>
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<td>CDCG 220 Child Care Management</td>
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<td>CDCG 110, 113 and 132</td>
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<td>CDCG 236 Learning Environments II</td>
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<td>CDCG 213</td>
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<td>CDCG 255 Child Development Internship II</td>
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<td>CDCG 260 Education of the Exceptional Child</td>
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<td>CDCG 149</td>
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<td>CDCG 262 Families, Early Care, and Communities</td>
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<td>CDCG 270 Portfolio Design</td>
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<td>Final semester in AAS program</td>
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<td>HUSC 100 Careers in Human Sciences</td>
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Child Growth and Development Certificate

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<tr>
<td>ENGL 101 Composition and Reading I</td>
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<td>SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communication</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>CDCG 101 Fundamentals of Early Care and Education</td>
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<td>CDCG 110 Child Health, Safety and Nutrition</td>
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<td>CDCG 113 Child Growth and Development I</td>
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<tr>
<td>CDCG 128 Curriculum in Early Childhood Education</td>
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<tr>
<td>CDCG 132 Learning Environments I</td>
<td>3</td>
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<tr>
<td>CDCG 149 Child Development Internship I</td>
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<td>CDCG 113</td>
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<td>CDCG 217 Literature for Children</td>
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<td>HUSC 100 Careers in Human Sciences</td>
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<td><strong>Total Credit Hours Required</strong></td>
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</table>
Commercial Drivers License - A

CDLA Certificate........................................ 16 Credits

1. Student must be at least 18 years of age
2. Provide a high school diploma or GED
3. Compass Placement Test
4. Have a valid operator's license
5. Provide a valid CDL-A Permit
6. Provide a valid DOT drug Screen & DOT physical
7. Meet Federal Requirements to work in the career field
8. Sign a release for the Motor Vehicle Report

Students completing this program will be prepared to seek employment as an entry-level truck driver in the trucking industry. Entry-level truck drivers typically find employment as over-the-road drivers, transporting various types of cargo throughout the United States. The certificate meets all state and federal requirements for truck driver training. The program is designed to prepare students to sit for the Missouri or Kansas CDL Class A exam.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>CDLA 111 Basic Operating Procedures</td>
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<td>CDLA 112 Safe Operating Procedures</td>
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<tr>
<td>CDLA 113 Advanced Operating Procedures</td>
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<tr>
<td>CDLA 114 Vehicle Maintenance Procedures</td>
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<td>CDLA 115 Non-Driving Procedures</td>
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<td>CDLA 116 Behind-the-Wheel Procedures</td>
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<td>Any course(s) numbered 100 or above</td>
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Computer Aided Drafting & Design Technology
Offered at MCC-Business & Technology

A.A.S. Computer Aided Drafting & Design Technology
................................. 64-65 Credits
Computer Aided Drafting & Design Certificate .................................. 13-15 Credits

This program leads to an Associate in Applied Science degree and certificate. The degree prepares the student for employment in a broad range of engineering, architectural and related fields. Graduates will have a strong background with multiple computer aided design technologies and an understanding of basic design principles in various engineering and architectural fields. This program transfers to area universities if the student wishes to pursue a four-year degree in Computer Aided Drafting and Design.

General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>ENGL 101</td>
<td>Composition and Reading I</td>
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<td>ENGL 215</td>
<td>Technical Writing</td>
<td>3</td>
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<td>ENGL 101</td>
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<td>EHSS 111</td>
<td>Introduction to Health &amp; Safety for General Industry</td>
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<td>United States History to 1865 or</td>
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<td>HIST 121</td>
<td>United States History Since 1865 or</td>
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<td>POLS 135</td>
<td>Introduction to Political Science or</td>
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<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
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<td>Introduction to State and Local Politics</td>
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<td>College Algebra and Trigonometry</td>
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<td>PHYS 130</td>
<td>General Physics I</td>
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<td>MATH 130 (PHYS 130)</td>
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<td>SPAN 100</td>
<td>Beginning Occupational Spanish</td>
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<td>SPDR 100</td>
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Specific Program Requirements

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<td>Basic Electronics</td>
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<td>ETEC 152</td>
<td>Engineering Graphics and CADD I</td>
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<td>MATH 40/40L</td>
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<td>ETEC 153</td>
<td>Descriptive Geometry</td>
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<td>ETEC 155</td>
<td>Introduction to Residential Architecture</td>
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<td>ETEC 200</td>
<td>Applied Statics &amp; Mechanics</td>
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<td>ETEC 258</td>
<td>Introduction to Machine Design</td>
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<td>ETEC 265</td>
<td>Introduction to Civil Design</td>
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<td>ETEC 268</td>
<td>Structural Steel Blueprint Reading</td>
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<td>ETEC 269</td>
<td>CADD II</td>
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<td>ENGR 101</td>
<td>Introduction to the Profession</td>
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Electives

Choose 12 hours from the following:

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<td>ETEC 170</td>
<td>CADD I Alternate (3)</td>
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<td>ETEC 191</td>
<td>ETEC Internship III (3)</td>
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<td>ETEC 199c</td>
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<td>Building Information Modeling (3)</td>
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<td>ETEC 270</td>
<td>Parametric Modeling (3)</td>
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<td>Parametric Modeling, Alternate (3)</td>
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Electives must be from the following disciplines: ENGR, ETEC, MATE, SRVY

Total Credit Hours Required 64-65

Computer Aided Drafting and Design Certificate

<table>
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<td>ETEC 169</td>
<td>CADD I</td>
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<td>ETEC 152</td>
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<td>ETEC 170</td>
<td>CADD I, alternate</td>
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<td>ETEC 152 or 169</td>
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<tr>
<td>ETEC 269</td>
<td>CADD II</td>
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Choose one of the following:

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<td>ETEC 270</td>
<td>Parametric Model</td>
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<td>ETEC 271</td>
<td>Parametric Modeling, Alternate</td>
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<td>ETEC 152 or 169</td>
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Total Credit Hours Required 13-15
## A.A.S. Computer Science and Information Systems

The Associate in Applied Science in Computer Science and Information Systems degree programs are intended to qualify individuals for entry-level positions in computer-related industry.

**Note:** This program is under review. Please check with an advisor or counselor for the most up-to-date information.

### General Education Requirements

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>HIST 120</td>
<td>United States History to 1865 or HIST 121</td>
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<td>MATH 110</td>
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<td>SPDR 100</td>
<td>Fundamentals of Speech or SPDR 102</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>ART 102</td>
<td>Computers in Design I</td>
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<td>ECON 210</td>
<td>Macroeconomics</td>
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<td>Microeconomics</td>
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<td>ENGL 215</td>
<td>Technical Writing</td>
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<td>Ethics</td>
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<td>General Psychology</td>
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<td>SPDR 101</td>
<td>Advanced Speech</td>
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### Specific Program Requirements

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<th>Course Title</th>
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<tr>
<td>BSAD 120</td>
<td>Organizational Behavior</td>
<td>3</td>
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<td>BSAD 221</td>
<td>Business Communications</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>CSIS 110</td>
<td>Technology and Information Management</td>
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<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
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Six of the following:

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<th>Course Title</th>
<th>Credits</th>
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<td>CSIS 111</td>
<td>Microcomputer Hardware Concepts</td>
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<td>Programming Fundamentals</td>
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### Specific Emphasis Requirements

#### CISCO

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**Computer Support Technology I Certificate** 30 Credits

**Computer Support Technology II Certificate** 30 Credits

**Database Programming (Access) Certificate** 45 Credits

**Database Programming (Oracle) Certificate** 30 Credits

**Interactive Digital Media I Certificate** 15 Credits

**Interactive Digital Media II Certificate** 30 Credits

**Networking Certificate** 15 Credits

**Programming Certificate** 30 Credits

**These emphasis areas and certificates are under construction. Please see an advisor or counselor for more information.**
## General Education Requirements

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Two courses from the following list:

- ART 102  Computers in Design I
- ECON 210  Macroeconomics
- ECON 211  Principles of Economics II – Microeconomics
- ENGL 215  Technical Writing
- MATH 115  Statistics
- PHIL 200  Logic
- PHIL 203  Ethics
- PSYC 140  General Psychology
- SPDR 103  Interpersonal Communication
- SPDR 133  Intercultural Communications

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**Emphasis Area**

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**Total Credit Hours Required**: 62
## Computers

### General Education Requirements

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### Specific Program Requirements

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### Emphasis Area

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### Total Credit Hours Required

| Total Credit Hours Required | 63 |
### Computers

#### Cisco Academy Certificate

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#### CCNA and Security Certificate

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#### CCNA and CCNP Certificate

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#### Cisco and Technology Certificate

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#### Database Programming (ACCESS) Certificate

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<td>CSIS 123 Programming Fundamentals</td>
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<td>MATH 40/40L or appropriate score on placement test</td>
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<td>CSIS 129 Electronic Commerce</td>
<td>3</td>
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<td>CSIS 110</td>
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<tr>
<td>CSIS 143 Database Design and Management</td>
<td>3</td>
<td></td>
<td>CSIS 110 or 115</td>
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<tr>
<td>CSIS 170 Information Security, Ethics &amp; Risk Assessment</td>
<td>3</td>
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<td>CSIS 110</td>
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<tr>
<td>CSIS 177 Database Application and Design with ACCESS</td>
<td>3</td>
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<td>One Windows-based course</td>
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<tr>
<td>CSIS 223 Object-Oriented Programming</td>
<td>3</td>
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<td>MATH 110 and CSIS 123</td>
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<tr>
<td>CSIS 277 Database Programming with ACCESS and Advanced ACCESS</td>
<td>3</td>
<td></td>
<td>CSIS 123 and CSIS 177</td>
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<tr>
<td>CSIS 290 Computer Science/Information Systems Field Project</td>
<td>3</td>
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<td><strong>Total Credit Hours Required</strong></td>
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<tr>
<td></td>
<td><strong>30</strong></td>
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</tbody>
</table>
# Construction Management

**A.A.S. Industrial Tech Construction Management** ........................................ 63 Credits

This Associate in Applied Science degree is intended to qualify individuals for entry-level careers in the residential or commercial construction industry, in management or support roles. Construction specialty (CSMG) classes are held in the evening at the Builders' Association Education and Training Center, 105 W. 12th Avenue, North Kansas City, Missouri.

---

## A.A.S. Indus. Tech. Construction Management

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>HIST 120 United States History to 1865</td>
<td>3</td>
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<tr>
<td>HIST 121 United States History Since 1865</td>
<td>3</td>
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<tr>
<td>POLS 135 Introduction to Political Science</td>
<td>3</td>
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<tr>
<td>POLS 136 Introduction to American National Politics</td>
<td>3</td>
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<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
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<td>MATH 100 Mathematics for Business</td>
<td>3</td>
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<td>MATH 20/20L or appropriate placement test score</td>
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<tr>
<td>MATH 110 Intermediate Algebra</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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**General Education Electives:**
- ART 108, 150, 151, PHIL 100, PSYC 140, SOCI 160, HIST 120, 121, POLS 135, ENGL 215

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
<td>BSAD 100 Introduction to Accounting</td>
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<tr>
<td>BSAD 101 Accounting Principles I</td>
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<tr>
<td>BSAD 109 Principles of Supervision</td>
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<tr>
<td>BSAD 120 Organizational Behavior</td>
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<td>BSAD 127 Management Internship I or BSAD 128 Management Internship II</td>
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<td>CSMG 150 Construction Management Leadership</td>
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<td>CSMG 160 Construction Project Management</td>
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<tr>
<td>CSMG 170 Communications for the Construction Trades</td>
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<td>CSMG 180 General and Specialty Contractor Dynamics</td>
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<td>BSAD 219 Entrepreneurship</td>
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<td>BSAD 204 Business Management</td>
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<td>BSAD 153 General Ledger Accounting Systems, PC</td>
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<td>BSAD 101 (BSAD 153)</td>
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<td>CSIS 15 Intro to Microcomputer Applications</td>
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<tr>
<td>CSIS Any Programming Language Course</td>
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<td>BSAD 205 Marketing</td>
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<td>BSAD 221 Business Communications</td>
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<td>BSAD 254 Business Law I or BSAD 255 Business Law II</td>
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<td>BSAD 270 Legal Environment of Business</td>
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<td>CSMG 110 Problem Solving/Decision Making</td>
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<td>CSMG 120 OSHA and Site Security</td>
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<td>CSMG 130 Cost Awareness/Production Control</td>
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<td>CSMG 140 Beginning Print Reading</td>
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<td>CSMG 205 Intermediate Print Reading</td>
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<tr>
<td>CSMG 210 Accident Prevention and Loss Control</td>
<td>3</td>
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<tr>
<td>CSMG 220 Construction Planning and Scheduling</td>
<td>3</td>
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<td>CSMG 230 Productivity Improvement</td>
<td>3</td>
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<td>CSMG 250 Construction Estimating</td>
<td>3</td>
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<td>CSMG 260 Contract Documents</td>
<td>3</td>
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<tr>
<td>CSMG 270 Advanced Print Reading</td>
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**Total Credit Hours Required** 63
# A.A.S. Criminal Justice Adult Corrections Emphasis

<table>
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<tr>
<th>General Education Requirements</th>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
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<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865</td>
<td>3</td>
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<tr>
<td>POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
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<tr>
<td>MATH 100 Mathematics for Business or higher numbered course</td>
<td>3</td>
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<td>MATH 20/20L or appropriate placement test score</td>
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<tr>
<td>PSYC 140 General Psychology</td>
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<tr>
<td>SOCI 160 Sociology</td>
<td>3</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ECON, HIST, Foreign Language

3-5

## Specific Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
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<tbody>
<tr>
<td>CRJU 101 Intro to Criminal Justice</td>
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<td>CRJU 122 Procedural Law</td>
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<td>CRJU 165 Criminology</td>
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<td>CRJU 168 Juvenile Delinquency</td>
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<tr>
<td>CRJU 169 Family Violence and Sexual Abuse</td>
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<tr>
<td>CRJU 223 Criminal Law I or CRJU 230 Missouri Criminal Law</td>
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## Adult Corrections Emphasis

<table>
<thead>
<tr>
<th>Course</th>
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<th>Semester Taken</th>
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<tbody>
<tr>
<td>CRJU 105 American Corrections</td>
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<td>CRJU 101</td>
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<tr>
<td>CRJU 126 Corrections in the Community</td>
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<td>CRJU 162 Correctional Psychology</td>
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<tr>
<td>CRJU 200 Internship in Criminal Justice</td>
<td>3</td>
<td>15 credit hours of CRJU including CRJU 101</td>
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<tr>
<td>CRJU 228 Fundamentals of Probation and Parole</td>
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<td>CRJU 233 Principles of Management in Criminal Justice Systems or CRJU 236 Correctional Administration</td>
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Electives: Any course(s) numbered 100 or above from the following disciplines: CRJU, Foreign Language, HUMS, PSYC, SOCI

9

## Total Credit Hours Required

66-68

This program leads to the Associate in Applied Science degree with three emphasis areas: Adult Corrections, Juvenile Services and Police Science. The program prepares students for jobs in law enforcement and corrections. The Police Science program is offered at MCC-Blue River.
## A.A.S. Criminal Justice Juvenile Services Emphasis

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
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<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
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<tr>
<td>MATH 100 Mathematics for Business or higher numbered course</td>
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<td>PSYC 140 General Psychology</td>
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<tr>
<td>SOCI 160 Sociology</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ECON, HIST, Foreign Language

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<th>Specific Core Requirements</th>
<th>Credits</th>
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<tr>
<td>CRJU 101 Intro to Criminal Justice</td>
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<tr>
<td>CRJU 122 Procedural Law</td>
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<tr>
<td>CRJU 165 Criminology</td>
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<td></td>
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<tr>
<td>CRJU 168 Juvenile Delinquency</td>
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<tr>
<td>CRJU 169 Family Violence and Sexual Abuse</td>
<td>3</td>
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<tr>
<td>CRJU 223 Criminal Law I or CRJU 230 Missouri Criminal Law</td>
<td>3</td>
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</table>

Juvenile Services Emphasis

| CRJU 200 Internship in Criminal Justice | 3       | 15 credit hours of CRJU including CRJU 101 |
| CRJU 215 Juvenile Law | 3       | CRJU 105 |
| CRJU 244 Group and Individual Counseling in Corrections | 3       | CRJU 105 |
| HUMS 160 Principles of Youth Work | 3       |              |
| HUMS 166 Behavior Management | 3       |              |
| PSYC 245 Adolescent Psychology | 3       | PSYC 140 |

Electives: Any course(s) numbered 100 or above from the following disciplines: ANTH, CRJU, Foreign Language, HUMS, PSYC

<table>
<thead>
<tr>
<th>Total Credit Hours Required</th>
<th>66-68</th>
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</table>
### A.A.S. Criminal Justice - Police Science

This program leads to an Associate in Applied Science Degree. It prepares students for jobs as police officers.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ECON, HIST, Foreign Language

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<td>LWEN 101 Introduction to Law Enforcement</td>
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<td>LWEN 100</td>
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<tr>
<td>LWEN 111 Law Enforcement Operational Procedures</td>
<td>3</td>
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<tr>
<td>LWEN 112 Traffic Control and Investigation</td>
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<td>LWEN 114 Law Enforcement Report Writing</td>
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<td>LWEN 122 Procedural Law for Law Enforcement</td>
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<td>LWEN 101</td>
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<td>LWEN 143 Defensive Tactics for Law Enforcement</td>
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<td>LWEN 200 Law Enforcement Skills</td>
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<td>LWEN 101</td>
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<tr>
<td>LWEN 203 Criminal Investigation I for Law Enforcement</td>
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<td>LWEN 204 Criminal Investigation II for Law Enforcement</td>
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<td>LWEN 101 and 203</td>
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<td>LWEN 230 Missouri Statutory Law</td>
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<td>LWEN 101</td>
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<tr>
<td>EMS 110 First Responder</td>
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Electives

Any course numbered 100 or above from the following disciplines: BSAD, CRJU, HIST, HUMS, LWEN, POLS, PSYC, SOCI or Foreign Language

9-11

Total Credit Hours Required 65-69

### Police Science Certificate - 600 Program

This program provides basic peace officer training. With the completion of the Police Training Academy the candidate will have the required training to apply at any Class A County department. All instructors at the academy are current members of area police departments and possess the Missouri Peace Officer Standards and Training Program,(POST) state instructor certification.

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<td>LWEN 200 Law Enforcement Skills</td>
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<td>LWEN 203 Criminal Investigations I for Law Enforcement</td>
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<tr>
<td>EMS 110 First Responder</td>
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</table>

Total Credit Hours Required 38
Dental Assisting

Offered at MCC-Penn Valley

A.A.S. Dental Assisting ...................... 71-77 Credits
Dental Assisting Certificate......................51 Credits

This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, prepares the student to enter the workforce as a trained dental assistant. Graduates of this program are eligible to take the national certifying examination given by the Dental Assisting National Board.

Admission to the Dental Assisting Program
Because enrollment in the program is limited, a student must meet the requirements and apply for admission.
For more information, go to www.mcckc.edu/dentalassisting

### A.A.S. Dental Assisting

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>BIOL 109 Human Anatomy and Human Physiology (BIOL 110 and 210 may be substituted)</td>
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<td>BIOL 100 or CHEM 105</td>
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<td>BIOL 208 Microbiology</td>
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<td>BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 100, 104, 106, 108, 109, or 110.</td>
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<td>BIOL 100 Cell Biology or CHEM 105 Introductory Chemistry</td>
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<td>ENGL 101 Composition and Reading I</td>
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<tr>
<td>POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>MATH 110 Intermediate Algebra (or higher)</td>
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<td>MATH 40 or 40L</td>
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<tr>
<td>PSYC 140 General Psychology</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td>MATH 40 or 40L</td>
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</table>

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>DENA 100 Introduction to Dental Assisting</td>
<td>1</td>
<td></td>
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<tr>
<td>DENA 101 Body Structure and Function</td>
<td>2</td>
<td>Admission to the Dental Assisting program</td>
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<tr>
<td>DENA 102 Head and Neck Anatomy</td>
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<td>Admission to the Dental Assisting program</td>
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<tr>
<td>DENA 103 Dental Anatomy</td>
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<td>DENA 105 Dental Materials I</td>
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</tr>
<tr>
<td>DENA 108 Oral Microbiology &amp; Infection Control</td>
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<td>DENA 110 Chairside Assisting I</td>
<td>5</td>
<td>Admission to the Dental Assisting program</td>
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</tr>
<tr>
<td>DENA 115 Dental Radiology I</td>
<td>4</td>
<td>DENA 102</td>
<td></td>
</tr>
<tr>
<td>DENA 125 Clinical Experience I</td>
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<td>Admission to the Dental Assisting program and completion of CPR for healthcare workers</td>
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<tr>
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<td>DENA 105</td>
<td></td>
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<tr>
<td>DENA 210 Chairside Assisting II</td>
<td>5</td>
<td>DENA 110</td>
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</tr>
<tr>
<td>DENA 215 Dental Radiology II</td>
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<td>DENA 225 Dental Office Management</td>
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<td>DENA 230 Oral Pathology</td>
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<td>DENA 108 and 110</td>
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<td>DENA 250 Clinical Experience II</td>
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<tr>
<td>DENA 260 Dental Assisting Seminar</td>
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**Total Credit Hours Required** 71-77
**Dental Assisting Certificate**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
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<tr>
<td>DENA 103</td>
<td>Dental Anatomy</td>
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<td>Dental Emergencies and Pharmacology</td>
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<tr>
<td>DENA 108</td>
<td>Oral Microbiology and Infection Control</td>
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<td>DENA 225</td>
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<td>DENA 230</td>
<td>Oral Pathology</td>
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<td>DENA 108 and 110</td>
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<td>DENA 250</td>
<td>Clinical Experience II</td>
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<td>DENA 260</td>
<td>Dental Assisting Seminar</td>
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</table>

**Total Credit Hours Required** | 51
Digital Prepress

Offered at MCC-Penn Valley

Digital Prepress Technician Certificate.........24 Credits

This program, which leads to a certificate, is for students who want a career in printing and printers who want to update their skills.

Digital Prepress Technician Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
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<tbody>
<tr>
<td>ART 102 Computers in Design I</td>
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<tr>
<td>ART 115 Orientation to Graphic Communications</td>
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<tr>
<td>ART 202 Computers in Design II</td>
<td>3</td>
<td>ART 102</td>
</tr>
<tr>
<td>ART 281 Introduction to Digital Prepress - File Preparation</td>
<td>3</td>
<td>ART 102 and 115</td>
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<td>ART 282 Digital Prepress - Advanced Color Correction</td>
<td>3</td>
<td>ART 102 and 115</td>
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<td>ART 283 Advanced Prepress</td>
<td>3</td>
<td>ART 115, 202, 281, 282</td>
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<td>ART 285 Variable Data Publishing</td>
<td>3</td>
<td>ART 202, 281 and 282</td>
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<td>ART 290 Digital Prepress Internship</td>
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</table>
# Electric Utility Line Technician

**A.A.S. INTE Electric Utility Line Technician**

The certificate program is intended to prepare individuals for employment at any electric utility offering an apprenticeship in the United States. Applicants with formal training typically have higher starting salaries and greater opportunity for advancement within the industry. Applicants must apply to the program.

## General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<td>HIST 120</td>
<td>United States History to 1865 or</td>
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<td></td>
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<td>HIST 121</td>
<td>United States History Since 1865 or</td>
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<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
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<td>SPAN 100</td>
<td>Beginning Occupational Spanish</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
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<tr>
<td>MATH 103R</td>
<td>Technical Mathematics I with Review* and</td>
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<tr>
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<td>Technical Mathematics II* or</td>
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<td>test score (MATH 120) or appropriate placement test</td>
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<td>MATH 120</td>
<td>College Algebra and</td>
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<tr>
<td>MATH 130</td>
<td>Trigonometry</td>
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<td>SPAN 100</td>
<td>Beginning Occupational Spanish</td>
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## Specific Program Requirements

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
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<tr>
<td>LINE 104</td>
<td>Pole Climbing Skills</td>
<td>5</td>
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</tr>
<tr>
<td>LINE 105</td>
<td>Electrical Distribution Systems</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
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<tr>
<td>LINE 106</td>
<td>Safety and Accident Prevention</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>INTE 110</td>
<td>Industrial Electrical Principles</td>
<td>3</td>
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<tr>
<td>INTE 120</td>
<td>INTE Internship I</td>
<td>3</td>
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<tr>
<td>INTE 124</td>
<td>Employment Strategies for Technical Careers</td>
<td>3</td>
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<tr>
<td>LINE 210</td>
<td>Pole Framing and Construction Specifications</td>
<td>3</td>
<td></td>
<td>LINE 104 &amp; 106</td>
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<tr>
<td>LINE 215</td>
<td>Setting and Replacing Poles</td>
<td>3</td>
<td></td>
<td>LINE 104 &amp; 106</td>
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<tr>
<td>INTE 220</td>
<td>INTE Internship II</td>
<td>3</td>
<td></td>
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<tr>
<td>LINE 237</td>
<td>Transformer Theory and Installation</td>
<td>3</td>
<td></td>
<td>LINE 106, INTE 110 and LINE 210</td>
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<tr>
<td>LINE 241</td>
<td>Conductor Installation and Metering</td>
<td>3</td>
<td></td>
<td>LINE 237</td>
</tr>
<tr>
<td>LINE 250</td>
<td>Fusing, Substations, &amp; Voltage Regulation</td>
<td>3</td>
<td></td>
<td>LINE 241</td>
</tr>
<tr>
<td>LINE 251</td>
<td>Installation and Troubleshooting Underground</td>
<td>3</td>
<td></td>
<td>LINE 250</td>
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<tr>
<td>LINE 252</td>
<td>Advanced Pole Climbing</td>
<td>3</td>
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<td>LINE 104 and 106</td>
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</table>

## Total Credit Hours Required

**65-66**

*minimum requirements

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**Electric Utility Line Technician Certificate**

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
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<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
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<tr>
<td>LINE 104</td>
<td>Pole Climbing Skills</td>
<td>5</td>
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<tr>
<td>LINE 105</td>
<td>Electrical Distribution Systems</td>
<td>3</td>
<td></td>
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<tr>
<td>LINE 210</td>
<td>Pole Framing and Construction Specifications</td>
<td>3</td>
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<tr>
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<td>MATH 103</td>
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</table>

## Total Credit Hours Required

**47-48**

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Metropolitan Community College
Energy Efficiency

Energy Efficiency Certificate

This certificate is intended to prepare students for entry level jobs in a variety of areas, including retrofitting homes for energy efficiency and managing buildings for improved energy conservation and efficiency.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<tbody>
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<td>HVAC Job Ready Certificate</td>
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<td>HVAC 240 Geo-Thermal Heat Pumps</td>
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<td>HVAC 136</td>
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<tr>
<td>HVAC 201 Stationary Engineering</td>
<td>3</td>
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<td>HVAC 111 and 120</td>
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<tr>
<td>GEOL 224 Energy Management, Efficiency, and Conservation</td>
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<tr>
<td>GEOL 180 Energy and the Environment</td>
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<tr>
<td>BSAD 219 Entrepreneurship</td>
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<td>*Includes HVAC 109, 111, 120, 135, 136, 230</td>
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Engineering Technology

Offered MCC-Business & Technology

A.A.S. Engineering Technology

- Architecture ........................................ 67-69 Credits
- Civil ...................................................... 64 Credits
- Mechanical/Manufacturing Tech ........... 68-70 Credits
- Computer & Electronics ...................... 68-71 Credits
- Electronics .......................................... 69-71 Credits

This program leads to an Associate in Applied Science degree and prepares the student to enter the workforce in the mechanical engineering, civil engineering, architecture, computer or electronics fields. Graduates will have a strong background in mathematics, design principles, computer aided design and other technologies relating to the engineering fields. Graduates will assist engineering professionals in the design process and be an integral part of the design team. This program transfers to area universities if the student wishes to pursue a four-year degree in engineering technology or related degree.

A.A.S. Engineering Technology: Architecture Emphasis

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<td>ENGL 215 Technical Writing</td>
<td>3</td>
<td>ENGL 101</td>
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<td>EHSS 111 Introduction to Health &amp; Safety for General Industry</td>
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<tr>
<td>SPAN 100 Beginning Occupational Spanish</td>
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<td></td>
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<tr>
<td>HIST 121 U.S. History since 1865 or</td>
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<td>POLS 136 Introduction to American National Politics or</td>
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<td>MATH 130 Trigonometry or</td>
<td>3-5</td>
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<tr>
<td>MATH 150 PreCalculus</td>
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Specific Program Requirements for: Civil & Mechanical/Manufacturing & Architecture

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<tr>
<td>ETEC 153 Descriptive Geometry</td>
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<td>ETEC 152</td>
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<td>ETEC 200 Applied Statics &amp; Mechanics</td>
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<td>ETEC 268 Structural Steel Blueprint Reading</td>
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<td>ETEC 152</td>
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<td>ETEC 269 CADD II</td>
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<td>PHYS 130 General Physics</td>
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Specific Emphasis Requirements Architecture

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<tr>
<td>ETEC 155 Introduction to Residential Architecture</td>
<td>3</td>
<td>ETEC 152</td>
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<tr>
<td>ETEC 170 CADD I, Alternate</td>
<td>3</td>
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<tr>
<td>ETEC 210 Introduction to Commercial Architecture</td>
<td>3</td>
<td>ETEC 152 and 155</td>
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<tr>
<td>ETEC 211 Building Information Modeling</td>
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<td>ETEC 220</td>
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<tr>
<td>ETEC 265 Introduction to Civil Design</td>
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<td>ETEC 152</td>
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<tr>
<td>SRVY 135 Elementary Surveying</td>
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<td>MATH 105, 130 or 150</td>
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Total Credit Hours Required 67-69
# Engineering Technology

## A.A.S. Engineering Technology: Civil Emphasis

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<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
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<tr>
<td>ENGL 215 Technical Writing</td>
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<td>ENGL 101</td>
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<td>EHSS 111 Introduction to Health &amp; Safety for General Industry</td>
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<tr>
<td>SPAN 100 Beginning Occupational Spanish</td>
<td>3</td>
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<td>MATH 180 Analytic Geometry and Calculus I</td>
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<td>MATH 130 or 150</td>
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<tr>
<th>Specific Program Requirements for: Civil &amp; Mechanical/Manufacturing &amp; Architecture</th>
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<tbody>
<tr>
<td>ETEC 152 Engineering Graphics and CADD I</td>
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<tr>
<td>ETEC 153 Descriptive Geometry</td>
</tr>
<tr>
<td>ETEC 200 Structural Design</td>
</tr>
<tr>
<td>ETEC 268 Structural Steel Blueprint Reading</td>
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<td>ETEC 269 CADD II</td>
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<td>ENGR 101 Introduction to the Profession</td>
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<td>PHYS 130 General Physics</td>
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### Specific Emphasis Requirements Civil

| ETEC 265 Introduction to Civil Drafting                                         | 3       |                 | ETEC 152                                    |
| GEOG 120 Introduction to Geographic Information Systems                        | 3       |                 |                                            |
| GEOG 220 GIS Database and Design                                                | 3       |                 | GEOG 120                                    |
| GEOG 224 Applications in Geographic Information Systems                         | 3       |                 | GEOG 120 and 220                            |
| SRVY 135 Elementary Surveying                                                   | 3       |                 | MATH 105, 130 or 150                        |
| SRVY 235 Advanced Surveying                                                     | 3       |                 | SRVY 135                                    |

**Total Credit Hours Required**: 64
**A.A.S. Engineering Technology: Mechanical/Manufacturing Emphasis**

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<td>POLS 138 Introduction to American National Politics or</td>
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<td>MATH 150 PreCalculus</td>
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**Specific Program Requirements for:**

**Civil & Mechanical/Maufacturing & Architecture**

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<td>ETEC 153</td>
<td>Descriptive Geometry</td>
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<td>ETEC 200</td>
<td>Applied Statics &amp; Mechanics</td>
<td>3</td>
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<td>ETEC 268</td>
<td>Structural Steel Blueprint Reading</td>
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<td>CADD II</td>
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<td>PHYS 130</td>
<td>General Physics or</td>
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<tr>
<td>PHYS 220</td>
<td>Engineering Physics</td>
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**Specific Emphasis Requirements**

**Mechanical/Manufacturing**

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<tr>
<td>ETEC 258</td>
<td>Introduction to Machine Design</td>
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<tr>
<td>ETEC 270</td>
<td>Parametric Modeling or</td>
<td>3</td>
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<td>Parametric Modeling, Alternate</td>
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<td>MATE 116</td>
<td>Geometric Dimensioning and Tolerancing Printreading</td>
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<td>MATE 130</td>
<td>Machining for Related Occupations</td>
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<tr>
<td>MATE 210</td>
<td>Computerized Numerical Control - Lathe or</td>
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<td>Master Cam I</td>
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**Total Credit Hours Required**

68-70
### General Education Requirements

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<th>Course</th>
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<td>EHSS 111 Introduction to Health &amp; Safety for General Industry</td>
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<td>SPAN 100 Beginning Occupational Spanish</td>
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<td>POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
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<tr>
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### Specific Program Requirements

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<tr>
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<td>CSIS 123 Programming Fundamentals</td>
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<td>CSIS 223 Object-Oriented Programming</td>
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<td>ETEC 230 Microcontroller Architecture</td>
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<tr>
<td>ETEC 240 Design Project or ETEC 275 Build Project</td>
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<td>ETEC 270 ETEC 220</td>
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<tr>
<td>CSIS 271 Data Structures &amp; Algorithm Analysis</td>
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<td>ETEC 212 Computer Integrated Manufacturing &amp; Robotic Control</td>
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<tr>
<td>INTE 271 Programmable Logic Controllers I</td>
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<td>INTE 110 and 275</td>
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**Total Credit Hours Required**: 68-71
### General Education Requirements (Computer & Electronics, and Electronics)

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### Specific Program Requirements

#### Electronics Engineering Technology

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<td>Build Project</td>
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### Total Credit Hours Required

69-71
# Environmental Health & Safety Technology

**Offered at MCC-Business & Technology**

This program provides a specialized technical background necessary to work in the field of environmental health and safety.

**A.A.S. EHSS Environmental Health and Safety Technology Emphasis**

<table>
<thead>
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<th>Credits</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
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<td>BSAD 221 Business Communications or ENGL 119 Introduction to Report Writing or ENGL 215 Technical Writing</td>
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<td>GEOL 103 Environmental Geology</td>
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<td>ENGL 101 Composition and Reading I</td>
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General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104, 110 & GIS Courses), HIST, HUMN, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, SPDR

<table>
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<th>Specific Program Requirements</th>
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<td>EHSS 101 Hazardous Material Management and Emergency Response</td>
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<tr>
<td>EHSS 110 Properties and Hazards of Hazardous Materials</td>
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<td>EHSS 200 Safety and Health Regulations and Standards</td>
<td>3</td>
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<tr>
<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
<td>3</td>
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<td>EHSS 203</td>
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<td>EHSS 203 Environmental Regulations</td>
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<td>EHSS 204 Emergency Preparedness and Planning</td>
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<td>EHSS 200 and 203</td>
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<td>EHSS 205 Principles of Industrial Hygiene or EHSS 218 Industrial Process and Hazard Control</td>
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<td>EHSS 213 EHS Program Development and Management</td>
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<td>EHSS 217 Concepts of Waste Minimization, Recycling and Pollution Prevention or EHSS 230 Waste Management</td>
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**Total Credit Hours Required** 69-72
# Specific Program Requirements

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<td>Properties and Hazards of Hazardous Materials</td>
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<td>Environmental Regulations</td>
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<td>EHSS 217</td>
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# A.A.S. EHSS Health and Safety

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<td>Introduction to Report Writing or</td>
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<td>Composition and Reading I</td>
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<td>HIST 121</td>
<td>United States History Since 1865 or</td>
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<td>POLS 135</td>
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<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
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<td>EHSS 101</td>
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<td>Safety and Health Regulations and Standards</td>
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<td>Environmental Regulations</td>
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<td>Principles of Industrial Hygiene</td>
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<td>EHSS 200, either CHEM 102, 105 or 111</td>
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<td>EHSS 211</td>
<td>Workers Compensation Legislation for EHS</td>
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<td>EHSS 213</td>
<td>EHS Program Development and Management</td>
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<td>EHSS 200 and 203</td>
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<td>EHSS 218</td>
<td>Industrial Process and Hazard Control</td>
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*minimum requirements
## Industrial/Technical

### Health and Safety Specialist Certificate

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<td>EHSS 200 Safety and Health Regulations and Standards</td>
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<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
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<td>EHSS 211 Workers Compensation Legislation for EHS</td>
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### A.A.S. EHSS Environmental

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<td>ENGL 119 Introduction to Report Writing or</td>
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<td>ENGL 215 Technical Writing</td>
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<td>CHEM 105 Introductory Chemistry* or</td>
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<td>MATH 20 or two units of high school algebra and (CHEM 111)</td>
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<td>CHEM 111 General College Chemistry I</td>
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<tr>
<td>CSIS 115 Intro to Microcomputer Applications</td>
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<td>ENGL 101 Composition and Reading I</td>
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<tr>
<td>HIST 120 United States History to 1865 or</td>
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<td>HIST 121 United States History Since 1865 or</td>
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<td>POLS 135 Introduction to Political Science or</td>
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<td>POLS 136 Introduction to American National Politics or</td>
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<td>POLS 137 Introduction to State and Local Politics</td>
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<td>MATH 104 Technical Math II* or</td>
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### Environmental Specialist Certificate

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<td>EHSS 200 Safety and Health Regulations and Standards</td>
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<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
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<td>EHSS 203 Environmental Regulations</td>
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<td>EHSS 204 Emergency Preparedness and Planning or Concept of Waste Minimization, Recycling, and Pollution Prevention</td>
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<td>EHSS 200 and 203 (EHSS 204) EHSS 203 (EHSS 217)</td>
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<td>EHSS 200 and 203</td>
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<td>EHSS 220 Air Quality Management</td>
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<td>EHSS 225 Water Quality Management</td>
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**Total Credit Hours Required**: 30

### Green Manufacturing Certificate

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<td>EHSS 101 Hazardous Material Management &amp; Emergency Response Operations</td>
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<td>EHSS 111 Introduction to Health &amp; Safety for General Industry</td>
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<td>EHSS 217 Concepts of Sustainability, Recycling and Pollution Prevention</td>
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<td>INTE 124 Employment Strategies for Technical Careers</td>
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<td>MATE 100 Introduction to Manufacturing Technology and Related Industry</td>
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<tr>
<td>MATE 117 Processes &amp; Quality</td>
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**Total Credit Hours Required**: 18
Fire Science Technology

**Offered at MCC-Blue River**

**A.A.S. Fire Science Technology ........... 73-75 Credits**

**Fire Science Certificate ......................... 31 Credits**

This program, which offers an Associate in Applied Science degree and certificate, provides advanced professional training in fire science.

Most metropolitan fire departments require FFI and FFII certification prior to employment. The Public Safety Institute of MCC-Blue River satisfies all requirements for FFI and FFII as well as CPAT, Haz-Mat awareness, Haz-Mat operations, and EMT. The Academy offers two levels of firefighting training. Full-time day and part-time night classes are available.

Successful graduates of the Academy will obtain their state certification in the above mentioned areas.

### A.A.S. Fire Science Technology

<table>
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<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
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<td>SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communication</td>
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<td>FSTE 170 Hazardous Materials Awareness and Operations</td>
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<td>FSTE 172 Firefighting Tactics and Strategy</td>
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<td>FSTE 179 Fire Fighter I</td>
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<td>FSTE 183 Incident and Disaster Management</td>
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<td>FSTE 189 Fire Fighter II</td>
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<td>FSTE 192 Suppression and Detection Systems</td>
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<td>FSTE 193 Fire Service Law</td>
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<td>FSTE 200 Fire Service Supervision</td>
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<td>FSTE 201 The Fire Service Manager</td>
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<td>FSTE 202 Fire Service Administration</td>
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<td>FSTE 200 and 201</td>
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<tr>
<td>FSTE 203 Managing in Today’s Fire Service</td>
<td>3</td>
<td>FSTE 200, 201 and ENGL 101</td>
<td></td>
</tr>
<tr>
<td>FSTE 107 Fire Science Physical Fitness I</td>
<td>2</td>
<td>Enrollment in Fire Academy</td>
<td></td>
</tr>
<tr>
<td>FSTE 108 Fire Science Physical Fitness II</td>
<td>2</td>
<td>FSTE 107</td>
<td></td>
</tr>
<tr>
<td>FSTE 109 Fire Science Physical Fitness III</td>
<td>2</td>
<td>FSTE 108</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required** 73-75

### Fire Science Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS 150 Emergency Medical Technician-Basic</td>
<td>8</td>
<td>The student must be 18 years old by the end of the course and must hold a high school diploma or GED.</td>
<td></td>
</tr>
<tr>
<td>FSTE 169 Fire Prevention</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSTE 170 Hazardous Materials Awareness and Operations</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSTE 179 Fire Fighter I</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSTE 189 Fire Fighter II</td>
<td>5</td>
<td>FSTE 179</td>
<td></td>
</tr>
<tr>
<td>FSTE 107 Fire Science Physical Fitness I</td>
<td>2</td>
<td>Enrollment in Fire Academy</td>
<td></td>
</tr>
<tr>
<td>FSTE 108 Fire Science Physical Fitness II</td>
<td>2</td>
<td>FSTE 107</td>
<td></td>
</tr>
<tr>
<td>FSTE 109 Fire Science Physical Fitness III</td>
<td>2</td>
<td>FSTE 108</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required** 31
Foreign Language Interpreting

Offered at MCC-Maple Woods

Social Sciences

Foreign Language Interpreting Certificate .......................... 15 Credits

This program provides students with the fundamentals of foreign language interpreting with an emphasis in medical and legal settings. Admission to the program required.

Foreign Language Interpreting Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLIN 100 Introduction to Interpreting</td>
<td>3</td>
<td></td>
<td>Admission to certificate program</td>
</tr>
<tr>
<td>FLIN 105 Fundamentals of Interpreting</td>
<td>3</td>
<td></td>
<td>FLIN 100 or concurrent enrollment</td>
</tr>
<tr>
<td>FLIN 110 Medical Interpreting</td>
<td>3</td>
<td></td>
<td>FLIN 105</td>
</tr>
<tr>
<td>FLIN 115 Legal Interpreting</td>
<td>3</td>
<td></td>
<td>FLIN 105</td>
</tr>
<tr>
<td>FLIN 120 Practicum</td>
<td>3</td>
<td></td>
<td>FLIN 110 and FLIN 115</td>
</tr>
<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td><strong>15</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Forensic Chemistry

Offered at Kansas City Kansas Community College
Coordinated at MCC

A.A.S. Forensic Chemistry .................. 68-70 Credits

There are two goals for this program: 1) direct placement into a crime or chemistry related laboratory, or 2) continuation of degree in forensics, chemistry, dentistry, pre-law, pre-med, environmental science, etc.

Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

Specific Program Requirements
Must be taken at one of the MCC campuses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL Electives Any Biology course except BIOL 204</td>
<td>4-5</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>CHEM 111 General College Chemistry I</td>
<td>5</td>
<td></td>
<td>MATH 120 or two units of high school algebra and CHEM 107 or high school chemistry</td>
</tr>
<tr>
<td>CHEM 112 General College Chemistry II</td>
<td>5</td>
<td></td>
<td>CHEM 111</td>
</tr>
<tr>
<td>CRJU 165 Criminology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102 Composition and Reading II</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>MATH 180 Analytic Geometry &amp; Calculus I</td>
<td>5</td>
<td></td>
<td>MATH 130 or 150</td>
</tr>
<tr>
<td>PHYS Physics Electives</td>
<td>4-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>Humanities Core Elective: Choose two of the following: Literature, Philosophy, ART 108, MUSI 108, HIST/HUMN 133, or HIST/HUMN 134</td>
<td>6</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>Suggested Social Science Core Electives Include: PSYC 140, SOCI 160, ANTH 100</td>
<td>3</td>
<td></td>
<td></td>
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Specific Program Requirements
Must be taken at Kansas City Kansas Community College

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101 Introduction to Forensic Science</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 201 Forensic Science Analytical Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 211 Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 213 Organic Chemistry I Lab</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 212 Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 214 Organic Chemistry II Lab</td>
<td>2</td>
</tr>
<tr>
<td>Recommended Courses (not necessary for degree): CHEM 250 Biochemistry</td>
<td>2-4</td>
</tr>
<tr>
<td>CHEM 251 Biochemistry Lab</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours Required 68-70

Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.
Game Development

Offered at JCCC. Coordinated at all campuses.

A.A.S. Game Development .................. 66-68 Credits

The game development Associate in Applied Science degree provides students with the focused knowledge and understanding of game design and development useful in qualifying for entry level industry positions as game programmers, tool builders, collision detections developers, engine builders and interface programmers as well as video and online training developers, Q/A (Question/Answer) Testers, customer supporters and simulations developers.

A.A.S. Game Development

Specific Prerequisite not Listed in Req Courses- can take at JCCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDTP 135</td>
<td>1</td>
<td></td>
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</table>

Specific Prerequisite not Listed in Req Courses- Can take at JCCC or MCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 123</td>
<td>3</td>
<td></td>
<td>MATH 40 or appropriate score on placement test</td>
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</table>

Specific Program Requirements- Must be taken at JCCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANI 120</td>
<td>1</td>
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<tr>
<td>ANI 145</td>
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<tr>
<td>CIS 235</td>
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<tr>
<td>CIS 250</td>
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</tr>
<tr>
<td>CIS 200</td>
<td>3</td>
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<tr>
<td>ENGL 140</td>
<td>3</td>
<td></td>
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<tr>
<td>ENGL 150</td>
<td>3</td>
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<tr>
<td>GAME 101</td>
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</tr>
<tr>
<td>GAME 200</td>
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<td>GAME 102</td>
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<td>GAME 140</td>
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<tr>
<td>GAME 180</td>
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<td>GAME 230</td>
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<tr>
<td>GAME 110</td>
<td>4</td>
<td></td>
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<tr>
<td>GAME 255</td>
<td>4</td>
<td></td>
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<tr>
<td>MATH 191</td>
<td>4</td>
<td></td>
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<tr>
<td>MATH 191</td>
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<tr>
<td>GAME Electives</td>
<td>3-4</td>
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</tbody>
</table>

Game Electives- must choose from courses taken at JCCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>CIM 140</td>
<td>4</td>
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<tr>
<td>ANI 245</td>
<td>3</td>
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<tr>
<td>CIS 243</td>
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<tr>
<td>CIS 262</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>MUS 156</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>GAME 110</td>
<td>4</td>
<td></td>
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<tr>
<td>GAME 255</td>
<td>4</td>
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</table>

* Prerequisite/corequisite required

Specific Programs Requirement- Must be taken at MCC

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td></td>
<td>ENGL 30 or satisfactory score on the ASSET test</td>
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<tr>
<td>ENGL 127</td>
<td>3</td>
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<tr>
<td>MATH 120</td>
<td>3</td>
<td></td>
<td>MATH 110 or satisfactory score on placement test</td>
</tr>
<tr>
<td>MATH 150</td>
<td>5</td>
<td></td>
<td>MATH 110 or satisfactory score on placement test</td>
</tr>
<tr>
<td>MATH 175</td>
<td>3</td>
<td></td>
<td>MATH 120 or satisfactory score on placement test</td>
</tr>
<tr>
<td>MATH 180</td>
<td>5</td>
<td></td>
<td>MATH 130 or MATH 150</td>
</tr>
<tr>
<td>MATH 190</td>
<td>5</td>
<td></td>
<td>MATH 180</td>
</tr>
<tr>
<td>MATH 210</td>
<td>5</td>
<td></td>
<td>MATH 190 or appropriate score on placement test</td>
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</tbody>
</table>

Social Science/Economics Elective

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science/Economics Elective</td>
<td>3</td>
<td></td>
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</table>

Physical Education Elective

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education Elective</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours Required 66-68

Social Science Electives that will transfer from MCC to JCCC: ANTH 100, ECON 110, ECON 210, ECON 211, GEOG 111, GEOG 112, HUSC 162, POLS 135, POLS 136, POLS 137, PSYC 140, SOCI 160, SOCI 162, SOCI 163, SOCI 170

Physical Education Electives that will transfer from MCC to JCCC: DANC 100, DANC 111, EMTP 102, HUSC 108, PHED 105, PHED 106, PHED 107, PHED 108, PHED 109, PHED 110, PHED 113, PHED 114, PHED 117, PHED 118, PHED 119, PHED 120, PHED 121, PHED 122, PHED 123, PHED 126, PHED 127, PHED 128, PHED 129, PHED 130, PHED 131, PHED 135, PHED 136, PHED 137, PHED 140, PHED 141, PHED 143, PHED 144, PHED 145, PHED 146, PHED 147, PHED 157, PHED 158, PHED 159, PHED165, PHED 166, PHED 167, PHED 168, PHED173, PHED174, PHED 179, PHED 180.
Game Programming

Offered at JCCC

Game Programming Advanced Cert............29 Credits

The advanced certificate in game programming provides tangible evidence that a student has completed all the requirement to be an entry level game programmer with additional skills in the art of game programming.

Game Programming Advanced Certificate

<table>
<thead>
<tr>
<th>Specific Prerequisite not Listed in Req Courses- can take at JCCC</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 200 Concepts of Programming Algorithms Using C++</td>
<td>4</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Prerequisite not Listed in Req Courses- Can take at JCCC or MCC</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 123 Programming Fundamentals</td>
<td>3</td>
<td></td>
<td>MATH 40 or appropriate score on placement test</td>
</tr>
<tr>
<td>MATH 120 College Algebra or</td>
<td>3</td>
<td></td>
<td>MATH 110 or appropriate score on placement test</td>
</tr>
<tr>
<td>MATH 150 Precalculus</td>
<td>5</td>
<td></td>
<td>MATH 110 or appropriate score on placement test</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Prerequisite Requirement- Must be taken at JCCC</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAME 101 Computer Game Creations</td>
<td>4</td>
<td></td>
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</tr>
<tr>
<td>GAME 200 Game Design</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAME 110 Flash Gaming</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAME 140 Game Programming I -2D *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAME 155 Mobile Game Programming *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAME 180 Artificial Intelligence for Games *</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAME 230 Game Programming II- 3D *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 191 Math &amp; Physics for Games I * or</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 191 Math &amp; Physics for Games I *</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Prerequisite/Corequisite required

Total Credit Hours Required

29
This is a professional certificate that gives the GIS user the tools needed to obtain a good job in the field of GIS or to advance in their chosen field. It also prepares students to complete their AA degree or transfer to a four-year institution. GIS professionals are found in the fields of city, county and state government, economics, natural resources, conservation, pollution, industry, science, infrastructure planning, public works, transportation, architecture, education, healthcare, travel, and space industry.

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
<td></td>
</tr>
<tr>
<td>GEOG 120 Introduction to Geographic Information Systems</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOG 220 GIS Database and Design</td>
<td>3</td>
<td>GEOG 120</td>
<td></td>
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<tr>
<td>GEOG 224 Applications in Geographic Information Systems</td>
<td>3</td>
<td>GEOG 120 and 220</td>
<td></td>
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<tr>
<td>GEOG 228 Administrative Issues in GIS</td>
<td>3</td>
<td>GEOG 120</td>
<td></td>
</tr>
<tr>
<td>GEOG 230 Geographic Information Systems Internship</td>
<td>1-3</td>
<td>GEOG 120 and 220</td>
<td></td>
</tr>
<tr>
<td>One of the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 128 Web Development</td>
<td>3</td>
<td></td>
<td>CSIS 110 or 115 (CSIS 128)</td>
</tr>
<tr>
<td>CSIS 143 Database Design and Management</td>
<td></td>
<td></td>
<td>CSIS 110 or 115 (CSIS 143)</td>
</tr>
<tr>
<td>CSIS 144 Introduction to SQL with ORACLE</td>
<td></td>
<td></td>
<td>CSIS 115 (CSIS 144)</td>
</tr>
<tr>
<td>CSIS 177 Database Application and Design with Access</td>
<td></td>
<td></td>
<td>One Windows based course (CSIS 177)</td>
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<tr>
<td>One of the following:</td>
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</tr>
<tr>
<td>GEOG 105 World Geography</td>
<td>3</td>
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<tr>
<td>GEOG 113 Cultural/Human Geography</td>
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<td></td>
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<tr>
<td>GEOG 114 Introduction to Geography</td>
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<tr>
<td>GEOG 207 Geography of the United States and Canada</td>
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<tr>
<td>GEOG 210 Economic Geography</td>
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<td>One of the following:</td>
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<tr>
<td>GEOG 104 Physical Geography</td>
<td>5</td>
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</tr>
<tr>
<td>GEOL 101 Physical Geology</td>
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<td></td>
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</tr>
<tr>
<td>GEOL 103 Environmental Geology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two courses from the following (not taken above):</td>
<td>6-10</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>BIOL 101, 104, 106, 117</td>
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<tr>
<td>BSAD 204, 205, 210, 211, 212, 213</td>
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<tr>
<td>CSIS 128, 143, 144, 177</td>
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<tr>
<td>CRJU 101, 112, 132</td>
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<tr>
<td>ETEC 152, 169</td>
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<tr>
<td>ECON 110, 210, 211</td>
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<td></td>
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<tr>
<td>GEOG 104, 105, 110, 113, 114, 207, 210</td>
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<tr>
<td>GEOG 101, 103</td>
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<tr>
<td>SRVY 135, 137, 240</td>
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<tr>
<td>Total Credit Hours Required</td>
<td>33-39</td>
<td></td>
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</tbody>
</table>
# A.A.S. Graphic Design

**Offered at MCC-Penn Valley**

This program leads to the Associate in Applied Science degree and prepares students for jobs as graphic designers or commercial artists.

### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 102: Computers in Design I</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>ENGL 101: Composition and Reading I</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120: United States History to 1865 or HIST 121: United States History Since 1865</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>POLS 135: Introduction to Political Science or POLS 136: Introduction to American National Politics or POLS 137: Introduction to State and Local Politics</td>
<td>3</td>
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<td></td>
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<tr>
<td>MATH 100: Mathematics for Business or higher</td>
<td>3</td>
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<td>MATH 20 or 20L or appropriate placement test score</td>
</tr>
<tr>
<td>SPDR 100: Fundamentals of Speech or SPDR 102: Fundamentals of Human Communication</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>Any ART History course</td>
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### Specific Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>ART 100: Art Fundamentals I</td>
<td>3</td>
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<tr>
<td>ART 103: Design Foundations</td>
<td>3</td>
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<tr>
<td>ART 110: Drawing I</td>
<td>3</td>
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<tr>
<td>ART 115: Orientation to Graphic Communications</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 123: Color Theory</td>
<td>3</td>
<td></td>
<td>ART 103 or concurrent enrollment</td>
</tr>
<tr>
<td>ART 139: Photography I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 160: Graphic Design I</td>
<td>3</td>
<td></td>
<td>ART 102 or concurrent enrollment</td>
</tr>
<tr>
<td>ART 202: Computers in Design II</td>
<td>3</td>
<td></td>
<td>ART 102</td>
</tr>
<tr>
<td>ART 244: Digital Photography</td>
<td>3</td>
<td></td>
<td>ART 102</td>
</tr>
<tr>
<td>ART 245: Web Design</td>
<td>3</td>
<td></td>
<td>ART 102 and ART 244</td>
</tr>
<tr>
<td>ART 250: Printmaking or ART 254: Silk Screen Printing I</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>ART 260: Graphic Design II</td>
<td>3</td>
<td></td>
<td>ART 160</td>
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<tr>
<td>ART 264: Art Portfolio – Graphic Design</td>
<td>3</td>
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<td>ART 260</td>
</tr>
<tr>
<td>ART 281: Introduction to Digital PrePress - File Preparation</td>
<td>3</td>
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<td>ART 102 and 115</td>
</tr>
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<td>ART Elective</td>
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</tbody>
</table>

### Total Credit Hours Required: 63

**Recommended Art Electives:**

- ART 157: History of Graphic Design
- ART 165: Cartooning
- ART 170: Ceramics I
- ART 220: Painting I
- ART 230: Sculpture
- ART 242: Photography II
- ART 246: Advanced Web Design
- ART 250: Printmaking
- ART 254: Silk Screen Printing I
- ART 255: Silk Screen Printing II
- ART 265: Graphic Design Internship
- ART 270: Illustration
- ART 280: Special Studies
- ART 283: Advanced Prepress
- ART 282: Digital Prepress - Advanced Color Correction
Grounds and Turf Management

Offered at MCC-Longview

A.A.S. Grounds & Turf Management........... 63 Credits
Grounds Maintenance Certificate .......... 18 Credits
Horticulture Certificate (JCCC) .......... 29 Credits
Sustainability Certificate (JCCC) .......... 29 Credits

This program leads to an Associate in Applied Science degree and a certificate of proficiency in Grounds Maintenance and prepares students for jobs in the groundskeeping and turf management industry. The Horticultural and Sustainability certificates are offered through Johnson County Community College. Students must be accepted into the program by both MCC and JCCC. The student is awarded the certificate from JCCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment in the certificate programs.

A.A.S. Grounds & Turf Management

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 104 General Botany</td>
<td>5</td>
<td></td>
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<tr>
<td>BIOL 202 Ecology</td>
<td>5</td>
<td></td>
<td>BIOL 101 or 104 or 106</td>
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<tr>
<td>CHEM 107 Prepatory General Chemistry</td>
<td>5</td>
<td></td>
<td>MATH 110 (or equivalent score on placement test) or one unit of High School Algebra</td>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865</td>
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<td></td>
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<tr>
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<tr>
<td>MATH 100 Mathematics for Business</td>
<td>3</td>
<td></td>
<td>MATH 20 or 20L or appropriate placement test score</td>
</tr>
<tr>
<td>PSYC 140 General Psychology</td>
<td>3</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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</tbody>
</table>

| Specific Program Requirements           |         |                |                                                   |
| AGBS 100 Introduction to Urban Agribusiness | 3     |                |                                                   |
| AGBS 106 Landscape Design and Maintenance | 3     |                |                                                   |
| AGBS 107 Deciduous Trees and Shrubs     | 3       |                |                                                   |
| AGBS 109 Pest Management/Turf and Ornamental | 3     |                |                                                   |
| AGBS 115 Soil Fertility and Fertilizers | 3       |                |                                                   |
| AGBS 135 Turfgrass Management I         | 3       |                |                                                   |
| AGBS 145 Irrigation and Installation    | 3       |                |                                                   |

12 hours from the courses listed below:

AGBS 108 Evergreens and Herbaceous Plants
AGBS 140 Turfgrass Management II
AGBS 151 Special Topics in Horticulture I
AGBS 152 Special Topics in Horticulture II
AGBS 153 Special Topics in Horticulture III
AGBS 200 Occupational Internship
AGBS 206 Advanced Landscape Design and Maintenance

| Total Credit Hours Required | 63 |
## Grounds Maintenance Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>AGBS 100 Introduction to Urban Agribusiness</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGBS 106 Landscape Design and Maintenance</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGBS 107 Deciduous Trees and Shrubs</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGBS 115 Soil Fertility and Fertilizers</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>AGBS 135 Turfgrass Management I</td>
<td>3</td>
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<tr>
<td>AGBS Elective</td>
<td>3</td>
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<td><strong>Total Credit Hours Required</strong></td>
<td><strong>18</strong></td>
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</table>

## Horticulture Certificate

**Offered at Johnson County Community College**

**Coordinated through MCC-Longview**

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS 135 Turfgrass Management I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGBS 206 Advanced Landscape Design &amp; Maintenance</td>
<td>3</td>
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<td></td>
</tr>
</tbody>
</table>

### Specific Program Requirements

*Must be taken at MCC-Longview*

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBS 100 Introduction to Urban Agribusiness</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGBS 106 Landscape Design and Maintenance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGBS 107 Deciduous Trees and Shrubs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGBS 115 Soil Fertility and Fertilizers</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGBS 135 Turfgrass Management I</td>
<td>3</td>
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<tr>
<td>AGBS Elective</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Specific Program Requirements

*Must be taken at Johnson County Community College*

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 135 Landscape Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HORT 205 Plant Propagation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HORT 214 Woody Plants I, Deciduous</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HORT 215 Woody Plants II, Evergreen</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HORT 220 Herbaceous Plants</td>
<td>3</td>
<td>HORT 214 and 220</td>
</tr>
<tr>
<td>HORT 225 Plant Problems*</td>
<td>3</td>
<td></td>
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</tbody>
</table>

### Electives

**May be taken at Metropolitan Community College or Johnson County Community College**

- HORT 160 Garden Center Operations
- HORT 255 Landscape Pest Control
- HORT 260 Soils

*Prerequisite/corequisite required*
### General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTR 142</td>
<td>Fast Track Business Plan</td>
<td>3</td>
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<tr>
<td>ENTR 180</td>
<td>Opportunity Analysis</td>
<td>2</td>
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<tr>
<td>HMGT 165</td>
<td>Food Industry Compliance &amp; Safety</td>
<td>3</td>
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<td>HMGT 167</td>
<td>Local Food Production</td>
<td>3</td>
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<tr>
<td>HORT 245</td>
<td>Commercial Crop Production</td>
<td>3</td>
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<td>HORT 260</td>
<td>Horticulture Soils</td>
<td>3</td>
<td></td>
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<tr>
<td>HORT 272</td>
<td>Sustainable Agriculture Fall Practicum</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>HORT 274</td>
<td>Sustainable Agriculture Spring Practicum</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>HORT 276</td>
<td>Sustainable Agriculture Summer Practicum</td>
<td>2</td>
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</tbody>
</table>

### Specific Program Requirements: Must be Taken at MCC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 219</td>
<td>Entrepreneurship</td>
<td>3</td>
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<tr>
<td>AGBS 109</td>
<td>Pest Management/Turf and Ornamental</td>
<td>3</td>
<td></td>
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</tr>
</tbody>
</table>

### Total Credit Hours Required

29
Health Information Technology

Offered at MCC-Penn Valley

A.A.S. Health Information Technology .......... 69 Credits
Coding Specialist Certificate ................. 35 Credits

This program offers an Associate in Applied Science degree and a Coding Specialist certificate. The program prepares students in all aspects pertaining to health records, including medical coding, Medicare compliance, analysis of documentation and computerization. Graduates of the A.A.S. program are eligible to take the national certification exam for registered health information technicians. The program is accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs).

A.A.S. Health Information Technology

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108 Introductory Anatomy and Physiology</td>
<td>5.0</td>
<td></td>
<td>BIOL 108</td>
</tr>
<tr>
<td>BIOL 137 Intro to Pathology</td>
<td>4.0</td>
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</tr>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3.0</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121 United States History Since 1865</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>POLS 135 Introduction to Political Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3.0</td>
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<td>ENGL 30</td>
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<tr>
<td>Elective (PSYC 140 Strongly Recommended)</td>
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<tr>
<td>Specific Program Requirements</td>
<td>3.0</td>
<td></td>
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</tr>
<tr>
<td>CSIS 115 Intro to Microcomputer Applications</td>
<td>3.0</td>
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<tr>
<td>Three of the following:</td>
<td>3.0</td>
<td></td>
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<tr>
<td>CSOF 102, 103, 104, 106, 108</td>
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</tr>
<tr>
<td>HITE 101 Intro to Health Information Technology Profession</td>
<td>2.0</td>
<td></td>
<td>HITE 102</td>
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<tr>
<td>HITE 102 Health Record Systems, Analysis and Control</td>
<td>3.5</td>
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<tr>
<td>HITE 103 Medical Terminology for Health Records</td>
<td>3.0</td>
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<tr>
<td>HITE 106 Health Care Statistics</td>
<td>3.0</td>
<td></td>
<td>HITE 102</td>
</tr>
<tr>
<td>HITE 108 Legal Aspects of Health Information Technology Profession</td>
<td>2.0</td>
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<td>HITE 102</td>
</tr>
<tr>
<td>HITE 109 Directed Practice I</td>
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<td>BIOL 108 and HITE 102</td>
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<tr>
<td>HITE 110 Pharmacology</td>
<td>1.5</td>
<td></td>
<td>BIOL 108 and HITE 103</td>
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<tr>
<td>HITE 200 Intro to Classification Systems</td>
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<tr>
<td>HITE 201 Quality Management</td>
<td>3.0</td>
<td></td>
<td>HITE 108</td>
</tr>
<tr>
<td>HITE 202 Classification Systems, Nomenclatures, Indexes, and Registers I</td>
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<td>HITE 200</td>
</tr>
<tr>
<td>HITE 203 Directed Practice II</td>
<td>2.0</td>
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<td>BIOL 108, HITE 202 and 210; or BIOL 108 and concurrent enrollment in HITE 202 and 210</td>
</tr>
<tr>
<td>HITE 206 Specialized Health Records Systems</td>
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</tr>
<tr>
<td>HITE 207 Classification Systems, Nomenclatures, Indexes, and Registers II</td>
<td>3.0</td>
<td></td>
<td>BIOL 108 and HITE 202</td>
</tr>
<tr>
<td>HITE 208 Directed Practice III</td>
<td>2.0</td>
<td></td>
<td>HITE 203</td>
</tr>
<tr>
<td>HITE 210 Classification Systems and Nomenclatures for Ambulatory Care</td>
<td>3.0</td>
<td></td>
<td>HITE 200, BIOL 108 or concurrent enrollment in BIOL 108</td>
</tr>
<tr>
<td>HITE 211 Organization and Administration in Health Information</td>
<td>3.0</td>
<td></td>
<td>HITE 201, 202 and 203</td>
</tr>
<tr>
<td>HITE 212 Intro to Medical Insurance and Office Procedures</td>
<td>1.5</td>
<td></td>
<td>HITE 103, 202, 210 and BIOL 108</td>
</tr>
</tbody>
</table>

Total Credit Hours Required 69

Admission to the Program

Since enrollment is limited, students must apply for admission to the Health Information Technology program and meet the following requirements. Students must begin the program in the fall semester. Enrollees may be full- or part-time students. For more information, go to www.mcckc.edu/hite
### Coding Specialist Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108 Introductory Anatomy and Physiology</td>
<td>5.0</td>
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<td></td>
</tr>
<tr>
<td>CSIS 115 Introduction to Microcomputer Applications</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HITE 103 Medical Terminology for Health Records</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HITE 110 Pharmacology</td>
<td>1.5</td>
<td></td>
<td>BIOL 108 and HITE 103</td>
</tr>
<tr>
<td>HITE 200 Introduction to Classification Systems</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HITE 202 Classification Systems, Nomenclatures, Indexes, and Registers I</td>
<td>4.0</td>
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<td>HITE 200</td>
</tr>
<tr>
<td>HITE 203 Directed Practice II</td>
<td>2.0</td>
<td></td>
<td>BIOL 108, HITE 202 and 210; or BIOL 108 and concurrent enrollment in HITE 202 and 210</td>
</tr>
<tr>
<td>HITE 206 Specialized Health Records Systems</td>
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<td></td>
</tr>
<tr>
<td>HITE 207 Classification Systems, Nomenclatures, Indexes, and Registers II</td>
<td>3.0</td>
<td></td>
<td>BIOL 108 and HITE 202</td>
</tr>
<tr>
<td>HITE 208 Directed Practice III</td>
<td>2.0</td>
<td></td>
<td>HITE 203</td>
</tr>
<tr>
<td>HITE 210 Classification Systems and Nomenclatures for Ambulatory Care</td>
<td>3.0</td>
<td></td>
<td>HITE 200, BIOL 108 or concurrent enrollment in BIOL 108</td>
</tr>
<tr>
<td>HITE 212 Intro to Medical Insurance and Office Procedures</td>
<td>1.5</td>
<td></td>
<td>HITE 103, 202, 210, BIOL 108</td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**: 35
Heating, Ventilation, Air Conditioning & Refrigeration

Offered at MCC-Business & Technology

A.A.S. HVAC.............................................. 66-68 Credits
HVAC Certificate................................. 42 Credits
HVAC Job Ready Certificate............... 23 Credits

This program offers degree and certificate options leading to heating, ventilation and air conditioning careers.

A.A.S. Heating, Ventilation and Air Conditioning

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
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<td>MATH 103 Technical Mathematics I* and MATH 104 Technical Mathematics II* or MATH 120 College Algebra and MATH 130 Trigonometry</td>
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<td>MATH 40/40L or appropriate placement test score (MATH 103), MATH 103 (MATH 104), MATH 110 or appropriate placement test score (MATH 120), MATH 120 or appropriate placement test score (MATH 130)</td>
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<td>SPDR 100 Fundamentals of Speech</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>Any course numbered 100 or higher from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 or 110 and GIS courses), HIST, HUMN, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, SPDR</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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Specific Program Requirements

| HVAC 109 Electricity for HVAC/R Technicians | 4       |                |             |
| HVAC 111 Principles of Heating, Ventilation and Air Conditioning | 3       |                |             |
| HVAC 120 Fundamentals of Refrigeration | 4       |                |             |
| HVAC 135 Residential Heating and Air Conditioning I | 4       |                | HVAC 109 (or take concurrently), HVAC 111, 120 and 230 (or take concurrently) |
| HVAC 136 Residential Heating and Air Conditioning II | 4       |                | HVAC 135 |
| HVAC 221 Commercial Refrigeration | 4       |                | HVAC 109 and 120 |
| HVAC 230 Sheet Metal Layout and Fabrication | 4       |                |             |
| HVAC 235 Systems Installation | 3       |                | HVAC 136 and 230 |
| HVAC 240 Geo-Thermal & Air Source Heat Pumps | 3       |                | HVAC 136 |
| INTE 124 Employment Strategies for Technical Careers | 3       |                |             |
| INTE 175 Electric Motor Controls I | 3       |                | HVAC 109 or INTE 115 |

9 hours from the following:

| INTE 115 Electrical Print Reading |               | INTE 110 (INTE 115) |
| INTE 271 Programmable Logic Controllers I | 9       | INTE 110 and 175 (INTE 271) |
| INTE 272 Programmable Logic Controllers II | 9       | INTE 115 and 271 (INTE 272) |
| EHSS Electives |               |             |
| HVAC Electives |               |             |
| INTE Electives |               |             |

Total Credit Hours Required 66-68
Heating, Ventilation and Air Conditioning Certificate

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<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>HVAC 109 Electricity for HVAC/R Technicians</td>
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<td>HVAC 111 Principles of Heating, Ventilation and Air Conditioning</td>
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<td>HVAC 120 Fundamentals of Refrigeration</td>
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<td>HVAC 135 Residential Heating and Air Conditioning I</td>
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<td>HVAC 221 Commercial Refrigeration</td>
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<td>HVAC 109 and 120</td>
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<td>HVAC 230 Sheet Metal Layout and Fabrication</td>
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<td>HVAC 235 Systems Installation</td>
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<td>HVAC 136 and 230</td>
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<td>HVAC 240 Geo-Thermal &amp; Air Source Heat Pumps</td>
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<td>HVAC 136</td>
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<tr>
<td>HVAC 201 Stationary Engineering or INTE 175 Electric Motor Controls</td>
<td>3</td>
<td>HVAC 111 and 120 (HVAC 201) HVAC 109 and INTE 115 (INTE 175)</td>
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<td>INTE 124 Employment Strategies for Technical Careers</td>
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<td>MATH 103 Technical Mathematics I</td>
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**Total Credit Hours Required** 42

Heating, Ventilation and Air Conditioning – Job Ready Certificate

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<th>Prerequisites</th>
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<td>HVAC 230 Sheet Metal Layout and Fabrication</td>
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**Total Credit Hours Required** 23
## Specific Program Requirements

**Must be taken at one of the MCC campuses**

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<td>MATH 20 or 20L or appropriate placement test score</td>
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<td>PSYC 140</td>
<td>General Psychology</td>
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<td>SPDR 100</td>
<td>Fundamentals of Speech or</td>
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<td>Fundamentals of Human Communication or</td>
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<td>SPDR 103</td>
<td>Interpersonal Communications</td>
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**Specific Program Requirements**

**Must be taken at Johnson County Community College**

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<td>HMGT 120</td>
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<td>HMGT 121</td>
<td>Perspectives of Hospitality Management</td>
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<td>HMGT 123</td>
<td>Professional Cooking I*</td>
<td>3</td>
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<td>HMGT 128</td>
<td>Supervisory Management*</td>
<td>3</td>
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<td>HMGT 220</td>
<td>American Regional Cuisine*</td>
<td>3</td>
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<td>HMGT 223</td>
<td>Fundamentals of Baking</td>
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<td>HMGT 226</td>
<td>Garde-Manger*</td>
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<td>HMGT 228</td>
<td>Advanced Hospitality Management*</td>
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<td>HMGT 230</td>
<td>Professional Cooking II*</td>
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<td>HMGT 231</td>
<td>Advanced Food Preparation*</td>
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<td>Seminar in Hospitality Management: Purchasing</td>
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<td>HMGT 273</td>
<td>Hospitality Cost Accounting*</td>
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<td>HMGT 277</td>
<td>Seminar in Hospitality Management: Menu Planning*</td>
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<td>HMGT 279</td>
<td>Beverage Control</td>
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<td>HMGT 281</td>
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<td>Culinary Arts Practicum IV*</td>
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<td>HMGT</td>
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**Hospitality Program Electives**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>HMGT 126</td>
<td>Food Management</td>
<td></td>
<td>HMGT 221</td>
<td>Design &amp; Facilities Management</td>
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<tr>
<td>HMGT 130</td>
<td>Hospitality Law</td>
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<td>HMGT 240</td>
<td>Advanced Baking*</td>
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<tr>
<td>HMGT 132</td>
<td>Seminar in Housekeeping Operations</td>
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<td>HMGT 248</td>
<td>Confectionary Arts</td>
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<tr>
<td>HMGT 150</td>
<td>Sem: Food Service Sales &amp; Marketing</td>
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<td>HMGT 250</td>
<td>Introduction to Catering</td>
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<tr>
<td>HMGT 203</td>
<td>Hotel Sales &amp; Marketing*</td>
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<td>HMGT 256</td>
<td>Casino Management</td>
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<tr>
<td>HMGT 207</td>
<td>Hospitality Human Resource Management</td>
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<td>HMGT 265</td>
<td>Front Office Management</td>
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<tr>
<td>HMGT 268</td>
<td>Hospitality Managerial Accounting*</td>
<td></td>
<td>HMGT 268</td>
<td>Hospitality Managerial Accounting*</td>
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**Total Credit Hours Required**

75

---

**Computer Elective**

Must be one of the following: CSOF 100, 101, 102, 103, 104, 106, CSIS 115

**Humanities Elective**

Must be one of the following: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 127, 128, 142, 150, 151, 165, 167, 220, 221, 222, 223, FREN 203, SPAN 203, 204, HIST 120, 121, 133, 134, 140, HUMN 133, 134, 140, 145, MUSI 108, PHIL 100, 101, 102, 200, 201, 203, SPDR 114, 128

**Hospitality Program Electives at JCCC:**

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>HMGT 126</td>
<td>Food Management</td>
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<td>*HMGT 130</td>
<td>Hospitality Law</td>
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<tr>
<td>HMGT 132</td>
<td>Seminar in Housekeeping Operations</td>
<td></td>
<td>HMGT 150</td>
<td>Seminar in Food Service Sales &amp; Marketing</td>
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<tr>
<td>HMGT 203</td>
<td>Hotel Sales and Marketing*</td>
<td></td>
<td>HMGT 207</td>
<td>Hospitality Human Resource Management*</td>
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<tr>
<td>HMGT 221</td>
<td>Design and Facilities Management*</td>
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<td>HMGT 240</td>
<td>Advanced Baking*</td>
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<tr>
<td>HMGT 248</td>
<td>Confectionary Arts</td>
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<td>HMGT 250</td>
<td>Introduction to Catering</td>
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<td>HMGT 256</td>
<td>Casino Management</td>
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<td>HMGT 265</td>
<td>Front Office Management</td>
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<tr>
<td>HMGT 268</td>
<td>Hospitality Managerial Accounting*</td>
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<td>HMGT 268</td>
<td>Hospitality Managerial Accounting*</td>
</tr>
</tbody>
</table>

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This program leads to an Associate in Applied Science degree with three options: Chef Apprenticeship, Hotel and Lodging, and Food and Beverage. It provides an overview of the various departmental functions, the position of the industries in the American economic system, and the functions and limitations of those types of establishments. Students must be accepted into the program by both MCC and Johnson County Community College. The student is awarded the degree from JCCC upon successful completion of all requirements.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.
### A.A.S. Hospitality Management Food and Beverage

#### Specific Program Requirements

**Must be taken at one of the MCC campuses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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<td></td>
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<tr>
<td>MATH 100</td>
<td>Mathematics for Business or higher</td>
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<td>MATH 20 or 20L or appropriate placement test score</td>
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<td>PSYC 140</td>
<td>General Psychology</td>
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<td>SPDR 100</td>
<td>Fundamentals of Speech or</td>
<td>3</td>
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<td>SPDR 102</td>
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<td>SPDR 103</td>
<td>Interpersonal Communications</td>
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#### Specific Program Requirements

**Must be taken at Johnson County Community College**

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<th>Course Title</th>
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<th>Prerequisites</th>
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<td>HMEC 151</td>
<td>Nutrition and Meal Planning</td>
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<td>HMGT 120</td>
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<td>HMGT 121</td>
<td>Perspectives of Hospitality Management</td>
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<td>HMGT 123</td>
<td>Professional Cooking I*</td>
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<td>HMGT 126</td>
<td>Food Management*</td>
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<td>HMGT 128</td>
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<td>HMGT 221</td>
<td>Design and Facilities Management*</td>
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<td>Professional Cooking II*</td>
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<td>Seminar in Hospitality Management: Purchasing</td>
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<td>Seminar in Hospitality Mgmt: Menu Design &amp; Planning*</td>
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<td>HMGT 279</td>
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**Total Credit Hours Required** 66

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**Computer Elective** must be one of the following: CSOF 100, 101, 102, 103, 104, 106, CSIS 115

**Humanities Elective** must be one of the following: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 127, 142, 150, 151, 165, 220, 221, 222, 223, FREN 203, SPAN 203, 204, HIST 120, 121, 133, 134, 140, HUMN 140, 145, MUSI 108, PHIL 100, 101, 200, 201, SPDR 114, 128

**Hospitality Electives at JCCC:**

- HMGT 130  Hospitality Law
- HMGT 203  Hotel Sales and Marketing*
- HMGT 223  Fundamentals of Baking
- HMGT 250  Introduction to Catering
- HMGT 256  Casino Management
- HMGT 275  Seminar in Hospitality Management: Internship

*Prerequisite/corequisite required
## A.A.S. Hospitality Management Hotel and Lodging

<table>
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<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>MATH 20 or 20L or appropriate placement test score</td>
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<td>PSYC 140 General Psychology</td>
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<td>SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communications or SPDR 103 Interpersonal Communications</td>
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<td>HMGT 121 Perspectives of Hospitality Management</td>
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<td>HMGT 123 Professional Cooking I*</td>
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<td>HMGT 128 Supervisory Management</td>
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<td>HMGT 132 Seminar: Housekeeping Operation</td>
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<td>HMGT 203 Hotel Sales and Marketing*</td>
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<td>HMGT 207 Hospitality Human Resource Management*</td>
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<td>HMGT 228 Advanced Hospitality Management*</td>
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<td>HMGT 230 Professional Cooking II*</td>
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<td>HMGT 235 Seminar: Risk Management and Loss Prevention</td>
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<td>HMGT 265 Front Office Management</td>
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<td>HMGT 268 Hospitality Managerial Accounting*</td>
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<td>HMGT 273 Hospitality Cost Accounting*</td>
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<td>HMGT 275 Seminar in Hospitality Management: Internship*</td>
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<td>HMGT 279 Beverage Control</td>
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<tr>
<td>Recommended Hospitality Management Program Electives</td>
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**Total Credit Hours Required**: 64

**Computer Elective** must be one of the following: CSOF 100, 101, 102, 103, 104, 105, CSIS 115.

**Humanities Elective** must be one of the following: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 127, 142, 150, 151, 165, 220, 221, 222, 223, FREN 203, SPAN 203, 204, HIST 120, 121, 133, 134, 140, HUMN 133, 134, 140, 145, MUSI 108, PHIL 100, 101, 201, 201, 211, SPDR 114, 128

**Hospitality Electives at JCCC**:  
HMEC 151 Nutrition and Meal Planning  
HMGT 126 Food Management*  
HMGT 130 Hospitality Law  
HMGT 221 Design and Facilities Management*  
HMGT 223 Fundamentals of Baking  
HMGT 250 Introduction to Catering  
HMGT 256 Casino Management  
HMGT 271 Seminar in Hospitality Management: Purchasing  
HMGT 277 Seminar in Hospitality Management: Menu Planning  

*Prerequisite/corequisite required
Human Services

Offered at MCC-Longview

A.A.S. Human Services
Drug Addiction Services .......... 65-67 Credits
A.A.S. Human Services Generalist........... 62 Credits
A.A.S. Human Services
Mental Health Services................. 64-66 Credits
Drug Addiction Services Certificate .... 30 Credits
Mental Health Technician Certificate ... 23 Credits
Youth Care Services ....................... 63-65 Credits

Youth Development
Worker Certificate ...................... 12-14 Credits
Youth Work Certificate ................... 33 Credits

This program offers an Associate in Applied Science degree and certificate options. The program prepares students for career advancement or entry-level jobs that assist families with their social, behavioral, educational, or mental health needs.

A.A.S. Human Services Drug Addiction Services

<table>
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<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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Specific Program Requirements

| CRJU 275 Alcohol and Drug Addiction or HUMS 275 Alcohol and Drug Addiction | 3 | | |
| CRJU 280 Addiction Counseling with Special Populations or HUMS 280 Addiction Counseling with Special Populations | 3 | | |
| CRJU 285 Addiction Client Management or HUMS 285 Addiction Client Management | 3 | | |
| CSIS 110 Technology and Information Management or CSIS 115 Introduction to Microcomputer Applications | 3 | | |
| HUMS 100 Introduction to Human Services | 3 | | |
| HUMS 163 Therapeutic Activities and Recreation | 3 | | |
| HUMS 168 Introduction to Practicum | 1 | | |
| HUMS 172 Aging, Alcoholism and Medications | 1 | | |
| HUMS 175 Spirituality in Addiction Recovery | 1 | | |
| HUMS 176 Addiction Management | 1 | | |
| HUMS 177 Positive Dependency | 1 | | |
| HUMS 178 Women's Issues in Addiction | 1 | | |
| HUMS 201 Human Services Practicum I | 3 | HUMS 100 and 168 | |
| HUMS 202 Human Services Practicum II | 3 | HUMS 201 | |
| HUMS 203 Colloquia I | 1 | HUMS 201 corequisite | |
| HUMS 204 Colloquia II | 1 | HUMS 202 corequisite | |
| HUMS 210 Interviewing and Interpersonal Communications | 3 | PSYC 162 | |
| HUMS 220 Social Welfare | 3 | HUMS 100 | |

Total Credit Hours Required 65-67
### A.A.S. Human Services Generalist

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<td>PSYC 146 Industrial and Organizational Psychology</td>
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**Total Credit Hours Required**: 62

### Specific Program Requirements

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**Total Credit Hours Required**: 62

### Mental Health Technician Certificate

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**Total Credit Hours Required**: 23
## A.A.S. Human Services Mental Health Services Emphasis

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<td>CRJU/ SOCI 169 Family Violence and Sexual Abuse</td>
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### A.A.S. Human Services Youth Care Services

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<td>HUMS 160 Principles of Youth Work</td>
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<td>HUMS 163 Therapeutic Activities and Recreation</td>
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<td>HUMS 166 Behavior Management Techniques for Children/Youths</td>
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**Total Credit Hours Required** 63-65

### Specific Program Requirements

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**Total Credit Hours Required** 30

### Drug Addiction Services Certificate

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<td>HUMS 168 Introduction to Practicum</td>
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<td>HUMS 100</td>
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<td>HUMS 172 Aging, Alcoholism and Medications or HUMS 175 Spirituality in Addiction Recovery or HUMS 176 Addiction Management or HUMS 177 Positive Dependency or HUMS 178 Women's Issues in Addiction</td>
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<tr>
<td>HUMS 201 Human Services Practicum I</td>
<td>3</td>
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**Total Credit Hours Required** 30
## Youth Development Worker Certificate

### Specific Program Requirements

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<td>HUMS 160</td>
<td>Principles of Youth Work</td>
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**Total Credit Hours Required**: 12-14

## Youth Work Certificate

### General Education Requirements

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<td>Composition and Reading I</td>
<td>3</td>
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<td>POLS 136</td>
<td>Introduction to American National Politics</td>
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### Specific Program Requirements

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**Total Credit Hours Required**: 33
A.A.S. Indus. Tech. Industrial Electrical

General Education Requirements

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*minimum requirements

Industrial Electrical (General Education Requirements 3-5)

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<td>EHSS 111</td>
<td>Introduction to Health &amp; Safety for General</td>
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<td>INTE 110</td>
<td>Industrial Electrical Principles</td>
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<td>Blueprint Reading, Electrical</td>
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<td>INTE 124</td>
<td>Employment Strategies for Technical Careers</td>
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<td>INTE 142</td>
<td>National Electric Code</td>
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<td>INTE 175</td>
<td>Electric Motor Controls I</td>
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<td>INTE 271</td>
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<td>Electrical Troubleshooting</td>
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### General Education Requirements

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<td>HIST 121</td>
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<td>Introduction to American National Politics or</td>
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<td>Introduction to State and Local Politics</td>
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*minimum requirements

### Industrial Maintenance (General Education Requirements 3-5)

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<td>3</td>
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<td>Layout and Fabrication</td>
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<td>Employment Strategies for Technical Careers</td>
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<td></td>
<td>Fundamentals of Industrial Maintenance</td>
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<td>INTE 142</td>
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<td>INTE 150</td>
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<td>Fundamentals of Hydraulics</td>
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<td>INTE 151</td>
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<td>Industrial Rigging</td>
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<td>Welding T-SMAW</td>
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### AAS INTE – Multi-craft Emphasis

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<td>United States History to 1865 or</td>
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<td>HIST 121</td>
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<td>POLS 135</td>
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<td>Introduction to State and Local Politics</td>
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<td>MATH 103</td>
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**Specific Program Required**

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<td>HVAC 111</td>
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## AAS INTE – Stationary Engineer

### General Education Requirements

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### Stationary Engineer (General Education Requirements 3-5)

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### Millwright (General Education Requirements 3-5)

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### AAS INTE – Instrumentation & Controls

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**Total Credit Hours Required**: 63-64

### Millwright Certificate

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**Total Credit Hours Required**: 33

### Industrial Maintenance Certificate

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**Total Credit Hours Required**: 32
## Welding TIG/MIG Job Ready Certificate

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<td>INTE 151 Industrial Rigging</td>
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**Total Credit Hours Required** 18

## Welding Job Ready Certificate

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**Total Credit Hours Required** 18

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**Total Credit Hours Required** 32

## Industrial Electrical Certificate

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**Total Credit Hours Required** 32

## Industrial/Technical

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<td>MATH 103 or concurrent enrollment</td>
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<tr>
<td>INTE 115 Blueprint Reading, Electrical</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 150 Fundamentals of Hydraulics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 175 Electric Motor Controls I</td>
<td>3</td>
<td></td>
<td>HVAC 109 and INTE 115</td>
</tr>
<tr>
<td>INTE 271 Programmable Logic Controller I</td>
<td>3</td>
<td></td>
<td>INTE 110 and 175</td>
</tr>
<tr>
<td>INTE 270 Instrumentation &amp; Controls</td>
<td>3</td>
<td></td>
<td>INTE 225 and INTE 272</td>
</tr>
</tbody>
</table>

**Total Credit Hours Required** 18

## Specific Program Requirements

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 115 Introduction to Microcomputer Applications</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHSS 100 Introduction to Environmental Health &amp; Safety</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 109 Electricity for HVAC/R Technicians</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 111 Principles of Heating, Ventilation and Air Conditioning</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 120 Fundamentals of Refrigeration</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 201 Stationary Engineering</td>
<td>3</td>
<td></td>
<td>HVAC 111 and 120</td>
</tr>
<tr>
<td>HVAC 221 Commercial Refrigeration</td>
<td>4</td>
<td></td>
<td>HVAC 109 and 120</td>
</tr>
<tr>
<td>HVAC 230 Design and Distribution</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 110 Industrial Electrical Principles</td>
<td>3</td>
<td></td>
<td>MATH 103 or concurrent enrollment</td>
</tr>
<tr>
<td>INTE 115 Blueprint Reading, Electrical</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 150 Fundamentals of Hydraulics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 175 Electric Motor Controls I</td>
<td>3</td>
<td></td>
<td>HVAC 109 and INTE 115</td>
</tr>
<tr>
<td>INTE 271 Programmable Logic Controller I</td>
<td>3</td>
<td></td>
<td>INTE 110 and 175</td>
</tr>
<tr>
<td>INTE 270 Instrumentation &amp; Controls</td>
<td>3</td>
<td></td>
<td>INTE 225 and INTE 272</td>
</tr>
</tbody>
</table>

**Total Credit Hours Required** 18
### Instrumentation & Controls Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 123 Programming Fundamentals</td>
<td>3</td>
<td></td>
<td>MATH 40/40L or appropriate placement score</td>
</tr>
<tr>
<td>EHSS 111 Intro to Health &amp; Safety for General Industry</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ETEC 110 Basic Electronics Principles</td>
<td>3</td>
<td></td>
<td>Completion of or concurrent enrollment in MATH 103 or higher</td>
</tr>
<tr>
<td>ETEC 118 AC Circuit Analysis</td>
<td>3</td>
<td></td>
<td>ETEC 110 or INTE 110</td>
</tr>
<tr>
<td>ETEC 130 Digital Electronics</td>
<td>4</td>
<td></td>
<td>Completion of or concurrent enrollment ETEC 110 or INTE 110</td>
</tr>
<tr>
<td>ETEC 230 Microcomputer Architecture</td>
<td>4</td>
<td></td>
<td>ETEC 130</td>
</tr>
<tr>
<td>MATH 120 College Algebra and MATH 130 Trigonometry or MATH 150 Precalculus</td>
<td>5-6</td>
<td></td>
<td>MATH 110 or appropriate placement score MATH 120 or appropriate placement or score MATH 110 or appropriate placement score</td>
</tr>
</tbody>
</table>

**Electives:** **Choose three of the following:**

- ETEC 111 Microcomputer Hardware Repair
- INTE 175 Electric Motor Controls I
- INTE 270 Instrumentation & Process Control
- INTE 271 Programmable Logic Controllers I

| Total Credit Hours Required | 32-33 |

### INTE Programmable Logic Controller Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSOF 100 Introduction to Personal Computing</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>INTE 110 Industrial Electrical Principles</td>
<td>3</td>
<td></td>
<td>Completion of or concurrent enrollment in MATH 103 and INTE 115</td>
</tr>
<tr>
<td>INTE 115 Electrical Print Reading</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
<td>CSOF 100 or CSIS 115</td>
</tr>
<tr>
<td>ETEC 130 Digital Electronics</td>
<td>3</td>
<td></td>
<td>Completion of or concurrent enrollment in ETEC 110 or INTE 110</td>
</tr>
<tr>
<td>INTE 175 Electric Motor Controls I</td>
<td>3</td>
<td></td>
<td>HVAC 109 or INTE 115</td>
</tr>
<tr>
<td>INTE 225 Industrial Electrical Print Reading</td>
<td>3</td>
<td></td>
<td>INTE 115</td>
</tr>
<tr>
<td>INTE 271 Programmable Logic Controller I</td>
<td>4</td>
<td></td>
<td>INTE 110, 175 and CSOF 100 or concurrent enrollment</td>
</tr>
<tr>
<td>INTE 272 Programmable Logic Controller II</td>
<td>3</td>
<td></td>
<td>INTE 115 and 271</td>
</tr>
<tr>
<td>INTE 277 Programmable Logic Controller Troubleshooting</td>
<td>3</td>
<td></td>
<td>INTE 115 and 271</td>
</tr>
<tr>
<td>INTE 290 Programmable Logic Controller Capstone</td>
<td>4</td>
<td></td>
<td>INTE 277 or concurrent enrollment</td>
</tr>
</tbody>
</table>

| Total Credit Hours Required | 33 |
Apprenticeships- Industrial Technologies

These degree completion programs grant college credit by certification for certain federally approved apprenticeship programs. An eligible apprenticeship must contain a minimum 450 clock hours of classroom instruction and a program-specific number of clock hours of on-the-job training. Thirty to forty-two hours of MCC credit leading toward an AAS in Industrial Technology will be awarded upon completion of 15 hours of MCC coursework and receipt of a certificate and/or journeymen card for the appropriate craft.

A.A.S. Industrial Technologies
A.A.S. Indus. Tech. Bricklayer .................. 63-65 Credits
A.A.S. Indus. Tech
  Construction Carpentry .................... 63-66 Credits
A.A.S. Indus. Tech
  Construction Cement Masons ............ 63-66 Credits
A.A.S. Indus. Tech
  Construction Ironworking ............... 65-67 Credits
A.A.S. Indus. Tech
  Construction Laborer .................... 63-65 Credits
A.A.S. Indus. Tech Glaziers ................. 63-66 Credits

A.A.S. Indus. Tech. Inside Wiring
3 & 5-year program ......................... 65-66 Credits

A.A.S. Indus. Tech. Maintenance Electrician
.............................................. 64-66 Credits

A.A.S. Indus. Tech. Painter ................. 63-65 Credits

A.A.S. Indus. Tech. Sheet Metal .......... 63-65 Credits

A.A.S. Indus. Tech. Lineman Tech/Cable Splicer
.............................. 63-66 Credits

A.A.S. Industrial Mechanic ................. 65-67 Credits

A.A.S. Industrial Welder .................... 65-67 Credits

A.A.S. Industrial Pipefitter/Sprinkler Fitter
........................................ 63-65 Credits

General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>HIST 120</td>
<td>United States History to 1865 or</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>HIST 121</td>
<td>United States History Since 1865 or</td>
<td>3</td>
<td></td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I* and</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>MATH 104</td>
<td>Technical Mathematics II* or</td>
<td>6</td>
<td></td>
<td>MATH 40/40L or appropriate placement test score</td>
</tr>
<tr>
<td>MATH 120</td>
<td>College Algebra and</td>
<td></td>
<td></td>
<td>(MATH 103), MATH 103 (MATH 104), MATH 110</td>
</tr>
<tr>
<td>MATH 130</td>
<td>Trigonometry</td>
<td></td>
<td></td>
<td>or appropriate placement test score (MATH 120),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MATH 120 or appropriate placement test score</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(MATH 130)</td>
</tr>
</tbody>
</table>

*minimum requirements

Specific Program Requirements

Bricklayer (General Education Requirements 3-5)
BSAD 109 Principles of Supervision 3
CSIS 115 Introduction to Microcomputer Applications 3
EHSS 100 Introduction to Environmental Health and Safety 3
INTE 151 Industrial Rigging 3
SRVY 135 Elementary Surveying 3 MATH 130
Bricklaying Apprenticeship (Credit by Certification*) 30

Total Credit Hours 63-65

* Federally approved bricklaying apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transmitted upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeymen card for the appropriate craft.

Construction Carpenter (General Education Requirements 6-9)
BSAD 109 Principles of Supervision 3
CSIS 115 Introduction to Microcomputer Applications 3
EHSS 100 Introduction to Environmental Health and Safety 3
INTE 151 Industrial Rigging 3
Carpentry Apprenticeship (Credit by Certification*) 30

Total Credit Hours 63-66

* Federally approved carpentry apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transmitted upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeymen card for the appropriate craft.
### Construction Cement Masons (General Education Requirements 6-9)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental and Safety</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 135</td>
<td>Elementary Surveying</td>
<td>3</td>
</tr>
<tr>
<td>MATH 130</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cement Masons Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 63-66

* Federally approved cement masons apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### Construction Ironworking (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 110</td>
<td>Technology and Information Management</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental and Safety</td>
<td>3</td>
</tr>
<tr>
<td>MATE 101</td>
<td>Basic Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>Introductory to Physics</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Ironworking Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 65-67

* Federally approved ironworking apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### Construction Laborer (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 200</td>
<td>Safety and Health Regulations and Standards</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 204</td>
<td>Principles of Industrial Hygiene</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 135</td>
<td>Elementary Surveying</td>
<td>3</td>
</tr>
<tr>
<td>MATH 130</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction Laborer Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 63-65

* Federally approved construction laborer apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### Glaziers (General Education Requirements 6-9)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental and Safety</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 135</td>
<td>Elementary Surveying</td>
<td>3</td>
</tr>
<tr>
<td>MATH 130</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glazier Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 63-66

* Federally approved glazier apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### Industrial Maintenance Electrician (General Education Requirements 6-9)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental, Health &amp; Safety</td>
<td>3</td>
</tr>
<tr>
<td>INTE 124</td>
<td>Employment Strategies for Technical Careers</td>
<td>3</td>
</tr>
<tr>
<td>INTE 225</td>
<td>Industrial Electrical Print Reading</td>
<td>3</td>
</tr>
<tr>
<td>INTE 272</td>
<td>Programmable Logic Controller II or</td>
<td>3</td>
</tr>
<tr>
<td>INTE 277</td>
<td>Programmable Logic Controller Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>INTE 276</td>
<td>Electrical Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Industrial Maintenance Electrician Apprenticeship*</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours Required** 63-65

* Federally approved Industrial Maintenance Electrician apprenticeship program that contains a minimum of 450 clock hours of classroom and instruction and 8000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### Inside Wiring - 3 year program (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>INTE 271</td>
<td>Programmable Logic Controller I</td>
<td>3</td>
</tr>
<tr>
<td>INTE 275</td>
<td>Electric Motor Controls II</td>
<td>3</td>
</tr>
<tr>
<td>INTE 276</td>
<td>Electrical Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>INTE 277</td>
<td>Programmable Logic Controller Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electrical Apprenticeship</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours** 63-65

* Federally approved inside wiring apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.
## Inside Wiring - 5 year program (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CSIS 115: Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>Electrical Apprenticeship</td>
<td>42</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 63-65

* Federally approved inside wiring apprenticeship program that contains a minimum 750 clock hours of classroom instruction and 10,000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

## Painter (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109: Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 115: Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100: Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 200: Safety and Health Regulations &amp; Standards</td>
<td>3</td>
</tr>
<tr>
<td>INTE 151: Industrial Rigging</td>
<td>3</td>
</tr>
<tr>
<td>Painter Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 63-65

* Federally approved painter apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

## Plumbing (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 115: Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100: Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>INTE 151: Industrial Rigging</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM, CSIS, INTE, MATE, or PHYS</td>
<td>6</td>
</tr>
<tr>
<td>Plumber Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 63-65

* Federally approved plumber apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

## Sheet Metal (General Education Requirements 3-5)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 115: Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100: Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>INTE 151: Industrial Rigging</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM, CSIS, INTE, MATE or PHYS</td>
<td>6</td>
</tr>
<tr>
<td>Sheet Metal Apprenticeship (Credit by Certification*)</td>
<td>30</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 63-65

* Federally approved sheet metal apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

## AAS INTE – Lineman Technician/Cable Splicer

### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
<td>ENGL 101: Composition and Reading I</td>
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<tr>
<td>HIST 120: United States History to 1865 or</td>
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<td>HIST 121: United States History Since 1865 or</td>
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<tr>
<td>POLS 135: Introduction to Political Science or</td>
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<td>POLS 136: Introduction to American National Politics or</td>
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<td>POLS 137: Introduction to State and Local Politics</td>
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<td>SPDR 100: Fundamentals of Speech</td>
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<tr>
<td>MATH 103: Technical Mathematics I and</td>
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<td>MATH 104: Technical Mathematics II or</td>
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<td>MATH 120: College Algebra and</td>
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<td>MATH 130: Trigonometry</td>
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<tr>
<td>SPAN 100: Beginning Occupational Spanish</td>
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### Specific Program Requirements

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<tr>
<td>LINE 106: Safety and Accident Prevention</td>
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<td>INTE 110: Industrial Electrical Principles</td>
<td>3</td>
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<td>MATH 103</td>
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<td>INTE 120: INTE Internship I</td>
<td>3</td>
<td></td>
<td>MATH 103</td>
</tr>
<tr>
<td>INTE 124: Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
<td>MATH 103</td>
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<tr>
<td>INTE 220: INTE Internship II</td>
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<tr>
<td>Technician/Cable Splicer Apprenticeship*</td>
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</tbody>
</table>

**Total Credit Hours Required:** 63

* Federally approved Lineman Technician/Cable Splicer apprenticeship program that contains a minimum of 450 clock hours of classroom and instruction and 8000 clockhours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.
### AAS INTE – Industrial Mechanic

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EHSS 100: Introduction to Environmental, Health &amp; Safety</td>
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<td>INTE 124: Employment Strategies for Technical Careers</td>
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<tr>
<td>INTE 150: Fundamentals of Hydraulics</td>
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<td>INTE 151: Industrial Rigging</td>
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*Federally approved Industrial Mechanic apprenticeship program that contains a minimum of 450 clock hours of classroom and instruction and 8000 clock hours of on-the-job training. Transcripted upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### AAS INTE – Industrial Welder

<table>
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<th>Specific Program Requirements</th>
<th>Credits</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>CSIS 110: Technology &amp; Information Management</td>
<td>3</td>
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<tr>
<td>LINE 106: Safety and Accident Prevention</td>
<td>3</td>
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<tr>
<td>INTE 124: Employment Strategies for Technical Careers</td>
<td>3</td>
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<tr>
<td>INTE 151: Industrial Rigging</td>
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<td>MATE 130: Machining for Related Occupations</td>
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<tr>
<td>Industrial Welders Apprenticeship*</td>
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<td><strong>Total Credit Hours Required</strong></td>
<td><strong>65-67</strong></td>
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</table>

*Federally approved Industrial Welder apprenticeship program that contains a minimum of 450 clock hours of classroom and instruction and 8000 clock hours of on-the-job training. Transcripted upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

### AAS INTE – Industrial Pipefitter/Sprinkler Fitter

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
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<td>INTE 124: Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
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<tr>
<td>INTE 150: Fundamentals of Hydraulics</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>INTE 151: Industrial Rigging</td>
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<td>Industrial Pipefitter/Sprinkler Fitter Apprenticeship*</td>
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<td><strong>Total Credit Hours Required</strong></td>
<td><strong>63-65</strong></td>
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</table>

*Federally approved Industrial Pipefitter/Sprinkler Fitter apprenticeship program that contains a minimum of 450 clock hours of classroom and instruction and 8000 clock hours of on-the-job training. Transcripted upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.
Human Sciences

Interior Design

Offered at Johnson County Community College
Coordinated at MCC

A.A.S. Interior Design ........................................... 68 Credits
A.A.S. Interior Entrepreneurship............................... 68 Credits
A.A.S. Interior Merchandising................................... 68 Credits

Interior Design Retail Sales/Manufacturers
Representative Certificate .................................. 30 Credits
Interior Products Sales Representative
Certificate ........................................................... 17 Credits
Interior Design Advanced Certificate....................... 31 Credits
Interior Design Merchandising Entrepreneurship
certificate ............................................................ 31 Credits

This program leads to an Associate in Applied Science degree. Associates degrees are offered in interior design, interior merchandising and interior entrepreneurship. Certificates are offered in interior products sales representative and interior design retail sales/manufacturers representative. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree or certificate from JCCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

Specific Program Requirements
Must be taken at one of the MCC campuses

<table>
<thead>
<tr>
<th>Subject</th>
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<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>History of Art I</td>
<td>3</td>
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<td></td>
<td>BSAD 221</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td></td>
<td>ECON 110</td>
<td>Introduction to Economics or</td>
<td>3</td>
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<td>MATH 40/40L or appropriate placement test score (ECON 210)</td>
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<td>ECON 210</td>
<td>Macroeconomics</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>ENGL 101</td>
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<td>MATH 20/20L or appropriate placement test score</td>
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<td>Physical Education or Health (see below)</td>
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Specific Program Requirements
Must be taken at Johnson County Community College

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
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<td>CAD:Interior Design*</td>
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<td>ITMD 123</td>
<td>Space Planning*</td>
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<td>ITMD 125</td>
<td>Interior Textiles</td>
<td>3</td>
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<td>ITMD 129</td>
<td>Design Presentation*</td>
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<td>ITMD 132</td>
<td>Materials and Resources</td>
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<td>ITMD 133</td>
<td>Furniture &amp; Ornamentation/Antiquity to Renaissance</td>
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<td>Window Treatments*</td>
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<td>Upholstered Furniture*</td>
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<td>ITMD 148</td>
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<td>Casegoods*</td>
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<td>Leadership in Design</td>
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<td>ITMD 213</td>
<td>Lighting Design &amp; Planning*</td>
<td>3</td>
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<td>ITMD 221</td>
<td>Residential Design*</td>
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<td>ITMD 231</td>
<td>Furniture and Ornamentation/Renaissance to 20th Century</td>
<td>3</td>
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<td>ITMD 271</td>
<td>Budget &amp; Estimating*</td>
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<td>ITMD 273</td>
<td>Interiors Seminar: Practices and Procedures*</td>
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<td>ITMD 282</td>
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<td>ITMD 284</td>
<td>Interiors Internship II*</td>
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<td></td>
<td>MKT 134</td>
<td>Professional Selling</td>
<td>3</td>
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</table>

Total Credit Hours Required 68

This program leads to an Associate in Applied Science degree. Associates degrees are offered in interior design, interior merchandising and interior entrepreneurship. Certificates are offered in interior products sales representative and interior design retail sales/manufacturers representative. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree or certificate from JCCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.
### A.A.S. Interior Entrepreneurship

#### Specific Program Requirements
**Must be taken at one of the MCC campuses**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>BSAD 221</td>
<td>Business Communications</td>
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<td>ECON 110</td>
<td>Introduction to Economics or Macroeconomics</td>
<td>3</td>
<td></td>
<td>MATH 40/40L or appropriate placement test score (ECON 210)</td>
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<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
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<td>ENGL 30 or appropriate placement test score</td>
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<td>MATH 100</td>
<td>Mathematics for Business or higher</td>
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<td>MATH 20/20L or appropriate placement test score</td>
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<td>See Courses section of this catalog for individual course prerequisites.</td>
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<td>Business/Marketing/Entrepreneurship Electives at MCC or JCCC**</td>
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<td><strong>Note:</strong> Each course has its own prerequisite and corequisite. <strong>Please see individual course prerequisites.</strong></td>
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**Specific Program Requirements
Must be taken at Johnson County Community College**

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<td>DRAF 164</td>
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<td>ITMD 123</td>
<td>Space Planning*</td>
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<td>ITMD 125</td>
<td>Interior Textiles</td>
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<td>Furniture and Ornamentation/Antiquity to Renaissance</td>
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<td>ITMD 180</td>
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<td>ITMD 231</td>
<td>Furniture and Ornamentation/Renaissance to 20th Century</td>
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<td>ITMD 271</td>
<td>Budgeting &amp; Estimating*</td>
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<td>ITMD 273</td>
<td>Seminar: Business Practices and Procedures*</td>
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<td>ITMD 282</td>
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<td>ITMD 284</td>
<td>Interiors Internship II*</td>
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<td>MKT 134</td>
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<td>ITMD</td>
<td>Electives*</td>
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</table>

**Total Credit Hours Required: 68**

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**Recommended Business/Entrepreneurship/Marketing Electives at MCC:**
- BSAD 101 Accounting Principles I
- BSAD 219 Entrepreneurship
- BSAD 205 Marketing

**Recommended Business/Entrepreneurship/Marketing Electives at JCCC:**
- ENTR 131 Financial Management for Small Business
- ENTR 142 FastTrack Business Plan
- ENTR 160 Legal Issues for Small Business
- ENTR 180 Opportunity Analysis
- MKT 221 Retail Management

**Recommended Interior Electives at JCCC:**
- ITMD 127 Elements of Floral Design
- ITMD 140 Window Treatments*
- ITMD 143 Accessory Fundamentals*
- ITMD 145 Upholstered Furniture*
- ITMD 147 Lighting Basics*
- ITMD 148 History of Asian Furniture and Design
- ITMD 149 Casegoods*
- ITMD 150 Asian Rugs and Carpets
- ITMD 175 Advanced Floral Design*
- ITMD 213 Lighting Design and Planning*
- ITMD 225 Interior Textiles II*
- ITMD 250 20th Century Designers
- ITMD 295 Field Study: Design and Merchandising*
- ITMD 296 Interior Design: The Orient (travel for credit)*

**Health, Physical Education and Recreation Elective** must be one of the following: DANC 100, 111, EMTP 102, HUSC 108, PHED 105, 106, 107, 108, 109, 110, 113, 114, 117, 118, 119, 120, 121, 122, 123, 126, 127, 128, 129, 130, 131, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 157, 158, 159, 165, 166, 167, 168, 173, 174, 179, 180

*Prerequisite/corequisite required
### A.A.S. Interior Merchandising

#### Specific Program Requirements

**Must be taken at one of the MCC campuses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ART 150</td>
<td>3</td>
<td></td>
<td>History of Art I</td>
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<td>BSAD 221</td>
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<td>Business Communications</td>
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<td>ECON 110</td>
<td>3</td>
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<td>Introduction to Economics or ECON 210</td>
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<td>ECON 210</td>
<td>3</td>
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<td>Macroeconomics</td>
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<td>ENGL 101</td>
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<td>Composition and Reading I</td>
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<td>MATH 100</td>
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<td>Mathematics for Business</td>
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<tr>
<td>Business/Marketing Electives at MCC or JCCC**</td>
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</table>

**Elective: Physical Education or Health**

**Credits**

**Semester Taken**

**Prerequisites**

**Specific Program Requirements**

**Must be taken at Johnson County Community College**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>DRAF 164</td>
<td>3</td>
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<td>Architectural Drafting/Residential Interior Design</td>
</tr>
<tr>
<td>ITMD 123</td>
<td>3</td>
<td></td>
<td>Space Planning*</td>
</tr>
<tr>
<td>FASH 125</td>
<td>3</td>
<td></td>
<td>Visual Merchandising</td>
</tr>
<tr>
<td>FASH 135</td>
<td>3</td>
<td></td>
<td>Image Management or</td>
</tr>
<tr>
<td>ITMD 180</td>
<td>1</td>
<td></td>
<td>Leadership Design</td>
</tr>
<tr>
<td>ITMD 121</td>
<td>3</td>
<td></td>
<td>Interior Design</td>
</tr>
<tr>
<td>ITMD 125</td>
<td>3</td>
<td></td>
<td>Interior Textiles*</td>
</tr>
<tr>
<td>ITMD 132</td>
<td>3</td>
<td></td>
<td>Materials and Resources</td>
</tr>
<tr>
<td>ITMD 133</td>
<td>3</td>
<td></td>
<td>Furniture and Ornamentation/Antiquity to Renaissance</td>
</tr>
<tr>
<td>ITMD 231</td>
<td>3</td>
<td></td>
<td>Furniture and Ornamentation/Renaissance to 20th Century</td>
</tr>
<tr>
<td>ITMD 237</td>
<td>2</td>
<td></td>
<td>Capstone: Merchandising &amp; Entrepreneurship*</td>
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<tr>
<td>ITMD 271</td>
<td>3</td>
<td></td>
<td>Budgeting &amp; Estimating*</td>
</tr>
<tr>
<td>ITMD 273</td>
<td>2</td>
<td></td>
<td>Interiors Seminar: Business Practices &amp; Procedures*</td>
</tr>
<tr>
<td>ITMD 282</td>
<td>1</td>
<td></td>
<td>Interiors Internship I*</td>
</tr>
<tr>
<td>ITMD 284</td>
<td>1</td>
<td></td>
<td>Interiors Internship II*</td>
</tr>
<tr>
<td>MKT 134</td>
<td>3</td>
<td></td>
<td>Professional Selling</td>
</tr>
<tr>
<td>ITMD</td>
<td>9</td>
<td></td>
<td>Electives*</td>
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</tbody>
</table>

**Total Credit Hours Required** 68

---

*Prerequisite/corequisite required

**Recommended Interior Electives at JCCC:**

- ITMD 127  Elements of Floral Design
- ITMD 140  Window Treatments*
- ITMD 143  Accessory Fundamentals*
- ITMD 145  Upholstered Furniture*
- ITMD 147  Lighting Basics*
- ITMD 148  History of Asian Furniture and Design
- ITMD 149  Casegoods*
- ITMD 150  Asian Rugs and Carpets
- ITMD 175  Advanced Floral Design*
- ITMD 213  Lighting Design and Planning*
- ITMD 225  Interior Textiles II*
- ITMD 250  20th Century Designers
- ITMD 295  Field Study: Design and Merchandising*
- ITMD 296  Interior Design: The Orient (travel for credit)

**Recommended Business/Marketing Electives at JCCC:**

- BUS 145  Small Business Management
- MKT 121  Retail Management
- MKT 221  Sales Management

**Recommended Business/Marketing Electives at MCC:**

- BSAD 112  Retailing Principles
- BSAD 205  Marketing

**Health, Physical Education and Recreation Elective** must be one of the following: DANC 100, 111, EMTP 102, HUSC 108, PHED 105, 106, 107, 108, 109, 110, 113, 114, 117, 118, 119, 120, 121, 122, 123, 126, 127, 128, 129, 130, 131, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 157, 158, 159, 165, 166, 167, 168, 173, 174, 179, 180
### Human Sciences

#### Interior Design Retail Sales/Manufacturers Representative Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be taken at one of the MCC campuses</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BSAD 112 Retailing Principles</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>MATH 100 Mathematics for Business or higher</td>
<td>3</td>
<td></td>
<td>MATH 20/20L or appropriate placement test score</td>
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</table>

**Specific Program Requirement**

**Must be taken at Johnson County Community College**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FASH 125 Visual Merchandising</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>FASH 135 Image Management</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ITMD 121 Interior Design I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 125 Interior Textiles</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 132 Materials and Resources</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 271 Budgeting and Estimating*</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 282 Interiors Internship I</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 284 Interiors Internship II</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MKT 121 Retail Management</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MKT 134 Professional Selling</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>ITMD: Electives*</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**

| Total Credit Hours Required                | 30      |                |                                        |

*Prerequisite/corequisite
*Recommended Electives:
- ITMD 127: Elements of Floral Design
- ITMD 140: Window Treatments
- ITMD 143: Accessory Fundamentals*
- ITMD 145: Upholstered Furniture*
- ITMD 147: Lighting Design and Planning*
- ITMD 149: Casegoods*
- ITMD 213: Lighting Design and Planning*
- ITMD 225: Interior Textiles II*
- ITMD 231: Furniture and Ornamentation: Renaissance–20th Century
- ITMD 273: Seminar: Practices and Procedures*

#### Interior Products Sales Representative Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>Must be taken at one of the MCC campuses</td>
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</tr>
<tr>
<td>MATH 100 Mathematics for Business or higher</td>
<td>3</td>
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<td>MATH 20/20L or appropriate placement test score</td>
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</table>

**Specific Program Requirement**

**Must be taken at Johnson County Community College**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>FASH 135 Image Management</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ITMD 121 Interior Design I</td>
<td>3</td>
<td></td>
<td>See JCCC course descriptions in the Courses section of this catalog for individual course pre-requisites.</td>
</tr>
<tr>
<td>ITMD 125 Interior Textiles</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 132 Materials and Resources</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 282 Interiors Internship I*</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>MKT 134 Professional Selling</td>
<td>3</td>
<td></td>
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</tr>
</tbody>
</table>

**Total Credit Hours Required**

| Total Credit Hours Required                | 17      |                |                                        |

*Prerequisite/corequisite
Human Sciences

Interior Design Advanced Certificate
This certificate is designed for students who wish to be certified or registered interior designers. Students must have completed the Interior Design AAS degree.

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be taken at one of the MCC campuses</td>
<td></td>
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</tr>
<tr>
<td>ART 103 Design Foundations or</td>
<td>3</td>
<td></td>
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<tr>
<td>ART 151 Art History II</td>
<td>3</td>
<td></td>
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<tr>
<td>Specific Program Requirement</td>
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<tr>
<td>Must be taken at Johnson County Community College</td>
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<tr>
<td>DRAF 230 Intermediate CAD: AutoCAD* or</td>
<td>3</td>
<td></td>
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<tr>
<td>ART 129 Design Color</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 225 Interior Textiles II*</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 223 Commercial Design*</td>
<td>3</td>
<td></td>
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<tr>
<td>ITMD 219 Issues in Interior Design*</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>ITMD 234 Kitchen and Bath: Planning and Design*</td>
<td>3</td>
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<tr>
<td>Interior Design Electives</td>
<td>3</td>
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</tbody>
</table>

**Total Credit Hours Required**: 21

*Prerequisites/corequisites required

Interior Design & Merchandising Entrepreneurship Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be taken at one of the MCC campuses</td>
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<tr>
<td>BSAD 219 Planning and Growing an Entrepreneurial Venture</td>
<td>3</td>
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<tr>
<td>MATH 100 Mathematics for Business or higher</td>
<td>3</td>
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<td>MATH 20/20L or appropriate placement test score</td>
</tr>
<tr>
<td>Specific Program Requirement</td>
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</tr>
<tr>
<td>Must be taken at Johnson County Community College</td>
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<tr>
<td>DRAF 164 Architectural Drafting/Residential Interior Design</td>
<td>3</td>
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<tr>
<td>ITMD 121 Interior Design</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 125 Interior Textiles</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITMD 132 Materials and Resources</td>
<td>3</td>
<td></td>
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<tr>
<td>ENTR 180 Opportunity Analysis</td>
<td>2</td>
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<tr>
<td>ITMD 123 Space Planning*</td>
<td>3</td>
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<tr>
<td>ITMD 271 Budgeting and Estimating*</td>
<td>3</td>
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<tr>
<td>ITMD 273 Interiors Seminar: Practices and Procedures*</td>
<td>2</td>
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<tr>
<td>ITMD 282 Interiors Internship I*</td>
<td>1</td>
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<tr>
<td>ENTR 180 Legal Issues for Small Business</td>
<td>2</td>
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<tr>
<td>ENTR 142 Fast Trac Business Plan</td>
<td>3</td>
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<tr>
<td>Choose 3 of the 5 one-credit hour courses</td>
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<tr>
<td>Must be taken at Johnson County Community College</td>
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<tr>
<td>ITMD 127 Elements of Floral Design</td>
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<tr>
<td>ITMD 175 Advanced Floral Design*</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ITMD 140 Window Treatments*</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>ITMD 145 Upholstered Furniture*</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ITMD 147 Lighting Basics*</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>Additional Recommended ENTR Coursework</td>
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<td></td>
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<tr>
<td>Must be taken at Johnson County Community College</td>
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<td></td>
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</tr>
<tr>
<td>ENTR 195 Franchising*</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>ENTR 220 Entrepreneurial Marketing*</td>
<td>2</td>
<td></td>
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<tr>
<td>ENTR 131 Financial Management for Small Business*</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td>31</td>
<td></td>
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</tbody>
</table>
# International Studies

This program is designed to enable students to develop a fundamental level of international and intercultural competence, and to prepare them to assume their role in a politically, economically and culturally interdependent world. The program is especially beneficial to students planning to transfer to four-year colleges and universities and to students desiring international education.

## International Studies Certificate

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMN 103  Introduction to International Studies</td>
<td>3</td>
<td></td>
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<tr>
<td>GEOG 105  World Geography</td>
<td>3</td>
<td></td>
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<tr>
<td>One of the following Humanities courses:</td>
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<td></td>
<td></td>
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<tr>
<td>ART 108, ART 205, ENGL 150, ENGL 151, ENGL 167, ENGL 220, ENGL 221, ENGL 265, HUMN 140, HUMN 141, MUSI 160, PHIL 102</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>One of the following History courses:</td>
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<td></td>
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<tr>
<td>HIST 133, HIST 134, HIST 145</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of the following Social Science courses:</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANTH 110, ECON 210, GEOG 111, GEOG 112, GEOG 113, POLS 234, SOCI 210</td>
<td>3</td>
<td></td>
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<tr>
<td>One Foreign Language course 100 or above</td>
<td>3-5</td>
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<tr>
<td>One of the following Human Diversity courses:</td>
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<tr>
<td>ENGL 152, ENGL 155, ENGL 265, HIST 140, MUSI 116, SOCI 164, SOCI 210, SPDR 228</td>
<td>3</td>
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<tr>
<td>One elective from the following:</td>
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<td></td>
<td></td>
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<tr>
<td>BIOL 238, BIOL 239, SPDR 133 or a second Humanities, History, Science or Foreign Language course from the selected international courses above</td>
<td>3-5</td>
<td></td>
<td>BIO 101, 104, or 106 for BIOL 239</td>
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</tbody>
</table>

**Total Credit Hours Required** 24-28
Manufacturing Technology

Offered at MCC-Business & Technology

A.A.S. Manufacturing Technology
- CNC .................................................. 62-66 Credits
- Manual ............................................ 63-67 Credits
- Manufacturing Technology Certificate ........................................ 40 Credits
- Manufacturing Computer Numerical Control Operator Certificate....... 22-24 Credits
- Manufacturing Technology Welding & Fabrication Job Ready Certificate ........................................................ 17-19 Credits
- Manufacturing Technology Career Certificate ............................................................ 12 Credits

This Manufacturing Technology NIMS Certified program, leads to an Associate in Applied Science degree or certificates of proficiency. Requirements for the Manufacturing Technology degree, and certificates are listed below.

**NOTE:** The requirements for the degree may be part of an apprenticeship program sponsored by the Greater Kansas City Chapter of the National Tooling and Machining Association. Unless students also have been accepted as apprentices and have completed Association requirements, they will not be journeymen when they graduate. Therefore, a student with only a degree may be required by an employer to serve a full apprenticeship.

### A.A.S. Manufacturing Technology: CNC Emphasis

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 103 Technical Math I* and MATH 104 Technical Math II* or MATH 120 College Algebra and MATH 130 Trigonometry</td>
<td>6</td>
<td></td>
<td>MATH 40/40L or appropriate placement test score (MATH 103) MATH 103 (MATH 104) MATH 110 or appropriate placement test score (MATH 120) MATH 120 or appropriate placement test score (MATH 130)</td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ART, ECON, ENGL, Foreign Language, GEOG (except 104, 110 and GIS Courses), PHIL, PSYC, SOSC</td>
<td>3-5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specific Program Requirements**
- CSOF 100 Introduction to Personal Computing 1
- EHSS 111 Introduction to Health and Safety for General Industry 1
- INTE 124 Employment Strategies for Technical Careers 3
- MATE 100 Introduction to Manufacturing Technology and 3
- MATE 101 Machining and Tooling I 4
- MATE 114 Metrology 2
- MATE 115 Blueprint Reading for the Trades 3
- MATE 116 Geometric Dimensioning and Tolerancing Printreading 3
- MATE 117 Processes & Quality 4
- MATE 201 Basic Metallurgy 3

**Specific Emphasis Requirements: CNC**
- MATE 130 Machining for Related Occupation 5
- MATE 131 NIMS Level I Credentials Job Planning, Benchwork & Layout 1
- MATE 136 NIMS Level I Credentials CNC Milling or MATE 137 NIMS Level I Credentials CNC Turning 1
- MATE 138 NIMS Level I Credentials Drill Press 1
- MATE 210 Computerized Numerical Control- Lathe 3
- MATE 215 Computerized Numerical Control- Mill 3
- MATE 220 Advanced Computer Numerical Control- Lathe Mill 4
- MATE 225 Master Cam I 3
- MATE 226 Master Cam II 3

**Total Credit Hours Required** 62-66

*minimum requirements
# A.A.S. Manufacturing Technology: Manual Emphasis

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td>MATH 40/40L or appropriate placement test score (MATH 103)</td>
</tr>
<tr>
<td>MATH 103 Technical Math I* and MATH 104 Technical Math II* or MATH 120 College Algebra and MATH 130 Trigonometry</td>
<td>6</td>
<td></td>
<td>MATH 103 (MATH 104)</td>
</tr>
<tr>
<td>MATH 103 or appropriate placement test score (MATH 130)</td>
<td></td>
<td></td>
<td>MATH 110 or appropriate placement test score (MATH 120)</td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ART, ECON, ENGL, Foreign Language, GEOG (except 104, 110 and GIS Courses), PHIL, PSYC, SOSC</td>
<td>3-5</td>
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</tr>
<tr>
<td>Specific Program Requirements</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CSOF 100 Introduction to Personal Computing</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>EHSS 111 Introduction to Health and Safety for General Industry</td>
<td>1</td>
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<td></td>
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<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
<td>3</td>
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<td>CSOF 100 or CSIS 115</td>
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<tr>
<td>MATE 101 Introduction to Manufacturing Technology and MATE 102 Machining and Tooling I</td>
<td>3</td>
<td>4</td>
<td>MATE 100</td>
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<tr>
<td>MATE 103 Machining and Tooling II</td>
<td>5</td>
<td>4</td>
<td>MATE 100, 101</td>
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<tr>
<td>MATE 104 Machining and Tooling III</td>
<td>3</td>
<td>3</td>
<td>MATE 102</td>
</tr>
<tr>
<td>MATE 104 Machining and Tooling IV</td>
<td>3</td>
<td>3</td>
<td>MATE 103 or concurrent enrollment</td>
</tr>
<tr>
<td>MATE 131 NIMS Level I Credentials Job Planning, Benchwork &amp; Layout</td>
<td>1</td>
<td>1</td>
<td>MATE 100, 101, or MATE 130, MATE 115 and MATH 103</td>
</tr>
<tr>
<td>MATE 138 NIMS Level I Credentials Drill Press</td>
<td>1</td>
<td>1</td>
<td>MATE 101 or 130, and MATH 103 or concurrent enrollment</td>
</tr>
<tr>
<td>MATE 210 Computerized Numerical Control- Lathe</td>
<td>3</td>
<td>3</td>
<td>MATE 101 or 130, and MATH 103 or concurrent enrollment</td>
</tr>
<tr>
<td>MATE 215 Computerized Numerical Control- Mill</td>
<td>3</td>
<td>3</td>
<td>MATE 101 or 130, and MATH 103 or concurrent enrollment</td>
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<tr>
<td>Specific Emphasis Requirements: Manual</td>
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<tr>
<td>MATE 132 NIMS Level I Credentials Milling or MATE 133 NIMS Level I Credentials Lathe-Chucking or MATE 134 NIMS Level I Credentials Lathe-Turning or MATE 135 NIMS Level I Credentials Surface Grinding</td>
<td>1</td>
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<td>MATE 100, 101, 102, 115 and MATH 103</td>
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<td>Total Credit Hours Required</td>
<td>64-66</td>
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*Industrial/Technical*
### Manufacturing Technology Certificate

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>English 30 or appropriate placement test score</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATE 100 Introduction to Manufacturing Technology</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>MATE 101 Machining and Tooling I</td>
<td>4</td>
<td>MATE 100</td>
<td></td>
</tr>
<tr>
<td>MATE 102 Machining and Tooling II</td>
<td>5</td>
<td>MATE 100 and 101</td>
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</tr>
<tr>
<td>MATE 114 Metrology</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>MATE 115 Blueprint Reading for the Trades</td>
<td>3</td>
<td></td>
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<tr>
<td>MATE 116 Geometric Dimensioning and Tolerating Printreading</td>
<td>2</td>
<td>MATE 115</td>
<td></td>
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<tr>
<td>MATE 210 Computerized Numerical Control - Lathe</td>
<td>3</td>
<td>MATE 101 or 103; MATH 103 or concurrent enrollment</td>
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</tr>
<tr>
<td>MATE 215 Computerized Numerical Control - Mill</td>
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<td>MATE 101 or 103; MATH 103 or concurrent enrollment</td>
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</tr>
<tr>
<td>MATE 225 Master Cam I</td>
<td>3</td>
<td>CSOF 100, MATE 210 or 215</td>
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</table>

| MATH 103 Technical Math I* and MATH 104 Technical Math II* | 6       | MATH 40 or 40L or appropriate placement test score (MATH 103) MATH 103 (MATH 104) MATH 110 or appropriate placement test score (MATH 120) MATH 120 or appropriate placement test score (MATH 130) |
| MATH 120 College Algebra and MATH 130 Trigonometry |         |                |                                |

**Total Credit Hours Required**: 40

### Manufacturing Computer Numerical Control Operator Certificate

<table>
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<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATE 100 Introduction to Manufacturing Technology and MATE 101 Machining &amp; Tooling I or MATE 130 Machining for Related Occupations</td>
<td>5-7</td>
<td>MATE 100 (MATE 101)</td>
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</tr>
<tr>
<td>MATE 114 Metrology</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATE 115 Blueprint Reading for the Trades</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATE 210 Computer Numerical Control - Lathe</td>
<td>3</td>
<td>MATE 101 or 130, MATH 103 or concurrent enrollment</td>
<td></td>
</tr>
<tr>
<td>MATE 215 Computer Numerical Control - Mill</td>
<td>3</td>
<td>MATE 101 or 130, MATH 103 or concurrent enrollment</td>
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<tr>
<td>MATH 103 Technical Mathematics I</td>
<td>3</td>
<td>MATH 40/40L or appropriate score on placement test</td>
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<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
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**Total Credit Hours Required**: 22-24

### Manufacturing Technology Career Certificate

<table>
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<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CSOF 100 Introduction to Personal Computing</td>
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<td>Keyboarding skills equivalent to or co-enrollment in CSOF 80</td>
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<tr>
<td>EHS 111 Introduction to Health and Safety for General Industry</td>
<td>1</td>
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<tr>
<td>INTE 101 Introduction to Industrial Technologies</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>INTE 124 Employment Strategies for Technical Careers</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATE 100 Introduction to Manufacturing Technology</td>
<td>3</td>
<td></td>
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<tr>
<td>MATE 117 Materials, Processes and Quality</td>
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**Total Credit Hours Required**: 12

### Welding & Fabrication Job Ready Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>INTE 122 Welding Layout and Fabrication</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>INTE 167 Welding I SMAW</td>
<td>3</td>
<td></td>
<td>INTE 167</td>
</tr>
<tr>
<td>INTE 168 Welding II SMAW</td>
<td>3</td>
<td></td>
<td>INTE 167</td>
</tr>
<tr>
<td>MATE 100 Intro to Manufacturing Technology and MATE 101 Machining and Tooling I or MATE 130 Machining for Related Occupations</td>
<td>5-7</td>
<td>MATE 100</td>
<td></td>
</tr>
<tr>
<td>MATE 115 Blueprint Reading for the Trades</td>
<td>3</td>
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<td></td>
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</tbody>
</table>

**Total Credit Hours Required**: 17-19
Medical Transcription Certificate .......... 30 Credits

This program leads to a certificate in medical transcription. Students completing the program will be prepared to seek employment in a variety of medical settings or become self-employed transcriptionists. Medical transcriptionists spend the majority of their time typing documents such as medical histories, emergency room notes, consults, and radiology reports for the health record.

Medical Transcription Certificate

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>Specific Program Requirements</td>
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<td></td>
<td></td>
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<tr>
<td>BIOL 108 Introductory Anatomy and Physiology</td>
<td>5</td>
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<tr>
<td>BSAD 161 Professional Development or BSAD, CSOF Elective</td>
<td>3</td>
<td></td>
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<tr>
<td>CSIS 115 Introduction to Microcomputer Applications</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HITE 103 Medical Terminology for Health Records I</td>
<td>3</td>
<td></td>
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<tr>
<td>MTRN 101 Medical Transcription I</td>
<td>5</td>
<td></td>
<td>ENGL 101 and CSIS 115</td>
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<tr>
<td>MTRN 112 Medical Transcription II</td>
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<td></td>
<td>HITE 103 and MTRN 101 and concurrent enrollment in MTRN 113</td>
</tr>
<tr>
<td>MTRN 113 Medical Terminology for Health Records II</td>
<td>3</td>
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<td>BIOL 108, HITE 103, and MTRN 101</td>
</tr>
<tr>
<td>Total Credit Hours Required</td>
<td>30</td>
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</table>
## A.A.S. Mortuary Science

This program leads to an Associate in Applied Science degree that seeks to prepare students to function as practitioners in the field of funeral service. Students must be accepted into the program by both MCC and KCKCC.

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>General Biology</td>
<td>5</td>
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<tr>
<td>BIOL 110</td>
<td>Human Anatomy</td>
<td>5</td>
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<tr>
<td>BIOL 208</td>
<td>Microbiology</td>
<td>5</td>
<td></td>
<td>BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, 104, 106, 108, 109, or 110.</td>
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<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>CSIS 115</td>
<td>Intro. to Microcomputer Applications</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>Composition and Reading II</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
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<tr>
<td>MATH 100</td>
<td>Mathematics for Business</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>PHIL</td>
<td>Ethics or Philosophy</td>
<td>3</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
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<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>HUDV 101</td>
<td>Strategies for Academic Excellence/Lifelong Learning</td>
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<tr>
<td>MTSC 101</td>
<td>Orientation to Funeral Service</td>
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<tr>
<td>MTSC 105</td>
<td>Mortuary Law</td>
<td>3</td>
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<tr>
<td>MTSC 108</td>
<td>Mortuary Chemistry</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTSC 110</td>
<td>Restorative Art</td>
<td>4</td>
<td></td>
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<td>MTSC 201</td>
<td>Pathology</td>
<td>3</td>
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<tr>
<td>MTSC 205</td>
<td>Embalming Theory</td>
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<tr>
<td>MTSC 210</td>
<td>Mortuary Management</td>
<td>3</td>
<td></td>
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<tr>
<td>MTSC 212</td>
<td>Funeral Service Merchandising</td>
<td>3</td>
<td></td>
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<td>MTSC 225</td>
<td>Funeral Service Counseling</td>
<td>3</td>
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<tr>
<td>MTSC 240</td>
<td>Mortuary Science Practicum I</td>
<td>3</td>
<td></td>
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<tr>
<td>MTSC 241</td>
<td>Mortuary Science Practicum II</td>
<td>3</td>
<td></td>
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<tr>
<td>PSYC 115</td>
<td>The Grieving Process</td>
<td>3</td>
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</table>

### Total Credit Hours Required

78

The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.
Music Technology

Offered at Kansas City Kansas Community College
Coordinated at MCC

A.A.S. Music Technology ....................... 67-70 Credits

This program leads to a program of Associate in General Studies with an emphasis in Music Technology. The degree is for students wishing to pursue employment in a technology-related aspect of the music business.

Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

Specific Program Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
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<tr>
<td>ENGL 102</td>
<td>Composition and Reading II</td>
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<td></td>
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<tr>
<td>PSYC 140</td>
<td>General Psychology or SOCI 160 Sociology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
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</tr>
<tr>
<td>MATH 120</td>
<td>College Algebra</td>
<td>3</td>
<td>MATH 110 or appropriate placement test score</td>
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<tr>
<td>MUSI 108</td>
<td>Music Appreciation</td>
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Humanities Core

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<th>Prerequisites</th>
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<tbody>
<tr>
<td>MUSC 111</td>
<td>Music Theory I (MUSI 110)</td>
<td>4</td>
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<tr>
<td>MUSC 112</td>
<td>Music Theory II (MUSI 111)</td>
<td>4</td>
<td></td>
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<tr>
<td>MUSC 213</td>
<td>Music Theory III (MUSI 201)</td>
<td>4</td>
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<tr>
<td>MUSC 214</td>
<td>Music Theory IV (MUSI 202)</td>
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<tr>
<td>Performance Groups (3 semesters)</td>
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<tr>
<td>Piano / Applied Piano (4 semesters) or Other Applied Lessons (4 semesters)</td>
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Either this requirement or below must be piano

<table>
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<tr>
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<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>Piano Class/ Applied Piano (2 semesters) or Voice Class/ Applied Voice (2 semesters) or Other Applied Lessons (2 semesters)</td>
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</table>

Either this requirement or above must be piano

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<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>NASC 130</td>
<td>Introductory Physics at KCKCC or PHYS 101 Introductory Physics at MCC</td>
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Specific Program Requirements

Must be taken at KCKCC

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>HUDV 101</td>
<td>Strategies for Academic Excellence/Lifelong Learning</td>
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<td></td>
<td>See KCKCC course descriptions in the Courses section of this catalog for individual course prerequisites.</td>
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<tr>
<td>MUSC 106</td>
<td>Music Applications for Computer</td>
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<tr>
<td>MUSC 107</td>
<td>Advanced Music Computing</td>
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<tr>
<td>MUSC 201</td>
<td>Songwriting</td>
<td>3</td>
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<tr>
<td>MUSC 230</td>
<td>Music and Multimedia</td>
<td>3</td>
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<td>MUSC 240</td>
<td>Sound Editing and Synthesis</td>
<td>3</td>
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<tr>
<td>MUSC 250</td>
<td>Audio and Recording Techniques</td>
<td>3</td>
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</table>

Specific Program Requirements

Must be taken at KCKCC

Total Credit Hours Required

67-70

* If Applied Piano is used to satisfy piano requirement, a different instrument must be chosen for this requirement.
Practical Nursing

Offered at MCC-Penn Valley

Practical Nursing Certificate .......... 48-53 Credits

Accreditation
This program leads to a certificate of proficiency and prepares students to take the National Council of State Boards of Licensure Examination for Practical Nurses. Graduates who pass the exam can accept entry-level jobs as licensed LPNs.

The National League for Nursing Accrediting Commission can be contacted as a resource for information on the nursing program. The League's address is 350 Hudson St., New York, NY 10014; phone (212) 989-9393.

For more information, go to www.mcckc.edu/pvnursing

Practical Nursing Certificate

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
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<tbody>
<tr>
<td>BIOL 108 Introduction Anatomy and Physiology or</td>
<td>5-10</td>
<td></td>
<td>BIOL 109: BIOL 100 or CHEM 105</td>
</tr>
<tr>
<td>BIOL 109 Anatomy and Physiology or</td>
<td></td>
<td></td>
<td>BIOL 210: BIOL 110</td>
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<tr>
<td>BIOL 110 Anatomy and BIOL 210 Physiology</td>
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</table>

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>PNR 100 Personal and Vocational Concepts</td>
<td>1</td>
<td></td>
<td>Biology 108 or Biology 109 Admission to the PN Program</td>
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<tr>
<td>PNR 103 Fundamentals of Practical Nursing II</td>
<td>10</td>
<td>PNR 100</td>
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<tr>
<td>PNR 110 Pharmacology</td>
<td>4</td>
<td>PNR 103</td>
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<tr>
<td>PNR 128 Mental Health Nursing</td>
<td>4</td>
<td>PNR 110</td>
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<tr>
<td>PNR 132 The Childbearing Family</td>
<td>4</td>
<td>PNR 110</td>
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<tr>
<td>PNR 136 Venous Access and Intravenous Infusion</td>
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<td>PNR 110</td>
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<tr>
<td>PNR 138 Nursing of the Adult I</td>
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<td>PNR 110</td>
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<tr>
<td>PNR 144 Nursing of the Adult II</td>
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<td>PNR 138</td>
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<tr>
<td>PNR 146 Leadership</td>
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<td>PNR 144</td>
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</table>

Total Credit Hours Required 48-53
Professional Nursing

Offered at MCC-Penn Valley

A.A.S. Professional Nursing
A.A.S. Professional Nursing .......................... 70-76 Credits

This curriculum plan is for the beginning nursing student and leads to the A.A.S. in Nursing degree. For more information, go to www.mcckc.edu/pvnursing

<table>
<thead>
<tr>
<th>Prerequisite Courses:</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>BIOL 100 or CHEM 105</td>
<td>3-5</td>
<td></td>
<td>MATH 20/20L or appropriate placement test score</td>
</tr>
<tr>
<td>BIOL 109 or BIOL 210</td>
<td>6-10</td>
<td></td>
<td>BIOL 100 or CHEM 105 (BIOL 109) BIOL 100 or CHEM 105 and BIOL 110 (BIOL 110 &amp; 210)</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>3</td>
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</tr>
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</table>

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 208 Microbiology</td>
<td>5</td>
<td></td>
<td>BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, 104, 106, 108, 109, or 110.</td>
</tr>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td>Students transferring one of these courses from out of state will be required to complete POLS 153 The Missouri Constitution.</td>
</tr>
<tr>
<td>PSYC 243 Human Lifespan Development</td>
<td>4</td>
<td></td>
<td>PSYC 140</td>
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<tr>
<td>SOCI 160 Sociology</td>
<td>3</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech or SPDR 102 Fundamentals of Human Communication</td>
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<td>ENGL 30 or appropriate placement test score</td>
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</table>

Specific Program Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNUR 126 Fundamentals of Professional Nursing</td>
<td>6</td>
<td></td>
<td>Admission to the nursing program; completion of or concurrent enrollment in PSYC 243</td>
</tr>
<tr>
<td>RNUR 131 Essential Nursing Concepts</td>
<td>2</td>
<td></td>
<td>Admission to the nursing program; completion of or concurrent enrollment in PSYC 243</td>
</tr>
<tr>
<td>RNUR 134 Mental Health Nursing</td>
<td>4</td>
<td></td>
<td>Admission to nursing program; completion of RNUR 126, RNUR 131, PSYC 243; completion of or concurrent enrollment in BIOL 208</td>
</tr>
<tr>
<td>RNUR 138 Nursing Care of Women and Neonates</td>
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<td>Admission to nursing program; completion of RNUR 126, RNUR 131, PSYC 243; completion of or concurrent enrollment in BIOL 208</td>
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<tr>
<td>RNUR 141 Adult Nursing I</td>
<td>3</td>
<td></td>
<td>Admission to nursing program; completion of RNUR 126, RNUR 131, RNUR 134, RNUR 138, RNUR 234, BIOL 208; or admission to the LPN Bridge program</td>
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<tr>
<td>RNUR 230 Leadership/Management/Trends</td>
<td>2</td>
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<td>ENGL 101, SOCI 160, RNUR 234, 238, SPDR 100 OR 102, HIST 120/121 OR POLS 135/136/137 (Constitutional requirement may be taken concurrently)</td>
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<tr>
<td>RNUR 234 Child-Centered Nursing</td>
<td>4</td>
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<td>BIOL 208, RNUR 134, 138, 141 or taken concurrently: ENGL 101, SOCI 160</td>
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<tr>
<td>RNUR 238 Adult Nursing II</td>
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<td>BIOL 208, RNUR 134, 138, 141 or taken concurrently</td>
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<tr>
<td>RNUR 244 Adult Nursing III</td>
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<td>Admission to the nursing program; completion of RNUR 126, RNUR 131, RNUR 134, RNUR 138, RNUR 141, RNUR 234, RNUR 238, PSYC 243, BIOL 208; or admission to the LPN Bridge program</td>
</tr>
</tbody>
</table>

Total Credit Hours Required 70-76
LPN-ADN Bridge Program

The LPN-ADN Bridge program allows licensed practical nurses to complete the requirements for an Associate in Applied Science in Nursing degree. Licensed Practical Nurses receive credit for knowledge and skills mastered in their practical nursing programs and work related experience following demonstration of competency through the LPN entrance exam (HESI exam).

Admission to the program

Every student in the nursing program should be aware that the Missouri State Board of Nursing may refuse to issue a license to any person who has been found guilty of violating federal or state laws and for any of the 15 causes listed in Section 335.066 of the Missouri Revised Statues 1986. Copies of this law are available from the Missouri State Board of Nursing. For more information, go to www.mcckc.edu/bridge

Accreditation

- The nursing program is approved by the Missouri State Board of Nursing and is accredited by The National League of Nursing Accrediting Commission.
- The Missouri State Board of Nursing can be contacted at 3605 Missouri Boulevard, P.O. Box 656, Jefferson City, MO 65102-0656; telephone (573) 751-0681
- The National League for Nursing Accrediting Commission can be contacted at 350 Hudson St., New York, NY 10014; phone (212) 989-9393.

LPN-ADN Bridge Program

This program allows licensed practical nurses to complete the requirements for an Associate in Applied Science in Nursing degree.

### Prerequisite Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 100</td>
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<td>MATH 20/20L or appropriate placement test score</td>
</tr>
<tr>
<td>CHEM 105</td>
<td></td>
<td></td>
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<tr>
<td>BIOL 109</td>
<td>6-10</td>
<td></td>
<td>BIOL 100 or CHEM 105 (BIOL 109)</td>
</tr>
<tr>
<td>or BIOL 110</td>
<td></td>
<td></td>
<td>BIOL 100 or CHEM 105 and BIOL 110 (BIOL 110 &amp; 210)</td>
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<tr>
<td>BIOL 210</td>
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<td></td>
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</tr>
<tr>
<td>PSYC 140</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>BIOL 208</td>
<td>5</td>
<td></td>
<td>BIOL 100 or CHEM 105 or higher, plus one of the courses: BIOL 101, 104, 106, 108, 109 or 110</td>
</tr>
<tr>
<td>PSYC 243</td>
<td>4</td>
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<td>PSYC 140</td>
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</table>

### General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tr>
<td>ENGL 101</td>
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<tr>
<td>HIST 120</td>
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<tr>
<td>HIST 121</td>
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<tr>
<td>POLS 135</td>
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<td>POLS 136</td>
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<tr>
<td>POLS 137</td>
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<td></td>
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<tr>
<td>SOCI 160</td>
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<tr>
<td>SPDR 100</td>
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<td></td>
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<tr>
<td>SPDR 102</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
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</tbody>
</table>

### Specific Program Requirements

Following successful completion of HESI LPN entrance exam credit will be given for RNUR 126, 131, 134, 138 and 141

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNUR 115</td>
<td>4</td>
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<td>Completion of all prerequisites; admission to Nursing program</td>
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<tr>
<td>RNUR 230</td>
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<td>ENGL 101, SOCI 160, RNUR 234, 238, SPDR 100 or 102, HIST 120/121, or POLS 135/136/137. Constitutional requirement may be taken concurrently.</td>
</tr>
<tr>
<td>RNUR 234</td>
<td>4</td>
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<td>BIOL 208, RNUR 134, 138, 141, or taken concurrently: ENGL 101, SOCI 160.</td>
</tr>
<tr>
<td>RNUR 238</td>
<td>5</td>
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<td>BIOL 208, RNUR 134, 138, 141 OR taken concurrently: ENGL 101, SOCI 160.</td>
</tr>
<tr>
<td>RNUR 244</td>
<td>7</td>
<td></td>
<td>Admission to the nursing program; completion of RNUR 126, RNUR 131, RNUR 134, RNUR 138, RNUR 141, RNUR 234, RNUR 238, PSYC 243, BIOL 208; or admission to LPN Bridge program</td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**: 74-80
Occupational Education

Offered at all Campuses

A.A.S. Occupational Education .......... 64-66 Credits

This program, which prepares students to become vocational educators, leads to an Associate in Applied Science degree. The program is a collaborative effort between 12 community colleges and four 4-year institutions.

A.A.S. Occupational Education

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101 General Biology or CHEM 107 Preparatory General Chemistry or PHYS 101 Introductory Physics</td>
<td>5</td>
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<td>MATH 104 (PHYS 112) MATH 110 (CHEM 107)</td>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 and</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or HIST 121 United States History Since 1865</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two of the following:</td>
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<td></td>
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<tr>
<td>POLS 135 Introduction to Political Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 119 College Mathematics or</td>
<td>3</td>
<td></td>
<td>MATH 110 (MATH 119) MATH 110 (MATH 120)</td>
</tr>
<tr>
<td>MATH 120 College Algebra</td>
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</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>Any course numbered 100 or higher from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 or 110 and GIS courses), HIST, HUMN, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, SPDR</td>
<td>3-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Program Requirements</td>
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</tr>
<tr>
<td>Technical Education:</td>
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<tr>
<td>Must focus on a specific occupational area (Any combination of formal college coursework, occupational certification or CBEX)</td>
<td>24</td>
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<tr>
<td>Professional Education:*</td>
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</tr>
<tr>
<td>New Teacher Institute</td>
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<td></td>
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<tr>
<td>Development and Assessments of Vocational/Technical Curriculum</td>
<td>3</td>
<td></td>
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<tr>
<td>Principles of Teaching Technology and Industrial Education</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>Three of the following:</td>
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<tr>
<td>Occupational Analysis</td>
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<td>Coordination of Cooperative Education</td>
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<tr>
<td>Vocational Guidance</td>
<td>9</td>
<td></td>
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<tr>
<td>Vocational Education for Handicapped Students</td>
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<tr>
<td>Philosophy of Vocational Education</td>
<td></td>
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<tr>
<td>Educational Psychology</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total Credit Hours Required</td>
<td>64-66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Must be taken at one of the four-year teacher education institutions.
Occupational Therapy Assistant

Offered at MCC-Penn Valley

A.A.S. Occupational Therapy Assistant ........ 73 Credits

Certified occupational therapy assistants work under the supervision of a registered occupational therapist to provide care to individuals with varying physical and/or emotional challenges to obtain their maximum level of independence with self-care, and daily living and job skills. The occupational therapy assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE’s telephone number is (301) 652-AOTA.

Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT), 800 S. Frederick Ave., Suite 200, Gaithersburg, MD 20877-4150; phone, (301) 990-7979. After successful completion of the exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice, however, state licenses are usually based on the results of the NBCOT Certification Examination.

For more information, go to www.mcckc.edu/occupationaltherapy

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 100 Intro to Cell Biology</td>
<td>3</td>
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<tr>
<td>BIOL 109 Anatomy and Physiology</td>
<td>6</td>
<td></td>
<td>BIOL 100 or CHEM 105</td>
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<tr>
<td>BIOL 150 Medical Terminology</td>
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<td></td>
<td>120</td>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
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</tr>
<tr>
<td>HIST 120 United States History to 1865 or</td>
<td></td>
<td></td>
<td></td>
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<td>HIST 121 United States History Since 1865 or</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>PSYC 140 General Psychology</td>
<td>3</td>
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</table>

Specific Program Requirements

| EMTP 102 Basic Emergency Patient Care | 1       |
| OTHA 100 Intro to Occupational Therapy | 2       |
| OTHA 102 Documentation Guidelines | 2        |
| OTHA 103 Clinical Conditions | 2       |
| OTHA 106 Therapeutic Interventions I | 4     |
| OTHA 116 Level I Fieldwork I | 1        |
| OTHA 118 Assistive Technology | 2       |
| BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106 and 116 |
| OTHA 120 Pediatrics | 3       |
| BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106 and 116 |
| OTHA 121 Level I Fieldwork II | 0.5     |
| BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106 and 116 and concurrent enrollment in OTHA 120 |
| OTHA 130 Analysis of Physical Performance | 3     |
| BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106 and 116 |
| OTHA 154 Applied Neurology | 2       |
| BIOL 109 or 110; and BIOL 210 and admission to OTHA or PTHA program |
| OTHA 201 Mental Health | 2.5     |
| OTHA 202 Physical Dysfunction | 3       |
| OTHA 203 Gerontology | 3       |
| OTHA 208 Therapeutic Interventions II | 2   |
| OTHA 212 Level I Fieldwork III | 2     |
| BIOL 118, 120, 121, 130 and 154 |
| OTHA 217 Fieldwork Seminar | 3       |
| OTHA 118, 120, 121, 130 and 154 |
| OTHA 222 Level II Fieldwork | 12      |
| OTHA 201, 202, 203, 208, 212 and 217 |

Total Credit Hours Required 73
This program leads to an Associate in Applied Science degree. It teaches students to prepare and file legal documents, perform legal research, and manage a law office.

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120</td>
<td>United States History to 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>United States History Since 1865 or</td>
<td>3</td>
<td></td>
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<tr>
<td>POLS 135</td>
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</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td>3</td>
<td></td>
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</tr>
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<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
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<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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<tr>
<td>SOCI 160</td>
<td>Sociology</td>
<td>3</td>
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<td></td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
</tbody>
</table>

- General Education Electives: Any course(s) numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (except 104, 110 and GIS Courses), GEOL, MATH, PHYS
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>CRJU 101</td>
<td>Introduction to Criminal Justice</td>
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<tr>
<td>CSIS 110</td>
<td>Technology and Information Management or</td>
<td>3</td>
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<td>CSIS 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
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<tr>
<td>PARA 100</td>
<td>Introduction to Paralegal Practice</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>PARA 128</td>
<td>Criminal Law and Procedures</td>
<td>3</td>
<td></td>
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<tr>
<td>PARA 176</td>
<td>Legal Research</td>
<td>3</td>
<td>PARA 100</td>
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<tr>
<td>PARA 177</td>
<td>Legal Writing</td>
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<td>PARA 176</td>
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<tr>
<td>PARA 185</td>
<td>Ethics for the Paralegal</td>
<td>3</td>
<td>PARA 100</td>
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<tr>
<td>PARA 224</td>
<td>Criminal Evidence</td>
<td>3</td>
<td>PARA 100</td>
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</tr>
<tr>
<td>PARA 290</td>
<td>Internship in Paralegal Practice</td>
<td>3</td>
<td></td>
<td>15 credit hours of Paralegal study or consent of department</td>
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<tr>
<td>PARA Electives</td>
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<td>12</td>
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</table>

 Electives from CRJU, Foreign Language, MATH or CSIS 6

**Total Credit Hours Required** 63-66
## Paramedic

**Offered at MCC-Penn Valley**

### A.A.S. Paramedic

A.A.S. Paramedic............................................73 Credits  
Paramedic Certificate....................................48 Credits

This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, prepares students to work in the emergency medical services field. Graduates are eligible to take the national registry exam for paramedics.

### Admission to the Paramedic Program

Because enrollment in the program is limited, a student must meet the requirements and apply for admission. For more information, go to [www.mcckc.edu/EMT](http://www.mcckc.edu/EMT)

### A.A.S. Paramedic

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108 Introductory Anatomy and Physiology or BIOL 109 or BIOL 110 and BIOL 210</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 150 Medical Terminology</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 105 Introductory Chemistry</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
<td></td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 135 Introduction to Political Science or POLS 136 Introduction to American National Politics or POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 110 Intermediate Algebra</td>
<td>3</td>
<td>MATH 40/40L</td>
<td></td>
</tr>
<tr>
<td>PSYC 140 General Psychology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOCI 160 Sociology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td>ENGL 30 or appropriate placement test score</td>
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</tr>
</tbody>
</table>

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS 150 Emergency Medical Technician</td>
<td>8</td>
<td></td>
<td>Student must be 18 years old by the end of the course</td>
</tr>
<tr>
<td>EMS 200 Intro to Paramedic Care</td>
<td>4.5</td>
<td>BIOL 108, or BIOL 109, or BIOL 110 &amp; 210 admission to the Paramedic Program, and Missouri licensed EMT or equivalent from another state.</td>
<td></td>
</tr>
<tr>
<td>EMS 206 Paramedic Pharmacology</td>
<td>4.5</td>
<td>EMS 200</td>
<td></td>
</tr>
<tr>
<td>EMS 212 Emergency Cardiology</td>
<td>5</td>
<td>EMS 206</td>
<td></td>
</tr>
<tr>
<td>EMS 218 Medical Emergencies</td>
<td>3</td>
<td>EMS 212</td>
<td></td>
</tr>
<tr>
<td>EMS 224 Trauma Management</td>
<td>2.5</td>
<td>EMS 218</td>
<td></td>
</tr>
<tr>
<td>EMS 230 Care of Women and Children</td>
<td>2.5</td>
<td>EMS 224</td>
<td></td>
</tr>
<tr>
<td>EMS 236 Prehospital Care Integration</td>
<td>2</td>
<td>EMS 230</td>
<td></td>
</tr>
<tr>
<td>EMS 254 Paramedic Hospital Clinical</td>
<td>5.5</td>
<td>EMS 206</td>
<td></td>
</tr>
<tr>
<td>EMS 258 Paramedic Field Internship</td>
<td>5.5</td>
<td>EMS 230</td>
<td></td>
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</tbody>
</table>

### Total Credit Hours Required

**73**

### Paramedic Certificate

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108 Introductory Anatomy and Physiology or BIOL 109 or BIOL 110 and BIOL 210</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMS 150 Emergency Medical Technician</td>
<td>8</td>
<td>BIOL 108, or BIOL 109, or BIOL 110 &amp; 210 admission to the Paramedic Program, and Missouri licensed EMT or equivalent from another state.</td>
<td></td>
</tr>
<tr>
<td>EMS 200 Introduction to Paramedic Care</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMS 206 Paramedic Pharmacology</td>
<td>4.5</td>
<td>EMS 200</td>
<td></td>
</tr>
<tr>
<td>EMS 212 Emergency Cardiology</td>
<td>5</td>
<td>EMS 206</td>
<td></td>
</tr>
<tr>
<td>EMS 218 Medical Emergencies</td>
<td>3</td>
<td>EMS 212</td>
<td></td>
</tr>
<tr>
<td>EMS 224 Trauma Management</td>
<td>2.5</td>
<td>EMS 218</td>
<td></td>
</tr>
<tr>
<td>EMS 230 Care of Women and Children</td>
<td>2.5</td>
<td>EMS 224</td>
<td></td>
</tr>
<tr>
<td>EMS 236 Prehospital Care Integration</td>
<td>2</td>
<td>EMS 230</td>
<td></td>
</tr>
<tr>
<td>EMS 254 Paramedic Hospital Clinical</td>
<td>5.5</td>
<td>EMS 206</td>
<td></td>
</tr>
<tr>
<td>EMS 258 Paramedic Field Internship</td>
<td>5.5</td>
<td>EMS 230</td>
<td></td>
</tr>
</tbody>
</table>

### Total Credit Hours Required

**48**
Photovoltaics

This certificate is intended to prepare students for entry-level jobs in photovoltaics design, installation, and sales. It will also prepare students for the NABCEP Entry Level PV Installer Exam.

### Photovoltaics Certificate

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 103 Technical Math or higher</td>
<td>3</td>
<td></td>
<td>MATH 40/40L or appropriate score on placement exam</td>
</tr>
<tr>
<td>INTE 110 Industrial Electrical Principles</td>
<td>3</td>
<td></td>
<td>Completion of or concurrent enrollment in MATH 103</td>
</tr>
<tr>
<td>INTE 115 Electrical Blueprint Reading</td>
<td>2</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 142 National Electrical Code</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 175 Electric Motor Controls I</td>
<td>3</td>
<td></td>
<td>HVAC 109 or INTE 115</td>
</tr>
<tr>
<td>INTE 270 Instrumentation and Process Control</td>
<td>3</td>
<td></td>
<td>INTE 225, INTE 272</td>
</tr>
<tr>
<td>EHSS 111 Introduction to Health and Safety for General Industry or EHSS 112 Introduction to Health and Safety for Construction</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL 185 Photovoltaic Systems</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL 225 Solar/Photovoltaic Design and Installation</td>
<td>3</td>
<td></td>
<td>GEOL 185, INTE 142, and either HVAC 109 or INTE 110</td>
</tr>
<tr>
<td>GEOL 180 Energy and the Environment</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 271 PLC I</td>
<td>3</td>
<td></td>
<td>INTE 110 and INTE 175</td>
</tr>
<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td><strong>33</strong></td>
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<td></td>
</tr>
</tbody>
</table>
Physical Therapist Assistant

Offered at MCC-Penn Valley

A.A.S. Physical Therapist Assistant............................ 72 Credits

This program leads to an Associate in Applied Science degree, and prepares students to assist physical therapists in treating patients with physical disabilities at various health care facilities.

Because enrollment to the program is limited, there is a separate application to the program. Applicants are screened during the summer and those that are accepted begin the program in the fall.
For more information, go to www.mcckc.edu/physicaltherapy

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 100 Intro to Cell Biology</td>
<td>3</td>
<td></td>
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<tr>
<td>BIOL 109 Anatomy and Physiology</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 150 Medical Terminology</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121 United States History Since 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 140 General Psychology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
</tbody>
</table>

Prerequisite Courses

<table>
<thead>
<tr>
<th>Prerequisite Courses</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTHA 151 Intro to Physical Therapy</td>
<td>2</td>
<td></td>
<td></td>
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</tbody>
</table>

Specific Program Requirements

<table>
<thead>
<tr>
<th>Specific Program Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMTP 102 Basic Emergency Patient Care</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTHA 152 Physical Therapy Fundamentals I</td>
<td>4</td>
<td></td>
<td>Formal acceptance into the program</td>
</tr>
<tr>
<td>PTHA 153 Kinesiology</td>
<td>4</td>
<td></td>
<td>BIOL 109, PTHA 152 and 160</td>
</tr>
<tr>
<td>PTHA 154 Applied Neurology</td>
<td>2</td>
<td></td>
<td>BIOL 109 or 110; and BIOL 210 and admission to OTHA or PTHA program</td>
</tr>
<tr>
<td>PTHA 155 Rehabilitation</td>
<td>4</td>
<td></td>
<td>PTHA 162</td>
</tr>
<tr>
<td>PTHA 158 Therapeutic Exercise</td>
<td>4</td>
<td></td>
<td>PTHA 162</td>
</tr>
<tr>
<td>PTHA 159 Orthopedic Pathology</td>
<td>2</td>
<td></td>
<td>BIOL 109, PTHA 152 and 160</td>
</tr>
<tr>
<td>PTHA 160 Medical Diseases</td>
<td>2</td>
<td></td>
<td>Formal acceptance into the program</td>
</tr>
<tr>
<td>PTHA 161 Physical Therapy Fundamentals II</td>
<td>4</td>
<td></td>
<td>BIOL 109, PTHA 152 and 160</td>
</tr>
<tr>
<td>PTHA 162 Clinical Experience I</td>
<td>2</td>
<td></td>
<td>PTHA 153, 154, 159, 161 and EMTP 102</td>
</tr>
<tr>
<td>PTHA 164 Pediatrics and Gerontology</td>
<td>2</td>
<td></td>
<td>PTHA 162</td>
</tr>
<tr>
<td>PTHA 170 Clinical Experience II</td>
<td>2</td>
<td></td>
<td>PTHA 162, concurrent enrollment in PTHA 155, 158, 164 and 171</td>
</tr>
<tr>
<td>PTHA 171 Clinical Seminar</td>
<td>2</td>
<td></td>
<td>PTHA 162</td>
</tr>
<tr>
<td>PTHA 172 Clinical Experience III</td>
<td>12</td>
<td></td>
<td>Completion of all other required courses in the PTHA program</td>
</tr>
</tbody>
</table>

Total Credit Hours Required               | 72      |                |                                                   |
Polysomnography/Sleep Technology

Offered at Johnson County Community College. Coordinated at MCC

A.A.S. Polysomnography/Sleep Tech.................... 72 Credits

Polysomnography is the physiologic recording of variables such as brain waves, eye movement, muscle tone, breathing and heart rhythm during sleep. More than 80 different types of sleep disorders have been identified, with obstructive sleep apnea (OSA) symptoms occurring in 1 out of every 20 people.

Graduates of the program will enter the field as polysomnographic technicians and will be prepared to sit for the national exam administered by the Board of Registered Polysomnographic Technologists (BRPT) to gain the Registered Polysomnographic Technologist (RPSGT) credential. Students must be accepted into the program by both MCC and JCCC. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

A.A.S. Polysomnography/Sleep Technology

<table>
<thead>
<tr>
<th>Specific Program Requirements- Must be taken at JCCC</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS 121 CPR I- Basic Live Support Healthcare Provider +</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>PSG 125 Introduction to Sleep Medicine *</td>
<td>4</td>
<td></td>
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<tr>
<td>PSG 130 Physiology of Sleep Medicine *</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 140 Sleep Disorders *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 145 Sleep Study Instrumentation *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 150 Polysomnography I *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 245 Polysomnography Clinical I *</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 250 Polysomnography II *</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSG 255 Polysomnography Clinical II *</td>
<td>6</td>
<td></td>
<td></td>
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<tr>
<td>PSG 265 Polysomnography Capstone</td>
<td>3</td>
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<tr>
<td><strong>Total Credits at JCCC</strong></td>
<td>39</td>
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</tbody>
</table>

* Prerequisite/Corequisite required
+ Students may take a PHED course at MCC if they current AHA BLS Health Care Provider Certification, otherwise students are required to take EMS 121- Basic Live Support Healthcare Provider at JCCC.

Specific Program Requirements- Must be taken at MCC

<table>
<thead>
<tr>
<th>ENGL 101 Composition and Reading I</th>
<th>3</th>
<th>ENGL 30 or satisfactory score on the ASSET test</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 105 Introductory Chemistry ^</td>
<td>5</td>
<td>BIOL 100 and BIOL 110 or CHEM 105</td>
</tr>
<tr>
<td>BIOL 108 Introductory Anatomy and Physiology ^ or</td>
<td>5</td>
<td>MATH 40 or MATH 40L or satisfactory score on placement test</td>
</tr>
<tr>
<td>BIOL 110 Human Anatomy ^ and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 210 Human Physiology ^</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 110 Intermediate Algebra ^ or</td>
<td></td>
<td>MATH 110or satisfactory score on placement test</td>
</tr>
<tr>
<td>MATH 120 College Algebra or higher</td>
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<td></td>
</tr>
<tr>
<td>BIOL 150 Medical Terminology ** or</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>HITE 103 Medical Terminology for Health Records **</td>
<td>3</td>
<td></td>
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<tr>
<td>Communications Elective</td>
<td>3</td>
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<tr>
<td>Humanities Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science/Economics Elective</td>
<td>3</td>
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<tr>
<td><strong>Total Credits at MCC</strong></td>
<td>27-33</td>
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</tr>
<tr>
<td><strong>Total Program Credit Hours</strong></td>
<td>66-72</td>
<td></td>
</tr>
</tbody>
</table>

** or satisfactory completion of a health related degree or certificate
Communication electives that will transfer from MCC to JCCC:
BSAD 221, ENGL 102, ENGL 175, SPDR 100, 102, 103, 133.

Social Science and Economics Electives that will transfer from MCC to JCCC:
ANTH 100, ANTH 110, ECON 210, ECON 211, GEOG 111, GEOG 112, HUSC 162, POLS 136, POLS 137, PSYC 140, SOCI 160, SOCI 162, SOCI 163, SOCI 170

Humanities Electives that will transfer from MCC to JCCC:
ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 221, 222, 223, FREN 203, SPAN 203, 204, HIST 120, 121, 133, 134, 140, HUMN 140, 145, MUSI 108, PHIL 100, 101, 200, 201, 203, SPDR 114, 128.
Radiologic Technology

Offered at MCC-Penn Valley

A.A.S. Radiologic Technology ............................ 77 Credits

This program leads to an Associate in Applied Science degree and prepares students for entry-level jobs as radiologic technologists in a hospital or outpatient setting. Graduates are eligible to take the national certifying exam given by the American Registry of Radiologic Technologists.

Admission to the Program
Enrollment in this program is limited. Students must submit their transcripts and application for admission to the program coordinator by January 1. The application form may be obtained from the program coordinator, the counseling department, or the office of the division of life science.
For more information, go to www.mcckc.edu/radiology

### General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110</td>
<td>Human Anatomy</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 150</td>
<td>Medical Terminology</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120</td>
<td>United States History to 1865 or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>United States History Since 1865 or</td>
<td>3</td>
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</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
<td></td>
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<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
</tbody>
</table>

### Specific Program Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATE 150</td>
<td>Introduction to Radiologic Technology</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RATE 160</td>
<td>Survey of Radiologic Technology</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RATE 162</td>
<td>Image Processing</td>
<td>2</td>
<td>RATE 160, 172 and 173</td>
<td></td>
</tr>
<tr>
<td>RATE 165</td>
<td>Patient Care</td>
<td>2</td>
<td>RATE 160</td>
<td></td>
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<tr>
<td>RATE 170</td>
<td>Radiation Biology and Protection</td>
<td>3</td>
<td>RATE 160 with concurrent enrollment in the corresponding semester of Clinical Experience</td>
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</tr>
<tr>
<td>RATE 171</td>
<td>Radiographic Exposures I</td>
<td>3</td>
<td>Admission to program</td>
<td></td>
</tr>
<tr>
<td>RATE 172</td>
<td>Radiographic Positioning I</td>
<td>3</td>
<td>RATE 160, concurrent enrollment in RATE 165 and 173</td>
<td></td>
</tr>
<tr>
<td>RATE 173</td>
<td>Clinical Practice I</td>
<td>3</td>
<td>RATE 160 and concurrent enrollment in RATE 165 and 172</td>
<td></td>
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<tr>
<td>RATE 174</td>
<td>Radiographic Exposures II</td>
<td>3</td>
<td>RATE 160, 171, 172 and 173</td>
<td></td>
</tr>
<tr>
<td>RATE 175</td>
<td>Clinical Practice II</td>
<td>4</td>
<td>RATE 165, 172, 173 and concurrent enrollment in RATE 176</td>
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<tr>
<td>RATE 176</td>
<td>Radiographic Positioning II</td>
<td>3</td>
<td>RATE 165 and 176</td>
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<tr>
<td>RATE 178</td>
<td>Clinical Practice III</td>
<td>4</td>
<td>RATE 175 and 176</td>
<td></td>
</tr>
<tr>
<td>RATE 278</td>
<td>Imaging Modalities and Pathology</td>
<td>3</td>
<td>RATE 279, 280, 281 and concurrent enrollment in RATE 282</td>
<td></td>
</tr>
<tr>
<td>RATE 279</td>
<td>Radiographic Positioning III</td>
<td>2</td>
<td>RATE 176 and 178, concurrent enrollment in RATE 280, 281 and 285</td>
<td></td>
</tr>
<tr>
<td>RATE 280</td>
<td>Clinical Practice IV</td>
<td>4</td>
<td>RATE 162 and RATE 171</td>
<td></td>
</tr>
<tr>
<td>RATE 281</td>
<td>Radiation Physics</td>
<td>3</td>
<td>RATE 162, 176, 178, concurrent enrollment in RATE 279, 281 and 285</td>
<td></td>
</tr>
<tr>
<td>RATE 282</td>
<td>Clinical Training V</td>
<td>4</td>
<td>RATE 279, 280, 281 and 285 and concurrent enrollment in RATE 278</td>
<td></td>
</tr>
<tr>
<td>RATE 283</td>
<td>Final Seminar</td>
<td>2</td>
<td>RATE 279 and 280</td>
<td></td>
</tr>
<tr>
<td>RATE 285</td>
<td>Special Procedures</td>
<td>2</td>
<td>RATE 170, 171, 178, concurrent enrollment in RATE 279, 280 and 281</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours Required .......................... 77
# Railroad Operations Technology

_A.A.S. Railroad Op. Tech. Railroad Conductor_ ............................................ 64 Credits

This program leads to an Associate in Applied Science degree in Railroad Conductor. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements.

Program course and credit hours are subject to change because of the requirement changes at the degree-granting institution. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

### Specific Program Requirements

**Must be taken at one of the MCC campuses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSOF 100</td>
<td>Introduction to Personal Computing</td>
<td>1</td>
<td></td>
<td>Keyboarding skills or enrollment in CSOF 80</td>
</tr>
<tr>
<td>CSOF 101</td>
<td>Introduction to Word Processing</td>
<td>1</td>
<td></td>
<td>Keyboarding skills with minimum of 35 wpm</td>
</tr>
<tr>
<td>CSOF 102</td>
<td>Introduction to Spreadsheet Applications</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 110</td>
<td>Introduction to Economics or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 210</td>
<td>Macroeconomics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 215</td>
<td>Technical Writing</td>
<td>3</td>
<td></td>
<td>ENGL 101</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td>3</td>
<td></td>
<td>MATH 40 or 40L or satisfactory score on math</td>
</tr>
<tr>
<td>PHED or Health Elective*</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHIL 200</td>
<td>Logic</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 102</td>
<td>Personal Communications</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
</tbody>
</table>

**Specific Program Requirements**

**Must be taken at Johnson County Community College**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 134</td>
<td>Technical Mathematics II*</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHIL 138</td>
<td>Business Ethics</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 133</td>
<td>Applied Physics*</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 120</td>
<td>History of Railroading</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 121</td>
<td>Railroad Technical Careers</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 150</td>
<td>Railroad Operations</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRT 165</td>
<td>Railroad Safety, Quality and Environment</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRTC 123</td>
<td>Introduction to Conductor Service*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRTC 175</td>
<td>Conductor Mechanical Operations*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRTC 261</td>
<td>Conductor Service*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRTC 263</td>
<td>General Code of Operating Rules*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRTC 267</td>
<td>Conductor Field Application*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours Required**  64

*Prerequisite/corequisite required.
Respiratory Care

Offered at Johnson County Community College. Coordinated at MCC-Penn Valley

A.A.S. Respiratory Care ........................................ 75-78 Credits

This program, offered under the auspices of Johnson County Community College (JCCC), leads to an Associate in Applied Science degree and qualifies the student for the National Board for Respiratory Care examination process. Additional program information may be acquired from the counseling office at MCC-Penn Valley and from the academic director at JCCC. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements. It is the student’s responsibility to check with an MCC counselor or advisor before enrollment.

Eligibility
To be considered for admission to the program, a student must complete all required college courses in English, mathematics, and science with a minimum grade of C and must have minimum overall college GPA of 2.0.

Admission to the Program
The number of MCC students admitted to the program is limited. In order to be certain that they will be considered for admission to the class, which begins its specialized course work in June, an MCC student must complete the application process by the previous October 15. Applications are not considered until all required material has been submitted. If openings remain for MCC students after the initial applications have been reviewed, students who have missed the deadline will be considered if their applications are completed by February 15. Further information is available in the counseling office at MCC-Penn Valley and from the academic director at JCCC.

Selection of students for the program is determined by the ranking of applications according to the interview score, the overall college GPA, and the GPA in prerequisite courses. Further information is available from the Director of the Respiratory Care Program at JCCC.

Note: All English, mathematics, and science courses must be completed successfully before the student is eligible for the clinical courses at JCCC. Students may make application, however, if coursework will be completed by the clinical year.

A.A.S. Respiratory Care

Specific Program Requirements

**Must be taken at one of the MCC campuses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110 Human Anatomy*</td>
<td>5</td>
<td></td>
<td>BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, 104, 106, 108, 109, or 110.</td>
</tr>
<tr>
<td>BIOL 208 Microbiology*</td>
<td>5</td>
<td></td>
<td>BIOL 110, either BIOL 100 or CHEM 105</td>
</tr>
<tr>
<td>BIOL 210 Human Physiology*</td>
<td>5</td>
<td></td>
<td>CHEM 105 Introductory Chemistry*</td>
</tr>
<tr>
<td>CHEM 105 Introductory Chemistry*</td>
<td>5</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>ENGL 101 Composition and Reading I*</td>
<td>3</td>
<td></td>
<td>MATH 40 or 40L (MATH 110)</td>
</tr>
<tr>
<td>MATH 110 Intermediate Algebra or MATH 120 College Algebra or higher*</td>
<td>3</td>
<td></td>
<td>MATH 110 (MATH 120)</td>
</tr>
<tr>
<td>Social Science/Economics Elective</td>
<td>3</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>Communications Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific Program Requirements

**Must be taken at Johnson County Community College**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS 121 CPR I Basic Life Support Healthcare Provider</td>
<td>1</td>
<td></td>
<td>See JCCC course descriptions in the Courses section of this catalog for individual course prerequisites.</td>
</tr>
<tr>
<td>HC 101 Introduction to Health Care Delivery**</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 125 Beginning Principles of Respiratory Care*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 130 Respiratory Care Equipment*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 135 Cardiopulmonary Medicine I*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 220 Clinical Cardiopulmonary Physiology*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 230 Clinical Topics and Procedures I*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 231 Clinical Topics and Procedures II*</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 233 Respiratory Care of Children*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 235 Cardiopulmonary Medicine II*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 236 Cardiopulmonary Medicine III*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 240 Cardiopulmonary Pharmacology*</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 271 Clinical Practice I*</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC 272 Clinical Practice II*</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours Required

75-78 Credits

* Indicates prerequisite courses, which must be completed prior to the clinic year at Johnson County Community College. The elective courses must be completed for the AAS degree, which establishes eligibility for the National Board for Respiratory Care examinations.

** HC 101 is not a required course for the degree but is strongly encouraged. See the program application packet for details on how this course may be used to meet clinic-year eligibility requirements.

Economic and Social Science Elective must be one of the following: ANTH 100, 110, ECON 210, 211, GEOG 111, 112, HUSC 162, POLS 136, 137, PSYC 140, SOCI 160, 162, 163, 170

Communications Elective must be one of the following: SPDR 100, 102, 103, 133, ENGL 102, 175, BSAD 221

Humanities Elective must be one of the following: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 127, 128, 142, 150, 151, 165, 167, 220, 221, 222, 223, FREN 203, HIST 120, 121, 133, 134, 140, HUMN 140, 145, MUSI 108, PHIL 100, 101, 200, 201, 203, SPAN 203, SPDR 114, 128
Solar Thermal Certificate
This certificate is intended to prepare students for entry level jobs in solar heating design, installation, and sales.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 103 Technical Math or higher</td>
<td>3</td>
<td></td>
<td>MATH 40/40L or appropriate score on placement exam</td>
</tr>
<tr>
<td>INTE 110 Industrial Electrical Principles or</td>
<td>3</td>
<td></td>
<td>Completion of or concurrent enrollment in MATH 103</td>
</tr>
<tr>
<td>HVAC 109 Electricity for HVAC/R Technicians</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 115 Electrical Blueprint Reading</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 142 National Electrical Code</td>
<td>3</td>
<td></td>
<td>INTE 110</td>
</tr>
<tr>
<td>INTE 271 PLC I</td>
<td>3</td>
<td></td>
<td>INTE 110 and INTE 175</td>
</tr>
<tr>
<td>HVAC 111 Principles of HVAC</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 120 Fundamentals of Refrigeration</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC 201 Stationary Engineering</td>
<td>3</td>
<td></td>
<td>HVAC 111 and 120</td>
</tr>
<tr>
<td>EHSS 111 Introduction to Health and Safety for General Industry or</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHSS 112 Introduction to Health and Safety for Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTE 175 Electric Motor Controls I</td>
<td>3</td>
<td></td>
<td>HVAC 109 or INTE 115</td>
</tr>
<tr>
<td>INTE 260 Pipefitting Fundamentals</td>
<td>3</td>
<td></td>
<td>HVAC 201</td>
</tr>
<tr>
<td>GEOL 186 Solar Water and Space Heating</td>
<td>3</td>
<td></td>
<td>GEOL 186 and INTE 260</td>
</tr>
<tr>
<td>GEOL 226 Solar Thermal Design and Installation</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL 180 Energy and the Environment</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Credit Hours Required</strong></td>
<td><strong>43</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Veterinary Technology

Offered at MCC-Maple Woods

A.A.S. Veterinary Technology ............................................. 78-80 Credits

The Veterinary Technology program is a two-year, full-time day program accredited by the American Veterinary Medical Association. This program provides the educational background necessary to perform nursing and technical duties used in clinical practice or research. Graduates of the program will be able to sit for the state and national board examinations to become a Registered Veterinary Technician.

A.A.S. Veterinary Technology

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credits</th>
<th>Semester Taken</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 Composition and Reading I</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>HIST 120 United States History to 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 121 United States History Since 1865 or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 135 Introduction to Political Science or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 136 Introduction to American National Politics or</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 137 Introduction to State and Local Politics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPDR 100 Fundamentals of Speech</td>
<td>3</td>
<td></td>
<td>ENGL 30 or appropriate placement test score</td>
</tr>
<tr>
<td>Any course numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104,110 and GIS Courses), HIST, HUMN, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, SPDR (ENGL 102 is recommended.)</td>
<td>3-5</td>
<td></td>
<td>See Courses section of this catalog for individual course prerequisites.</td>
</tr>
</tbody>
</table>

Specific Program Requirements

| BIOL 106 General Zoology (101 may also be used) | 5       | BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, 104, 106, 108, 109, or 110. |
| BIOL 208 Microbiology                          | 5       |                                                 |
| CHEM 105 Introductory Chemistry                | 5       |                                                 |
| CSIS 115 Intro to Microcomputer Applications   | 3       |                                                 |
| VETT 100 Introduction to Veterinary Technology | 2       |                                                 |
| VETT 101 Principles of Animal Science I        | 3       |                                                 |
| VETT 108 Clinical Mathematics for Veterinary Technicians | 1 | Admission into Veterinary Technician Program. |
| VETT 110 Principles of Animal Science II       | 3       | VETT 101                                        |
| VETT 111 Sanitation and Animal Care            | 2       |                                                 |
| VETT 200 Veterinary Hospital Technology I      | 3       | VETT 101 and 110                                |
| VETT 201 Clinical Pathology Techniques         | 4       |                                                 |
| VETT 202 Veterinary Anatomy                    | 5       | BIOL 101 or 106, VETT 101 and 110               |
| VETT 203 Laboratory Animal Technology          | 2       | VETT 101, 110 and 201                           |
| VETT 209 Equine Medicine and Management        | 3       | VETT 212                                        |
| VETT 210 Veterinary Hospital Technology II     | 3       | VETT 200                                        |
| VETT 211 Clinical Pathology Techniques II      | 5       | VETT 201                                        |
| VETT 212 Large Animal Technology               | 4       | VETT 101 and 110                                |
| VETT 213 Radiology and Electronic Procedures   | 2       |                                                 |
| VETT 214 Veterinary Technician Preceptorship   | 6       | Two semesters of 1st year VETT tech courses     |

Total Credit Hours Required .......................... 78-80
Course Descriptions

This section describes each of the for-credit courses offered by Metropolitan Community College. Each entry includes the course number and title, the number of credit hours earned by a student who successfully completes it and the number of hours the class meets each week as well as the number of laboratory, studio or clinical scheduled each week. There is also a brief description of what’s covered in the course.

NOTE: Not all courses are offered at every location or every semester. Students should see their campus advisors or counselors to determine when the classes they want or need are available. For the most up-to-date information, please check the online catalog at www.mcckc.edu.

Course Numbering
A course’s number indicates something about its purpose and level of difficulty. At MCC, the following course numbering system is used.

1-99 These courses assist students in mastering the information and skills needed for being successful in college. Credits from these courses do not meet any degree or certificate requirements.

100-199 These are general courses ordinarily offered as first-year or freshman classes by most colleges and universities.

200-299 These are courses ordinarily offered as second-year or sophomore classes by most colleges and universities.

This symbol denotes courses that meet the Human Diversity requirement. Please see an academic advisor for details.

◆Agribusiness/Grounds and Turf Management

AGBS 100 The Green industry - Introduction to Urban Agribusiness
3 credits. 3 hours. (Lecture 3 hours.)
Survey of arbicultural, floricultural, and ornamental horticulture occupations in the greens industry.

AGBS 106 Landscape Design and Maintenance
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Principles of landscape design and required maintenance procedures. Introduction of computer aided design software program.

AGBS 107 Deciduous Trees and Shrubs
3 credits. 3 hours. (Lecture 3 hours.)
A practical study of woody plants, shade trees, ornamental and flowering trees, and deciduous and flowering shrubs indigenous to the Midwest designed for the practitioner in agribusiness. Course provides an in-depth study of environmental adaptability, cultural practices, diseases, pests, and seasonal effects in the Midwest.

AGBS 108 Evergreens and Herbaceous Plants
3 credits. 3 hours. (Lecture 3 hours.)
A practical study of coniferous evergreens, broadleaf evergreens, reliable low-maintenance perennials, and bedding annuals indigenous to the Midwest. Designed for the practitioner in agribusiness. Discussion of diseases, pests, and seasonal effects in the Midwest.

AGBS 109 Pest Management/Turf and Ornamental
3 credits. 3 hours. (Lecture 3 hours.)
Environmental, safety, and regulatory considerations of turf and ornamental pest control.

AGBS 115 Soil Fertility and Fertilizers
3 credits. 3 hours. (Lecture 3 hours.)
Types of fertilizers for soil and crops. Fertilizers: their components, their formulation, and their application. Investigating aspects of the nature and properties of soils.

AGBS 135 Turfgrass Management I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
An introduction to the basics of turfgrass management. Emphasis on plant growth, identification, and characteristics of the major cold and warm season turf grasses such as blue grasses, ryegrasses, bentgrass, fescues, bermuda grass, and zoysia grass. Establishment procedures and mowing practices will be covered.

AGBS 140 Turfgrass Management II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
More specific information provided on turfgrass management. Topics such as green construction, topdressing, sprayer calibration, management programs (i.e., setting up a lawn care program), and the influence environment has on turfgrass growth.

AGBS 145 Irrigation and Installation
3 credits. 3 hours. (Lecture 3 hours.)
Study design, operations, and maintenance of modern golf courses and landscape facilities, including water requirements, supply, and distribution.

AGBS 151 Special Topics in Horticulture I
1 credit. 1 hour. (Lecture 1 hour.)
This course will cover current topics relevant to horticulture practices in the areas of ornamental horticulture, arbiculture, and turfgrass science.

AGBS 152 Special Topics in Horticulture II
2 credits. 2 hours. (Lecture 2 hours.)
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arbiculture, and turfgrass science.

AGBS 153 Special Topics in Horticulture III
3 credits. 3 hours. (Lecture 3 hours.)
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arbiculture, and turfgrass science.

AGBS 200 Occupational Internship
3 credits. 15 hours. (Field Studies 15 hours.)
On-the-job training in agribusiness.

AGBS 206 Advanced Landscape Design and Maintenance
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: AGBS 106.
Planning and landscape design. Installation and maintenance of various plants. The commercial process of bidding and contracting. Advanced utilization of computer aided design software program.

◆Allied Health

ALHT 100 Introduction to Healthcare Careers
2 credits. 2 hours. (Lecture 2 hours.)
Guided readings, discussions, writing and/or field experience(s) in health careers.
**Anthropology**  
MCC-Longview  
Melissa Eaton

**ANTH 100 General Anthropology**  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of physical and cultural anthropology. Concentrates on concepts of culture, social institutions and organization: economy, politics, family, religion, law, language, human evolution, human sexuality and archeology.

**ANTH 110 Cultural Anthropology**  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of cultural anthropology. Concentrates on concepts of culture, social institutions and organization: economy, politics, family, religion, law, language, kinship, and contemporary applications of anthropological methods. Requirement Designation: Human Diversity

**Apparel and Textiles**  
MCC-Penn Valley  
Sheryl Farnan

**APTX 40 Fundamentals of Apparel Construction**  
1 credit. 1 hour. (Lecture 1 hour.)  
Introduction of basic apparel construction tools and terminology. It is recommended that students entering the program with no prior apparel construction experience take this course before enrolling in APTX 112.

**APTX 100 Introduction to Apparel Studies**  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of the components of the apparel industry, including manufacturing, retailing, textiles, and product development, with specific focus on career development.

**APTX 111 Aesthetics and Design for Apparel and Textiles**  
3 credits. 3 hours. (Lecture 3 hours.)  
Elements and principles of design. Examination of aesthetic factors relating to apparel and promotional retail settings affecting product development and consumer decisions.

**APTX 112 Apparel Construction**  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Selection and use of equipment and commercial patterns. Construction of clothing for the individual. Fabric selection, basic fitting, and sewing techniques. APTX 40 recommended for students entering program with no prior clothing construction experience.

**APTX 113 Advanced Clothing Construction**  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisite: APTX 111 and APTX 112.  
The construction of a tailored garment. Identification and treatment of figure difficulties and fitting techniques.

**APTX 118 Costume History - Ancient Mesopotamia Through the Nineteenth Century**  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of history of dress from ancient times through the nineteenth century. Emphasis on connections of dress to political, social, and technological aspects of culture.

**APTX 119 Visual Merchandising**  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: APTX 100 and APTX 111.  
Application of aesthetic elements and design principles to effectively merchandise product assortments for retail, wholesale and industry tradeshow settings. Course culminates in student production of PANACHE student fashion showcase.

**APTX 211 Pattern Design - Flat Pattern**  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisite: APTX 113.  
Basic principles and methods of flat pattern drafting. Development of skirt, bodice, pant and dress slopers; in full scale sizes. Cut, sew and fit muslin prototypes. Original design development from basic sloper. Pattern making process and design room techniques.

**APTX 212 Textiles**  
3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to fibers, textiles and all aspects of textile manufacturing process.

**APTX 215 Pattern Design - Draping**  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisites: APTX 113, APTX 211, or concurrent enrollment.  
Basic principles and methods of pattern design through draping. Development of basic slopers in full scale sizes. Exploration of draping techniques and process of developing a draping plan to execute original designs.

**APTX 216 Experimental Design**  
3 credits. 3 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisites: APTX 211 and APTX 215.  
Examine diverse sources of inspiration, design process, creative development and technical execution of apparel through a combination of flat pattern and draping. Students will explore shape, silhouette and surface design with emphasis on the use of traditional as well as non-traditional and recycled materials.

**APTX 217 Twentieth Century Costume History**  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: APTX 118. History of dress and industry development throughout the twentieth century. Examination of the changing role of the designer in product development, influences of mass communication, as well as social, political and economic influences.

**APTX 218 Merchandising Field Experience**  
3 credits. 16 hours. (Lecture 1 hour. Field Studies 15 hours.)  
Prerequisites: APTX 119, 220, and 221.  
Supervised experience in a merchandising setting with a cooperative firm. Students will be evaluated on professional workplace criteria and complete an internship portfolio project detailing their experience.

**APTX 220 Merchandising I**  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: APTX 100 and MATH 100.  
Application of merchandising principles for both manufacturing and retail firms. Study process of budget and assortment planning, development, and presentation of apparel and related products.

**APTX 221 Merchandising II - Global Issues**  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: APTX 220.  
Examination of global trade and sourcing relevant both manufacturing and retail firms. Emphasis will be placed on the relationships of business, labor and government relevant to trade and consumption.

**APTX 225 Pattern Design - CAD**  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisites: APTX 211 and APTX 215.  
Basic principles and methods of pattern design through computer aided design methods. Development of basic slopers in full scale sizes. Exploration of pattern design techniques and process through use of industry level computer software applications.
ART 101 Art Fundamentals II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Methods of expression in studio applications. Dimensional design. Exploration and use of various materials and techniques. Introduction to apparel production manufacturing methods and equipment used in the industry, including those used in layout, cutting and sewing. Students learn procedures of design from concept to hanger.

ART 275 Design Portfolio Presentation
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ART 215.
This capstone course integrates skills in demographic analysis and target marketing, design process, pattern making technique and garment construction toward the development and completion of an apparel line. Emphasis on line presentation in a finished portfolio. Students will explore various formats for presentation.

◆ Art

MCC-Blue River
DeAnna Skedel

MCC-Longview
D. Kim Lindaberry
James Smith

MCC-Maple Woods
Jennie Frederick

MCC-Penn Valley
Mary Beth Moey
Darlene Town
Bernadette Torres

ART 100 Art Fundamentals I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Introduction to the elements and principles of art in two and three dimensional design. Exploration and use of various materials and methods of expression in studio applications.

ART 101 Art Fundamentals II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Use of the plastic elements of art and principles of design in studio application. Emphasis on study of art styles, techniques, and media.

ART 102 Computers in Design I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Introduction to the computer as a design tool utilizing layout, drawing, and image-editing software. Students will learn how to use the software to design layouts, create graphics, format type, and prepare imagery for the production of Graphic Design projects. Students will also be introduced to the design principles which guide good design structure. Photoshop, Illustrator, and InDesign is the software used.

ART 103 Design Foundations
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
An introductory study of the principles of visual perception and organization with the visual elements of line, shape, value, texture, and color. The course will primarily explore two-dimensional design in an achromatic mode.

ART 104 3D Computer Animation I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 102 or CSIS 110 or CSIS 115.
This course is an introduction to the fundamental concepts and techniques of the art of 3D computer animation. Using advanced 3D animation, modeling, editing, and graphics software students will learn to model and animate objects, characters, and environments.

ART 105 Digital Sketchbook
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
This is an introductory course to the digital environment where students will develop their artistic ability, aptitude, and personal aesthetics using digital media to create fine art and electronic imagery. Students will learn how to utilize a variety of computer hardware and input devices as well as preeminent photo editing, drawing, painting, and asset management software to create electronic and studio art imagery. Students will explore the integration of both raster and vector techniques and will learn how to utilize them along with more traditional art techniques. Students will also learn the practices of professional presentation of their work to the public. This class is not a requirement for the A.A.S. degree in Graphic Design.

ART 108 Survey of Art
3 credits. 3 hours. (Lecture 3 hours.)
A brief history of the Visual Arts, including painting drawing, sculpture and architecture. Global cultures from prehistoric times through present day will be covered.

ART 110 Drawing I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Development of fundamental drawing skills and techniques using various media. Observation and compositional aspects of drawing.

ART 111 Drawing II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 110.
Drawing skills in various techniques while developing various styles of expression through a variety of media and subject matter.

ART 112 Drawing III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 111.
Individual projects to help students strengthen their styles and techniques. Introduction of new media for exploration. Increased observation and compositional aspects of drawing.

ART 113 Drawing IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 112.
Exploration of a variety of subject matter for personally expressive and compositional aspects of drawing. Individual projects.
ART 115 Orientation to Graphic Communications
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Study of the graphic communications industry and production
methods from design through bindery. Emphasis on current
trends for the professional preparation for careers in graphic
communications.

ART 123 Color Theory
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 103 or concurrent enrollment.
An advanced study of the principles of visual perception and
two-dimensional design with an emphasis in color theory and the
elements of design including line, shape, value, texture.

ART 130 Fashion Illustration I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Fundamentals of fashion illustration with emphasis on fashion
drawing techniques. Fabric rendering and materials, methods and
formats used by fashion.

ART 131 Fashion Illustration II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 130.
Principles of fashion drawing with emphasis on media and
reproduction techniques.

ART 139 Photography I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Use of cameras and basic processes and principles of black and
white photography. Introduction to the use of photographic
equipment, dark room procedures, and materials. Students
introduced to historical and contemporary developments in
photography. (Students furnish their own 35mm camera.)

ART 141 Beginning Jewelry Making I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
This course is a basic introduction to the terms, tools, and
techniques involved in creating jewelry and other wearables as
they relate to the human form. Fabrication, construction, and
casting will be explored. This course will introduce the student to
non-ferrous metals, tool usage, and application in metalworking.
Students will learn about the properties of various metals, tool
usage, and techniques/processes and apply this knowledge to the
construction/fabrication of wearable and sculptural forms relating to
the body. This includes applying basic technical skills to 3D design
problems, introduction to metal history and safety are integrated
into the course subject matter.

ART 142 Fiber
3 credits. 3 hours. (Lecture 1 hour. Laboratory 5 hours.)
A variety of techniques within the discipline of fiber. Historical
elements as well as contemporary techniques will be explored.

ART 147 Jewelry Making II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisites: ART 141.
This course builds upon the basic techniques taught in Metal/
Silversmithing I. Students will be taught advanced techniques in
wax carving, mold making, fabrication, construction, and metals
manipulation. Students will develop and intermediate level of
complexity in skill and mastery of execution.

ART 150 History of Art I
3 credits. 3 hours. (Lecture 3 hours.)
Historical events and their influence on the development of
architecture, painting, and sculpture from prehistoric times through
the medieval periods in Western Civilization.

ART 151 History of Art II
3 credits. 3 hours. (Lecture 3 hours.)
Western civilization through the historical developments and
relationships of architecture, painting, and sculpture from the
Renaissance to present day.

ART 157 History of Graphic Design
3 credits. 3 hours. (Lecture 3 hours.)
Students will obtain an overview of the evolution of graphic
communication from pre-history through Postmodern Design and
the Digital Revolution. Students will be able to identify the works of
influential artists, movements, and the impacts of world historical
events, technology, and social tendencies on graphic design.

ART 159 American Art History
3 credits. 3 hours. (Lecture 3 hours.)
Development of art in America, from Indian and colonial to
temporary times. The history of America through its relationship
of architecture, sculpture, and painting.

ART 160 Graphic Design I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 202 or concurrent enrollment.
An introduction to the principles of the graphic design field. This
includes the study of typography, layout, production methods, and
career opportunities. Creative problem solving using hand tools and
the computer.

ART 164 Lettering
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
The design of letter forms. Hand-lettering techniques with marker,
brush, pen and ink.

ART 165 Cartooning
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 110.
Fundamentals of cartoon drawing styles and techniques used in
advertising, greeting cards, gag, caricature and editorial cartoons.

ART 166 Graphic Design II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 160.
Advanced synthesis of form and development of skills and
forms of ceramics. Primarily working with hand-building techniques,
students will learn the importance of texture, form, and unity of
design. Students will also be introduced to rudimentary pottery
wheel techniques.

ART 170 Ceramics I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Students will be introduced to the fundamental principles, styles and
forms of ceramics. Primarily working with hand-building techniques,
students will learn the importance of texture, form, and unity of
design. Students will also be introduced to rudimentary pottery
wheel techniques.

ART 171 Ceramics II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 170.
Advanced synthesis of form and development of skills and
techniques in ceramics including decoration and glazing. Studio
experience concentration in pottery wheel techniques and glazing.

ART 172 Ceramics III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 171.
Advanced and individual projects exploring the problems, methods
and techniques of production ceramic ware. Emphasis on skill
building, research in slip casting processes and glazing techniques.
Individual skill building on wheel thrown and/or hand building
procedures.

ART 173 Ceramics IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 172.
Advanced and individual projects under the direction of the
instructor. Emphasis on skill building, research in glazing
techniques, and knowledge of kiln firing. Individual skill building in
wheel-thrown and/or hand-building and/or slip-casting procedures.
ART 202 Computers in Design II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 102.
Advanced projects and tools are explored using the computer as a design tool utilizing layout, drawing, and image-editing software. Students develop advanced skills with the software and improved graphic design aesthetics. Photoshop, Illustrator and InDesign is the software used.

ART 204 3D Computer Animation II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 104.
Students will explore advanced concepts of the art of 3D computer animation in this course. They will further develop their understanding of animation as they explore in greater detail the processes of character development, storyboard development, modeling, materials, lighting, effects, actions, lip-syncing, keyframing, camerawork, rendering, and compositing.

ART 205 Pre-Hispanic Art History
3 credits. 3 hours. (Lecture 3 hours.)
Survey of the art and architecture of Mesoamerica and South America prior to the arrival of the Spanish. Part I of the course will explore the civilization of the Olmec, the Zapotec, Teotihuacan, the Maya, the Aztec, as well as other ancient Civilizations of Central America and Mexico. Part II will highlight the art and architecture of South America, including civilizations in Ecuador, Peru and Bolivia.

ART 212 Life Drawing I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 110 or equivalent.
In this course, students will explore the human form using live models. Assignments will cover a variety of drawing styles and media.

ART 213 Life Drawing II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 212.
Further study of the figure with emphasis on proportion and action of basic anatomical structure. Development of skills in various media.

ART 214 Life Drawing III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 213.
Advanced study of drawing the figure from models. Introduction to new media and the study of various processes for the development of a personal style.

ART 215 Watercolor Painting
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 110.
Experimentation in watercolor medium techniques and brushwork. Projects will stress composition, theme development, and technique.

ART 216 Life Drawing and Portraiture IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 213.
Advanced study of drawing the figure from models. Introduction to new media and the study of various processes for the development of a personal style.

ART 220 Painting I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 110 or equivalent.
This course will introduce basic principles of design and pictorial composition. Students will execute a series of paintings on various themes.

ART 221 Painting II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 220.
Advanced study of painting styles, pictorial composition, design and color theory through the production of a series of exercises and paintings.

ART 222 Painting III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 221.
Advanced color theory, use of media, and pictorial composition will be exhibited through a self directed plan of study and production of paintings.

ART 223 Painting IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 222.
Self directed projects geared to enhance creative awareness and expression. Projects will concentrate on developing advanced skills in composition, handling media, tools and color.

ART 230 Sculpture I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 230.
Introduction to the principles and styles of three-dimensional forms. Exploration of natural, abstract and synthetic sculptural forms through the use of traditional materials including clay, plaster, wood, fiber, plastic, and metal. Students will be introduced to the conceptual sculptural methods of addition, reduction, and substitution.

ART 231 Sculpture II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 231.
Advanced exploration of sculptural methods and techniques. Emphasis on exploring sculptural materials, forms, and imagery as a means of self-expression and communication.

ART 232 Sculpture III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 232.
Advanced exploration of sculptural processes and forms through the study of traditional and contemporary concepts, media, and techniques. Projects will involve working with a variety of issues from figure modeling to environmental or site-specific aspects of sculpture.

ART 233 Sculpture IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 233.
Development of aesthetic judgment and creative skills through individual selection of creative projects using student’s choice of media under guidance of instructor.

ART 239 Photography II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 139.
Development of advanced photographic techniques in black and white photography. Optional introduction to color processes. Increased emphasis on formal issues of image making in relation to content.

ART 241 Special Projects in Art
1-3 credits. 2-6 hours. (Laboratory 2-6 hours.)

ART 242 Photography III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 239.
Individual student projects developing visual communication of imagery. Further studies in black and white photographic processes and techniques. Color photo option.
ART 243 Photography IV
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 242.
Use of student-generated projects to develop abilities of individual students. Professional competence in use of photographic equipment and materials.

ART 244 Digital Photography
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 102.
Exploration of photographic techniques and themes using the computer, digital camera, and scanners. The industry standard software for image editing will be utilized.

ART 245 Web Design
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 245.
Concept and message development, design and production, publishing of web sites, visual design, color, typography, and digital graphics for the web will be stressed. Text-editing, web-authoring, and image-editing software will be used.

ART 246 Advanced Web Design
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 245.
Advanced site management, visual design, tools for creating tables and forms, implementing style sheets, adding behaviors and animation; designing with HTML, image-editing software, Dreamweaver and Flash.

ART 250 Printmaking
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Introduction to a variety of traditional contemporary printmaking processes, including on and off press techniques. Historical styles of printmaking and application to current trends. Exploration of relief, lithography, serigraphy, and intaglio printing techniques.

ART 254 Silk Screen Printing I
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Screen printing techniques from paper stencil to photographic processes.

ART 255 Silk Screen Printing II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 254.
Advanced screen printing in photography techniques with emphasis on two three color printing.

ART 256 Silk Screen Printing III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 255.
Advanced problem solving techniques in fine arts and commercial screen-printing.

ART 260 Graphic Design II
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 160.
Advanced graphic design concepts which include analyzing client needs, idea and execution processes, defining successful elements of good visual communication, defining and analyzing trends of the graphic design industry. Explore these concepts through advanced projects utilizing traditional and computer tools.

ART 261 Graphic Design III
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 101, 202, and 260.
Advanced problem solving in corporate identify designs which include trademark, magazine, point-of-purchase and other designs.

ART 263 Art Portfolio
3 credits. 6 hours. (Laboratory 6 hours.)
Selection, revamping, and mounting of student work for the professional portfolio.

ART 264 Art Portfolio-Graphic Design
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 260 or concurrent enrollment.
Selection and presentation of a Graphic Design portfolio along with interviewing techniques and employment searches. The student should be in last semester of the Graphic Design program.

ART 265 Graphic Design Internship
3 credits. 15 Internship.
Prerequisite: Art 160 and approval of instructor.
Students will learn job-interviewing skills and gain real world experience with the opportunity to utilize learned graphic design skills. The experience will involve duties associated with entry-level graphic design.

ART 270 Illustration
3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)
Prerequisite: ART 102, 103, and 110.
Illustration techniques involving research and visual problem solving. Emphasizes on research, style, media, clients and presentation with advertising and story illustrations.

ART 280 Special Studies
1-3 credits. 2-6 hours. (Laboratory 2-6 hours.)
Individual projects involving media and techniques chosen by the student with the advice of the instructor.

ART 281 Introduction to Digital Prepress - File Preparation
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: ART 102 and ART 115.
Introduction to the digital prepress process that follows a digital file from proper design techniques through output and contract proof. Emphasis on proper use of fonts, graphics and page layout applications to achieve predictable, accurate results.

ART 282 Digital Prepress-Advanced Color Correction
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ART 102 and ART 115.
Learn advanced color correction techniques that will turn almost any image into quality artwork. Focus on color theory, image quality, and color calibration to achieve predictable, high quality results. Also learn proper scanning and image capture techniques for line-art, grayscale and color originals. Students are encouraged to take ART 281 and ART 282 concurrently.

ART 283 Advanced Prepress
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ART 115, ART 202, ART 281 and ART 282.

ART 285 Variable Data Publishing
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: ART 202, 281, and 282.
An overview of variable data publishing technology. The course will focus on merging data and images to digitally print personalized products for data driven communications. Students are encouraged to take ART 283 and ART 285 concurrently.

ART 290 Digital Prepress Internship
3 credits. 15 Internship.
Prerequisite: ART 283 and ART 285.
Cooperative work experience in digital prepress.
AUTO 100 Automotive Internship I
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisite: One semester of automotive course work.
Cooperative on-the-job training in the automotive industry under college supervision.

AUTO 101 Automotive Internship II
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisite: AUTO 100.
Cooperative on-the-job training.

AUTO 103 Fundamentals to Automotive Technology
3 credits. 3 hours. (Lecture 3 hours.)
This course is an introduction to the various mechanical and electrical systems of the automobile. Students will also learn basic service techniques while understanding the costs associated with purchasing, maintaining, and repairing an automobile.

AUTO 105 Cooperative Work Experience I
3 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: Be a member of one of the corporate programs, maintain a c average.
Cooperative on-the-job training.

AUTO 106 Cooperative Work Experience II
3 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: Be a member of one of the corporate programs, maintain a c average.
Cooperative on-the-job training.

AUTO 107 Cooperative Work Experience III
3 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: Be a member of one of the corporate programs, maintain a c average.
Cooperative on-the-job training.

AUTO 108 Cooperative Work Experience IV
3 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: Be a member of one of the corporate programs, maintain a c average.
Cooperative on-the-job training.

AUTO 120 MIG and Structural Welding
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
Welding of metal in modern automobiles including oxyacetylene, and GMAW (MIG).

AUTO 125 Structural Analysis and Damage Repair
6 credits. 12 hours. (Lecture 3 hours. Laboratory 9 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
The analysis, measure, and repair of frames and unibody structures of automobiles and light trucks.

AUTO 130 Nonstructural Analysis and Damage Repair
6 credits. 12.5 hours. (Lecture 3 hours. Laboratory 9.5 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
The analysis of the condition and the repair or replacement of nonstructural components of automobiles and light trucks.

AUTO 135 Plastics and Adhesives
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
Analysis and repair of panels and structures using plastic fillers, fiberglass, structural adhesives, and bonding agents.

AUTO 140 Automotive Painting
4 credits. 10 hours. (Lecture 1 hour. Laboratory 9 hours.)
Prerequisite: Acceptance into the articulation program for Auto Collision Repair.
Analysis, preparation, and performance of paint applications on modern automobiles and light trucks.

AUTO 141 Automotive Refinishing
4 credits. 10 hours. (Lecture 1 hour. Laboratory 9 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
Analysis, preparation, and performance of paint repair and refinishing applications on modern automobiles and light trucks.

AUTO 150 Automotive Power Plants
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
History, theory of operation, diagnosis, and repair of automotive gasoline and diesel engines. Covers the basic and special tools required to properly overhaul or rebuild. Includes head and valve service, piston and ring service, block and bearing service. Special emphasis on measuring and diagnosis.

AUTO 155 Automotive Electrical Systems
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
A study of theory, construction, modern automotive electrical systems. Use of test equipment in trouble shooting and maintenance of batteries, starters, alternators, lighting, chassis wiring, ignition systems and accessories.

AUTO 160 Diagnosis and Repair
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisite: AUTO 150, 166, and 176.
A lecture laboratory approach to the use of diagnostic equipment pertaining to driveability with an emphasis on ignition, fuel, starting and charging systems, and efficient engine operation.

AUTO 166 Automotive Braking Systems
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
History, theory of operation, and current service procedures on drum and disc brakes systems. Includes power assist systems and anti-lock brake systems.

AUTO 170 Automotive Suspension and Steering
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
History, theory and service of front and rear suspension and steering systems. Includes steering gear, rack and pinion steering, power assist and power assist. Extensive coverage of four-wheel alignment, tire and wheel balance.

AUTO 174 Automotive Power Trains
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Theory of operation and service procedures of power trains including constant velocity joints, manual transmissions and transaxles, differentials and clutches.

AUTO 176 Emission & Fuel Control System
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisite: AUTO 150 and 166.
History, theory of operation, diagnosis, and repair of emission control systems. History, theory of operation, diagnosis and repair of fuel systems including basic carburetion, various fuel injection systems.
AUTO 250 Diesel Diagnosis and Repair
6 credits. 9 hours. (Lecture 3 hours. Laboratory 5 hours.)
Prerequisites: AUTO 150 and AUTO 166.
Discussion of diesel engine construction and operation as compared to gasoline engines. Study of diesel engine air, fuel, emissions, and electronic control systems. Study of how diesel engines and systems operate and how to diagnose, service, and repair these systems.

AUTO 260 Advanced Diagnosis
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisite: Be a student in good standing in the General Motors ASE Program or Ford Motor Co.
Asset program. An advanced course allowing students to specialize in one or two of eight specialty areas of automotive technology. This course utilizes individualized instruction methods. Special emphasis will be placed on specialty electronics areas and driveability. Each student will be required to perform the duties of a service advisor and service manager.

AUTO 264 Air Conditioning
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Theory of operation, diagnosis, and repair of various types of automotive air conditioners, and includes refrigerant reclaiming equipment.

AUTO 272 Automatic Transmissions
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Theory of operation, testing and diagnosis, disassembly and reassembly.

AUTO 277 Specialized Electronics Training
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisites: AUTO 166 and class member of a General Motors ASE class.
Solid-state electronic principles and applications on devices as utilized on late model General Motors computer-equipped vehicles. Includes GM certifications.

AUTO 278 Electronic Engine Control
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisites: AUTO 166 and be a student in the Ford Motor Co. Asset program. Solid-state electronic principles and applications on devices as utilized on late model Ford Motor company computer-equipped vehicles. Includes Ford certifications.

AUTO 279 Automotive Electronic Systems
6 credits. 8 hours. (Lecture 4 hours. Laboratory 4 hours.)
Prerequisite: AUTO 166.
Solid-state electronic principles and applications on devices as utilized on late model computer-equipped automobiles.

BASK 20 Just Grammar
1 credit. 2 hours. (Laboratory 2 hours.)
Topics in this course include parts of speech and sentences; clauses, phrases, agreement and correct usage.

BASK 21 Just Sentences
1 credit. 2 hours. (Laboratory 2 hours.)
This course is designed to include sentence fundamentals, verb recognition, sentence elements, sentence types, sentence errors and corrections.

BASK 22 Just Spelling
1 credit. 1 hour. (Laboratory 1 hour.)
This course deals with correcting common spelling errors by study of consonant and vowel sounds and spelling rules.

BASK 24 College Entrance Skills
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to basic study skills, college resources and college procedures.

BASK 26 Solving Word Problems
1 credit. 2 hours. (Laboratory 2 hours.)
Interpretation and solution of word problems in basic mathematics.

BASK 30 Academic Workshop
0 credit. 2 hours. (Laboratory 0 hour.)
Prerequisite: Concurrent enrollment in designated academic course.
Semester-long academic workshop to support class lecture, class assignments, review class material and enhance student learning in subject matter classes.

BASK 39 Sentences to Paragraphs
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Moving from sentence to paragraph writing. Topic sentences, coherence, focus, and organization.

BASK 40 Mathematic Skills/Special Topics
1 credit. 1 hour. (Lecture 1 hour.)
Various topics in basic arithmetic based on student needs. Will include fractions, decimals, ration and proportion, critical thinking and geometric concepts.

Biology

MCC-Blue River
Lisa Bonneau
Mehdi Borhan
Shari Harden
Todd Martin

MCC-Maple Woods
Rani Duggal
Larry Reichard
Paul Smith
Kenneth Snell
Cammie Snow

MCC-Longview
Brian Mitchell
Eugene Fenster
Kest Kopecky
Greg Lottin
Patricia Mann
Stephen Reinbold

MCC-Penn Valley
David Belt
Mahmoud Bishr
Todd Bowdish
Gene Cota
Terrence Davin
Nancy Harrington
Steven Lewis

BIOL 100 Introduction to Cell Biology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 20 or satisfactory score on the placement test.
Fundamental concepts preparatory to the study of physiology and microbiology with emphasis on the cell and subcellular structures.
BIOL 101 General Biology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Biological principles and methods applied to selected groups of living organisms and their environment.

BIOL 102 Environmental Science
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
General principles of human ecology and environmental science. Examination of problems in human ecology such as population growth, resource allocation, and pollution. Field work.

BIOL 104 General Botany
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Biological principles and their application to the plant kingdom. Microscopic and gross examination of anatomy of plants. Life cycles and ecological relationships.

BIOL 106 General Zoology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Systematic survey of the major animal phyla. Microscopic and gross examination of representative animal types. Anatomy and physiology, natural history, life cycles, ecological relationships, and genetics.

BIOL 108 Introductory Anatomy and Physiology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
An introductory view of structure and function in the human body and mechanisms of homeostasis.

BIOL 109 Anatomy and Physiology
6 credits. 8 hours. (Lecture 4 hours. Laboratory 4 hours.)
Prerequisite: BIOL 100 or CHEM 105.
Structure and function in the human body and mechanisms of homeostasis.

BIOL 110 Human Anatomy
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Structure and function in the human body.

BIOL 118 Introduction to Biology
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Diversity of life. Relationship of human beings to other living things and the interaction of biological and physical systems. Part of the instruction given by videotape.

BIOL 120 Bioethics
3 credits. 3 hours. (Lecture 3 hours.)
Biological and ethical implications of selected topics in modern biology, such as genetic engineering, human organ transplant, medical procedures prolonging the dying process, and experimentation on human beings.

BIOL 121 Directed Project
1 credit. 2 hours. (Laboratory 2 hours.)
Supervised introductory study of a topic in biology.

BIOL 122 Human Nutrition
3 credits. 3 hours. (Lecture 3 hours.)

BIOL 137 Introduction to Pathophysiology
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisites: BIOL 110 and 210, or BIOL 108 or 109 or 109.
Causes, signs, symptoms, and pathological changes in structure and function of the human body in common diseases. Selected diagnostic and treatment procedures. Some general public health aspects.

BIOL 138 Medical Terminology
2 credits. 2 hours. (Lecture 2 hours.)
Basic vocabulary of medical terms stressing prefixes, suffixes, and roots, with application to each system of the body.

BIOL 198 Service-learning in Biology
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
This is an experiential learning opportunity that links concepts and principles of biology to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the disciplinary course topic and learning objectives.

BIOL 202 Ecology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisite: BIOL 101 or 104, or BIOL 106.
Study of interrelationships between organisms and their environment. Site visits to primary and secondary forests, grasslands, and aquatic ecosystems.

BIOL 204 Genetics
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BIOL 101 or 104, or 106.
This course is designed to cover four major topics in genetics: 1) transmission genetics 2) molecular structure of the gene 3) molecular functioning of the gene and 4) population and evolutionary genetics.

BIOL 208 Microbiology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisites: BIOL 100 or CHEM 105 or higher, plus one of the following courses: BIOL 101, BIOL 104, BIOL 106, BIOL 108, BIOL 109, OR BIOL 110.
Growth, physiology, and genetics of microorganisms. Fundamental concepts of immunology, virology, bacteriology, mycology, and parasitology. Aspects of host-parasite relationships and control of microorganisms by physical and chemical agents.

BIOL 210 Human Physiology
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)
Prerequisite: BIOL 110 and either BIOL 100 or CHEM 105.
Functions of the human body as revealed by cells, tissues, organs, and systems in terms of underlying physicochemical processes.

BIOL 211 Field Biology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisite: BIOL 101, 104 or 106.
Flora and fauna of selected biomes including field observation, identification, classification, and ecological relationships. Students must be prepared to camp out while in the field.

BIOL 214 Principles of Genetics
4 credits. 6 hours. (Lecture 3 hours. Laboratory 3 hours.)
Prerequisites: BIOL 101 or BIOL 104 or BIOL 106.
Basic principles of heredity in animals, plants, and microorganisms. Mendelian and other principles of transmission genetics and cytogenetics. Molecular genetics of gene structure and function. Introduction to population genetics.

BIOL 220 Special Topics in Biology
1-5 credits. 1-10 hours. (Laboratory 2-10 hours.)
Prerequisite: Two courses in biological science.
Study of a biological topic of special interest under the supervision of a faculty member.
BIOL 238 International Human Ecology
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Study of international human diversity with a focus on problem-solving by selected cultures. Students will visit villages, schools, and homes over a period of at least 18 days at selected international destinations acquiring knowledge and appreciation of local solutions to traditional and contemporary environmental challenges. Consent of the instructor required. Requirement Designation: Human Diversity

BIOL 239 International Field Biology
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisites: BIOL 101, BIOL 104, or BIOL 106.
Principles of ecology and natural history applied to flora and fauna of selected international field site. Students will spend at least 18 days in the field within selected countries acquiring in-depth knowledge of major biological taxa, ecosystems, and processes.

Business Administration

MCC-Blue River  MCC-Longview  MCC-Maple Woods
Lynn Canady  Theodore Dinges  James Moes
Zach McNal  Kimberly Luken  Randy Kidd
MCC-Penn Valley  Diane Enkleman

BSAD 100 Introduction to Accounting
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to the steps of the accounting cycle. Practical background in accounting for professional offices and/or merchandising businesses.

BSAD 101 Accounting Principles I
3 credits. 3 hours. (Lecture 3 hours.)
Practice and application of the accounting principles involved in the process of preparing financial statements in accordance with the Generally Accepted Accounting Principles. Includes accounting procedures for cash, accounts receivable, inventory, depreciation and payroll.

BSAD 102 Accounting Principles II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BSAD 101 or two years of high school accounting.
Practice and application of the accounting principles involved in partnerships and corporations. Departmentalization, budgeting, and statement analysis.

BSAD 103 Business English
3 credits. 3 hours. (Lecture 3 hours.)
Apply the English concepts and critical thinking skills to business writing and workplace applications via the Internet. Review of fundamentals of grammar, sentence structure, punctuation, and capitalization.

BSAD 105 Human Resources Management
3 credits. 3 hours. (Lecture 3 hours.)
This course provides an overview of the human resources management functions within an organization and the human resources management profession generally.

BSAD 109 Principles of Supervision
3 credits. 3 hours. (Lecture 3 hours.)
This course is an integrated approach involving a variety of issues confronting supervisors and provides practical solutions within a diversified workforce and a global marketplace. The course explores how supervisors relate to employees, other supervisors and upper management, and emphasizes skills applications couples with Internet activities that require students to seek current information.

BSAD 113 Special Problems in Business
3 credits. 3 hours. (Lecture 3 hours.)
Independent study in business related areas under the supervision of a faculty member.

BSAD 120 Organizational Behavior
3 credits. 3 hours. (Lecture 3 hours.)
Course investigates the impact that individuals, groups, and organizational structures have on behavior in the workplace. The student will develop individual competencies with emphasis in business environments. The acquired competencies can be applied toward improving individual and organizational effectiveness.

BSAD 127 Management Internship I
3 credits. 15 hours. (Field Studies 15 hours.)
On-the-job experience approved by the coordinator.

BSAD 128 Management Internship II
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisite: BSAD 127.
On-the-job experience approved by the coordinator.

BSAD 150 Introduction to Business
3 credits. 3 hours. (Lecture 3 hours.)
Overview of all phases of business, including ownership, marketing, personnel, finance, managerial controls, and the relationship of business to the social and economic environment in which it operates.

BSAD 151 Personal Finance
3 credits. 3 hours. (Lecture 3 hours.)
Principles of personal financial planning enabling the student to achieve personal economic satisfaction and long-term financial security. Topics will include career planning, taxes, banking, consumer strategies, housing, transportation, insurance, investments, retirement and estate planning.

BSAD 153 General Ledger Accounting Systems, PC
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BSAD 101.
Investigations, application, and utilization of accounting software packages in a computerized business accounting system.

BSAD 154 Managerial Accounting
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BSAD 101.
Interaction between the fields of accounting and management with emphasis on analysis of accounting records for aiding managerial decision making.

BSAD 155 Accounting Applications Using Spreadsheets
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BSAD 101.
The emphasis of this course is to teach the solving of accounting problems utilizing spreadsheet programs as a tool.

BSAD 161 Professional Development and Business Careers
3 credits. 3 hours. (Lecture 3 hours.)
This course prepares students to match a career choice with their education, training, interests, abilities and current job market information. Topics and process will include self-assessment, career investigation and planning, employment communication, professional ethics and diversity issues.
BSAD 185 Customer Service  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: Appropriate placement test score or completion of MATH 20; have completed or be simultaneously enrolled in BSAD 178 , BSAD 120, CSIS 115 , and BSAD 150; have demonstrated keyboarding proficiency of 35 words a minute with 90% accuracy. 
FUNDAMENTAL PRINCIPLES OF SERVING CUSTOMER NEEDS. INSTRUCTION AND PRACTICE IN IDENTIFYING AND PROVIDING FOR CUSTOMER NEEDS, HANDLING SITUATIONS ON THE TELEPHONE, DEVELOPING AND USING TELEMARKETING STRATEGIES, AND ESTABLISHING PROFESSIONAL WORK STANDARDS.

BSAD 190 Office Management  
3 credits. 3 hours. (Lecture 3 hours.)  
Organization and control of administrative office operations, staff and resources. Students will examine and apply functions and principles of management, leadership, problem solving, appraising, job design and analysis, and diversity practices.

BSAD 198 Service-learning in Business  
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
This is an experiential learning opportunity that links concepts and principles of business to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the business course topic and learning objectives.

BSAD 201 Cost Accounting  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: BSAD 102.  
Basic principles of cost accounting applied to job, process, and standard cost methods. Budget control and analysis of profits.

BSAD 202 Intermediate Accounting I  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: BSAD 102.  
Practice and application of financial reporting accounting in accordance with the generally accepted accounting. Principles. Includes financial statements and related disclosures, asset measurement, income determination, valuation of liabilities and investments.

BSAD 204 Business Management  
3 credits. 3 hours. (Lecture 3 hours.)  
Principles and practices of business management developed around the framework of the functions of planning, organizing, and controlling. Specific topics covered includes: managerial ethics, group dynamics, employee motivation, communications, decision-making, leadership and management styles, productivity, and organizational effectiveness.

BSAD 205 Marketing  
3 credits. 3 hours. (Lecture 3 hours.)  
The principles of marketing involves the structure of marketing institutions in a global environment. The course includes analysis of marketing functions, consumer behavior, segmentation, market research, product planning, pricing, promotion, distribution and marketing strategies. Internet and electronic mail activities are integrated to develop competencies in data collection, application and task analysis.

BSAD 207 Labor Management Relations  
3 credits. 3 hours. (Lecture 3 hours.)  
Current issues in the industrial and post-industrial society. Contract negotiations, arbitration policies, conflict theories, strategies for conflict resolution, and administering the collective bargaining agreement. This course is taught by The Institute for Labor Studies.
BSAD 224 Entrepreneurship Experience
4 credits. 4 hours. (Lecture 4 hours.)
BSAD 225, the Entrepreneurship Experience combines classroom lecture and the opportunity to further develop specific business skills as student teams work to assess and resolve problems of small businesses in the local area. Students will perform the research necessary to provide guidance and solutions to the small business challenges presented by the client. High quality written communication and presentation skills will be expected for all published and created work.

BSAD 252 Individual Income Tax
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BSAD 101.
Principles of the Internal Revenue Code as applied to individual returns. Forms required from the employer and the individual. Preparation of individual tax form 1040 and accompanying schedules.

BSAD 254 Business Law I
3 credits. 3 hours. (Lecture 3 hours.)
Identification and discussion of principles of law related to business transactions. Topics covered include: contracts, agency, employment, negotiable instruments, personal property, and bailments.

BSAD 255 Business Law II
3 credits. 3 hours. (Lecture 3 hours.)
Identification and discussion of principles of law related to business transactions. Topics include: sale of goods, partnerships, corporations, real property, security devices, bankruptcy, and estates.

BSAD 270 Legal Environment of Business
3 credits. 3 hours. (Lecture 3 hours.)
Provides a survey of laws that are important to persons as citizens of the United States and as participants in its economic system.

Chemistry

MCC-Blue River
Donald Miller

MCC-Maple Woods
Nelson Borys

MCC-Longview
Moira Frey

MCC-Penn Valley
Douglas Martin

Michael Sweetland

CHEM 101 Survey of Chemistry
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Survey of the principles of chemistry and the role and significance of chemistry in the modern world.

CHEM 105 Introductory Chemistry for Health Sciences
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)
The principles of general, organic, and biological chemistry for health science students.

CHEM 107 Preparatory General Chemistry
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Prerequisite: MATH 110 (or equivalent score on placement test) or one unit of high school algebra.
Introduction to the elementary principles of chemistry with emphasis on chemical calculations.

CHEM 111 General College Chemistry I
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)
Prerequisite: MATH 120 (or equivalent score on placement test) or two units of high school algebra and CHEM 107 or high school chemistry. Introduction to the understanding of atoms and molecules: their qualitative and quantitative reactions and interactions.

CHEM 112 General College Chemistry II
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)
Prerequisite: CHEM 111.
Chemical equilibrium, kinetics, electrochemistry, thermodynamics, and the reactions of the elements and their compounds explained in terms of bonding and energy relationships. A brief introduction to the chemistry of organic compounds is included.

CHEM 205 Introductory Organic Chemistry for Health Sciences
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisite: CHEM 105 or CHEM 111.
Basic concepts of organic and biological chemistry for health science students.

CHEM 211 Organic Chemistry I
5 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisite: CHEM 112.
Nomenclature, reactions, stereochemistry, and physical properties of alkanes, alkenes, alkynes, and alkyl halides. Exploration of the mechanisms and kinetics of organic reactions. Introduction to the chemical literature and to infrared, NMR, and mass spectroscopy.

CHEM 221 Organic Chemistry II
5 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
Prerequisite: CHEM 221.
Nomenclature, reactions, stereochemistry, physical properties, and spectroscopy of aromatic compounds, alcohols, ethers, aldehydes, ketones, amines, carboxylic acids, and their derivatives. Further explorations of the mechanisms and kinetics of organic reactions. Introduction to biochemical compounds.

Child Growth and Development

MCC-Penn Valley
Linda Bell  Mary Svoboda-Chollet

CDCG 101 Fundamentals of Early Care and Education
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 30 or appropriate placement test score, or concurrent enrollment.
This introductory course focuses on an overview of the field of early childhood care and education. The wide variety of types of early childhood program are explored, as are the characteristics and needs of young children. The preparation of environment and curriculum are examined, as are instructional and guidance techniques. Strategies for observation, documentation, and assessment are discussed. Teacher certification, ethics, and communication skills are detailed.
This course covers the eight (8) subject areas of the Child Development Associate (CDA) credential. The guidelines of Kansas and Missouri Core Competencies for Early Care and Education Professionals and the National Association for the Education of Young Children (NAEYC) standards are followed in this course.
CDCG 110 Child Health, Safety and Nutrition  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 30 or appropriate placement test score.  
The Child Health, Safety and Nutrition course covers basic factors that  
affect children's health, safety and nutrition. Subject matter  
includes feeding habits, nutritional needs, health routines, hygiene,  
growth patterns, childhood diseases, first aid, CPR, safety and  
implications for children. The guidelines of Kansas and Missouri Core  
Competencies for Early Care and Education Professionals and the  
National Association for the Education of Young Children (NAEYC)  
standards are followed in this course.  

CDCG 113 Child Growth and Development I  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: CDCG 101 and ENGL 30 or appropriate placement  
test score.  
This course explores knowing and understanding young children's  
characteristics and needs; the multiple influences on development  
and learning, and how to use this developmental knowledge to  
create health, respectful, supportive and challenging learning  
environments. The principles of child development are emphasized  
including language acquisition, creative expression, physical,  
cognitive and social/ emotional development. The course follows  
the guidelines of Kansas and Missouri Core Competencies for  
Early Child Care and Education Professionals and the National  
Association of the Education of Young Children (NAEYC) standards.  

CDCG 117 Fundamentals of Afterschool I  
3 credits. 3 hours. (Lecture 3 hours.)  
Fundamentals of Afterschool I covers the developmental needs and  
characteristics of the school-age child 5-12 years in non-school  
settings as addressed in Competency Goals I and II, Functional  
Areas Safe, Healthy, Program Environment, Physical, Cognitive,  
Communication and Creative of the Missouri Youth Development  
Credential. The Standards of the National AfterSchool Association  
are followed in this course.  

CDCG 127 Fundamentals of Afterschool II  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: CDCG 117.  
The Fundamentals of Afterschool II covers the developmental needs  
and characteristics of the school-age child 5-12 years in non-school  
settings as addressed in Functional Areas Self, Social,  
Guidance, Families, Program Management, and Professionalism of  
the Missouri Youth Development Credential. The Standards of the  
National AfterSchool Association are followed in this course.  

CDCG 132 Curriculum in Early Childhood Education  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: CDCG 113.  
This course will examine developmentally appropriate practices and  
the teachers role in curriculum and instruction for young children.  
The purpose and characteristics of curriculum models past and  
present will be examined. Curriculum adaptation to accommodate  
diverse learners will be examined. Play as an overriding component  
of early childhood curriculum will be stressed. Development of  
avtivity plans, lesson plans based on developmentally appropriate  
practice for children at varying ages and stages will be required.  
The guidelines of Kansas and Missouri Core Competencies for Early  
Care and Education Professionals and the National Association for  
the Education of Young Children (NAEYC) standards are followed in  
this course.  

CDCG 132 Learning Environments I  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 30 or appropriate placement test score.  
The Learning Environments I course prepares students to  
understand and implement developmentally appropriate creative  
art experiences with children. In addition, the course teaches  
strategies to plan, develop, evaluate and integrate other subject  
matter such as math, science, language, literacy, and social studies  
into the curriculum. This course follows the guidelines of Kansas  
and Missouri Core Competencies for Early Care and Education  
Professionals and the National Association for the Education of  
Young Children (NAEYC) standards.  

CDCG 149 Child Development Internship I  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)  
Prerequisites: CDCG 113 and ENGL 101.  
This course will engage students in a practical understanding of an  
early care and education environment and a practical understanding  
of methods of observing children. Students will actively interact  
with children in these settings. This course follows the guidelines  
of Kansas and Missouri Core Competencies for Early Child Care  
and Education Professionals and the National Association for the  
Education of Young Children (NAEYC) standards.  

CDCG 201 Language Development  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: CDCG 113, CDCG 132 and ENGL 101.  
This course is an in-depth study of the basic use of tools  
and materials that simulate imagination, reasoning, concept  
formation and communications through language development.  
The guidelines of Kansas and Missouri Core Competencies for  
Early Care and Education Professionals and the National  
Association of the Education of Young Children (NAEYC) standards  
are followed in this course.  

CDCG 213 Child Growth Development II  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: CDCG 149 or concurrent enrollment.  
This course provides an in-depth study of physical, social-  
emotional, language, and cognitive development of children,  
including those with different types of special needs and those who  
represent different cultures. The importance of the roles of the  
caregiver, the environment and the family will also be explored as  
it relates to the development of the child. This course follows the  
guidelines of Kansas and Missouri Core Competencies for Early  
Care and Education Professionals and the National Association for  
Education of Young Children (NAEYC) standards.  

CDCG 217 Literature for Children  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 30 or appropriate test scores.  
This course is a survey and history of literature appropriate for  
young children (birth through age 8). Criteria for selection and  
evaluation of children's literature are included. Techniques for  
integrating children's literature into the curriculum are emphasized.  
Reading and telling stories for various developmental stages are  
stressed. This course follows the guidelines of Kansas and Missouri  
Core Competencies for Early Care and Education Professionals  
and the National Association for the Education of Young Children  
(NAEYC) standards.
**CDCG 220 Child Care Management**
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: CDCG 110, CDCG 113, CDCG 132.
This course is a survey of early-care and education programs. Students will study planning, developing and operating early-care and education center. Licensing, curriculum, and parent involvement will be included. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Child Care and Education Professionals and the National Association of the Education of Young Children (NAEYC) standards.

**CDCG 236 Learning Environments II**
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: CDCG 213.
Students will gain knowledge of how to adapt early care and education curriculum and environments to meet the needs of all children, including those with special needs. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Care and Education Professionals and the National Association for the Education of Young Children (NAEYC) Standards.

**CDCG 255 Child Development Internship II**
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: CDCG 236 or concurrent enrollment.
A supervised internship providing opportunities to gain teaching experience in early care and education settings. The course requires the planning of activities and designing of lessons for various educational levels and needs. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Care and Education Professionals and the National Association for the Education of Young Children (NAEYC) standards.

**CDCG 260 Education of the Exceptional Child**
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: CDCG 149.
An introduction to the education of infants, toddlers, preschoolers and school-agers with special needs and the interaction with their families. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Child Care and Education Professionals and the National Association of the Education of Young Children (NAEYC) standards.

**CDCG 262 Families, Early Care, and Communities**
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 30 or appropriate test score.
This course will prepare students to develop opportunities for partnership among families, schools, and communities. The course provides an in-depth study of the principles of parenting and family relationships as well as the skills necessary to work with the family unit. The importance of the teachers role in the school and community as applied to working with families of young children and the community is emphasized. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Care and Education Professionals and the National Association of the Education of Young Children (NAEYC) standards.

**CDCG 270 Portfolio Design**
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Student must be in the final semester of their Associates degree in Applied Science (AAS).
This Portfolio Design course documents a student’s competency in early care and education and will include a variety of artifacts from various courses taken throughout the Associates of Applied Science Program. This course prepares students to transfer to four-year institutions. This course follows the guidelines of Kansas and Missouri Core Competencies for Early Child Care and Education Professionals and the National Association of the Education of Young Children (NAEYC) standards.

**CDCG 271 Special Topics in Child Growth and Development**
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Guided readings and discussion in Child Growth and Development. Topics and materials will vary by instructor each semester. Specific reading list activities and writing assignments to be determined by instructor. This course is intended to go into more detail and research beyond them arterial covered in the Child Growth and Development courses. The guidelines of Kansas and Missouri Core Competencies (K&MCC) for Early Care and Education Professionals and the National Association for the Education of Young Children (NAEYC) standards are followed in this course.

**CDCG 272 Special Problems in Child Growth and Development**
2 credits. 2 hours. (Lecture 2 hours.)
Independent study in child growth and development under the supervision of a faculty member.

**CDCG 273 Special Problems in Child Growth and Development**
3 credits. 3 hours. (Lecture 3 hours.)
Independent study in child growth and development under the supervision of a faculty member.

◆**Commercial Drivers License Class A**

**CDLA 111 Basic Operating Procedures**
2 credits. 2 hours. (Lecture 2 hours.)
This course introduces the student to the basic elements of trucking industry: regulations governing trucking, qualifications of drivers, and inspection standards for safe vehicle operations. Students will become familiar with the various parts of the Federal Motor Carrier Safety Regulation (FMCSR) that pertain to the vehicle, the driver and safe operation of a commercial motor vehicle on the nations roads and highways.

**CDLA 112 Safe Operating Procedures**
2 credits. 2 hours. (Lecture 2 hours.)
The focus of this class is on safe operating procedures of the tractor-trailer in roadway/highway operations. Instruction will focus on proper backing techniques, shifting skills, communication practices, hazard awareness, speed and space management, as well as introducing the student to the hours of service regulations.

**CDLA 113 Advanced Operating Procedures**
2 credits. 2 hours. (Lecture 2 hours.)
This course exposes the student to the advanced skills required for safely operating a tractor-trailer in a variety of traffic situations. Subjects such as skid control and recovery, emergency maneuvers & procedures, and extreme driving conditions will be covered. The student will also be exposed to the topics of health & fatigue, map reading, and trip planning as they relate to the professional over the road truck driver.
CDLA 114 Vehicle Maintenance
2 credits. 2 hours. (Lecture 2 hours.)
This course focuses on introducing the entry-level student driver to the various aspects of vehicle maintenance. Instruction will center on the different types of maintenance, the drivers role in the vehicle inspection process, and provide a detailed description of the major vehicle systems. Student drivers will be provided an overview concerning how to diagnose and report malfunctions. In addition students will review the SafeStat web site and the role in plays in monitoring truck company performance. A discussion of the Environmental Protection Agency (EPA) and Occupational Health & Safety (OSHA) will provide students with a more comprehensive understanding of how these agencies impact trucking.

CDLA 115 Non-Driving Procedures
2 credits. 2 hours. (Lecture 2 hours.)
Through this course student drivers will be prepared to handle the non-driving responsibilities related to trucking including documentation and handling of cargo, driver finances, truck technology and life on the road. Training will focus on ensuring the safety of the driver, the vehicle, its cargo and other road users. A hands on driving segment on situational awareness will ensure that the entry-level driver is well prepared to begin a career in the trucking industry.

CDLA 116 Behind-the-Wheel Procedures
2 credits. 4 hours. (Laboratory 4 hours.)
The focus of this class is on operating the tractor-trailer in various environments. The student will receive a total of 60 hours of one-on-one hands on driving training. The student will perform a minimum of 25 hours of backing exercise and a minimum of 35 hours of on road driving practice. The course will focus on the development of the knowledge, skills, and abilities necessary for becoming a first seat, entry-level driver.

◆ Computer Science Information Systems

MCC-Blue River
Melissa Napper

MCC-Longview
Cynthia Herbert
Dennis Jirkovsky
Gary Johnson

MCC-Business & Technology
Ed McCarty

MCC-Maple Woods
Gary May

MCC-Penn Valley
Edward Durant
Jerry Macke

CSIS 103 Document Processing I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Introduction to simple tabulations, basic business letters, simple reports, centering and basic document layout. Keyboarding using a personal computer.

CSIS 104 Document Processing II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: CSIS 103.
Advanced practice in formatting, paginating, and creating business letters, tabulation, manuscripts, reports, and rough drafts using the computer.

CSIS 105 Technology and Information Management
3 credits. 3 hours. (Lecture 3 hours.)
Introduces information management technology and its impact on social and political environments and life-long learning. Students will investigate how computers and other information technology are ethically applied to today’s changing society. Lecture, demonstration, and hands-on experience will introduce hardware, operating systems, application software and Internet concepts with emphasis on communications and problem solving. Keyboarding skills are highly recommended.

CSIS 111 Microcomputer Hardware Concepts
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course introduces the student to maintenance, upgrading, setup, and expansion of personal computer hardware. Students will explore microcomputer architecture, functions, and components as well as methods and procedures for installation, troubleshooting, and modifications of computer systems.

CSIS 112 Networking Basics: CCNA1
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisites: CSIS 110 or CSIS 115.
This is the first of four courses leading to the Cisco Certified Network Associate (CCNA) designation. CCNA 1 introduces Cisco Networking Academy Program students to the networking field. The course focuses on the following: Network terminology; Network protocols; Local-area networks (LANs); Wide-area networks (WANs); Open System Interconnection (OSI) model; Cabling; Cabling tools; Routers; Router programming; Ethernet; Internet Protocol (IP) addressing; and Network standards.

CSIS 113 Router and Routing Basics: CCNA2
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisites: CSIS 112.
This is the second of four CCNA courses leading to the Cisco Certified Network Associate (CCNA) designation. CCNA 2 focuses on initial router configuration, Cisco IOS Software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students will develop skills on how to configure a router, manage Cisco IOS Software, configure routing protocol on routers, and set the access lists to control the access to routers.

CSIS 115 Introduction to Microcomputer Applications
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Introduction to operation of computer software packages. Specific hands-on work with word processor, spreadsheet, database, and presentation software applications. Keyboarding experience and basic computer skills are recommended.

CSIS 116 Desktop Publishing
3 credits. 5 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: CSIS 103 or CSIS 115.
Concepts and applications of desktop publishing. Hands-on experience with functions of current desktop publishing software on a personal computer.

CSIS 123 Programming Fundamentals
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATH 40/43 or appropriate score on placement test.
Introduction to the principles of good design and the characteristics common to all programming languages. Experience writing code in a particular programming language, and compare to other common programming languages. Write well structured, procedural programs based on problem solving strategies.
CSIS 128 Web Development
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110 or CSIS 115.
An in-depth introduction to the creation of web pages for an
Internet site. Create individual web pages that use all the basic
components, then build a web site that follows good design and
navigation principles. Interactive and multimedia features will be
added to the site. Issues concerning the Internet will be discussed.

CSIS 129 Introduction to E-Commerce
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
Introduction to electronic commerce (e-commerce) from software
driven, hands-on perspective. Introduces theory and practice
of conducting business over the Internet and World Wide Web.
Examines business strategies, technologies, and integration for
e-commerce. Examines e-commerce stores that incorporate
advertising, marketing, branding, and business efficiency goals.
Explores methods how to populate a store catalog, create site-wide
navigation links and publish a store.

CSIS 141 Discrete Structures Comp Science I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 120 or MATH 150.
Mathematical logic, sets, relations, functions, mathematical
induction, Boolean algebra, algebraic structures. The theory
introduced will be applied to appropriate of computer science.

CSIS 143 Database Design and Management
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110 or CSIS 115.
Introduction to database design and management. Topics include
terminology and concepts, data modeling, database design,
relational databases, database query languages, distributed
databases, physical database design, security and implementation.
Aspects of privacy and ethical issues are discussed. Integrates
database theory with a practical hands-on approach.

CSIS 144 Introduction to SQL with ORACLE
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 115.
In-depth, hands-on experience with ORACLE database
management system (DBMS). The student will use SQL to develop
skills in retrieving data; inserting, deleting, and updating records;
and creating tables, records, and other database objects. Basic
relational database design and management concepts will be
discussed.

CSIS 151 Microcomputer Operating Systems Concepts
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course covers fundamental concepts and terminology of both
command line and graphical user interface operating systems
for microcomputers. The student will master management and
optimization of files and be able to install device drivers as well as
compare and contrast major operating systems.

CSIS 1510 Web Development
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course covers fundamentals of communications, data
transmission hardware, protocols, communications software,
and local area networks. It will present students with a foundation
in technical terms and vocabulary that will enable them to deal
effectively with users and providers of communications services.
Hands-on activities will give the student experience using modems
and configuring communications software to access other
computers, networks, BBSs, information providers, and the Internet.

CSIS 162 Introduction to Digital Media
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: CSIS 110 or CSIS 115.
An overview of digital media technology on the PC. The course
focuses on four major themes: (1) the nature of digital media, (2)
its hardware components, (3) its common software applications,
and (4) the actual production of simple programs. Students will
be introduced to instructional design concepts, screen design
strategies, and navigation techniques, producing digital media
components, and actual development of simple digital media
programs.

CSIS 161 Telecommunications and Network Fundamentals
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course covers fundamentals of communications, data
transmission hardware, protocols, communications software,
and local area networks. It will present students with a foundation
in technical terms and vocabulary that will enable them to deal
effectively with users and providers of communications services.
Hands-on activities will give the student experience using modems
and configuring communications software to access other
computers, networks, BBSs, information providers, and the Internet.

CSIS 170 Information Security, Ethics and Risk Assessment
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
The proliferation and development of telecommunication network
technology is examined as gateways or invitations to intrusion.
Ways of investigating the management of risk and security of data
and data systems are presented as a function of design through
recovery and protection. The course assesses the information
security environment within which organizations function today.
Ethical issues such as monitoring employee computer use and
proper limitations on the use of customer data are also discussed.

CSIS 171 LAN Novell Netware
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course teaches the fundamental skills needed to effectively
manage a network including setup of users, directories and
security. Network utilities are taught through hands-on training and
team projects. Students will create logic scripts and menus, and
learn how to effectively monitor and maintain a network.

CSIS 172 LAN Windows Server
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 161.
Fundamental skills necessary to effectively manage a network
including setup of users, directories, and security. Individual and
team projects involving hands-on use of network utilities.
Creation of logon scripts and user profiles. Effectively monitor and maintain
a network.

CSIS 174 Technologies Used on Local Area Networks
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 171.
This course teaches the basic concepts of data communications,
networking, and connectivity including terminology, topologies,
Open Systems Interconnection (OSI) Model, and popular vendor-defined
protocol suites.
CSIS 175 Service and Support of Local Area Networks
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: CSIS 171.
This hands-on course teaches experienced network administrators how to install, maintain, and troubleshoot networks. The course covers installation and upgrade procedures for the latest versions of network operating system software.

CSIS 177 Database Application and Design with Access
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: One Windows based course.
Recommend CSIS 123 as corequisite for those planning to take CSIS 277. In-depth, hands-on experience with Access relational database management software. The student will develop skills in table, query, form and report creation utilizing the graphical user interface provided in Access. Efficient database design and data management strategies along with data normalization will be emphasized.

CSIS 178 Internetworking with TCP/IP
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 172 or equivalent background strongly recommended.
This course teaches the fundamental skills needed to effectively set up, configure, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on popular network operating systems.

CSIS 180 Current Topics
1-4 credits. 1-4 hours. (Lecture 1-4 hours.)
Technical and applicational implications of innovations in hardware and software. Approval of instructor.

CSIS 212 Switching Basics and Intermediate Routing: CCNA3
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisites: CSIS 212.
This is the third of four courses leading to the Cisco Certified Network Associate (CCNA) designation. The course focuses on the following: Variable Length Subnet Masking (VLSM); Intermediate routing protocols such as RIPv2, single-area OSPF, and EIGRP; Command-line interface configuration of switches; Ethernet switching; Virtual LANs (VLANs); Spanning Tree Protocol (STP); VLAN Trunking Protocol (VTP). Students will also be required to apply lessons from CCNA 1 and 2 to a network and should be able to explain how and why a particular strategy is used.

CSIS 213 WAN Technologies: CCNA4
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisites: CSIS 212.
This is the last of four courses leading to the Cisco Certified Network Associate (CCNA) designation. The course focuses on the following topics: Advanced IP addressing techniques; Network Address Translation (NAT); Port Address Translation (PAT); Dynamic Host Configuration Protocol (DHCP); WAN technology and terminology; PPP; ISDN; DDR; Frame Relay and Network management. Students will be required to apply information from CCNA 1, CCNA 2, and CCNA 3 to a network and should be able to explain how and why a particular strategy is used.

CSIS 215 Advanced Microcomputer Applications
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 115.
Implementation and in-depth use of microcomputer software packages. Specific hands-on work with word processor, spreadsheet, database, and presentation software applications.

CSIS 216 Advanced Routing: CCNP1
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisites: CSIS 213.
CCNP 1: Advanced Routing is the first of four courses leading to the Cisco Certified Network Professional (CCNP) designation. CCNP 1 introduces students to scaling IP networks. Students learn to use VLSM, private addressing, and NAT to optimize IP address utilization. The majority of the course content related to learning how to implement the RIPv2, EIGRP, OSPF, IS-IS, and BGP routing protocols. In addition, the course details the important techniques used for route filtering and route redistribution.

CSIS 217 Implementing Secure Converged Wide-area Networks: CCNP2
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 213.
Implementing Secure Converged Wide-area Networks: CCNP2 is the second of four courses leading to the Cisco Certified Network Professional (CCNP) designation. CCNP 2 introduces students to providing secure enterprise-class network service for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access. Topics include: teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening and IOS firewall features.

CSIS 218 Multilayer Switching: CCNP3
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 213.
CCNP 3: Multilayer Switching is the third of four courses leading to the Cisco Certified Network Professional (CCNP) designation. CCNP 3 introduces students to the deployment of the state-of-the-art campus LANs. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable scalable multilayer-switched LANs. Students will develop skills with VLANs, VTP, STP, inter-VLAN routing, multilayer switching, redundancy, Cisco AVVID solutions, QoS issues, campus LAN security, and emerging transparent LAN services. This hands-on lab-oriented course stressed the design, implementation, operation, and troubleshooting of switched and routed environments.

CSIS 219 Network Troubleshooting: CCNP4
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 213.
CCNP4: Network Troubleshooting is the last of four course leading to the Cisco Certified Network Professional (CCNP) certification. CCNP 4 teaches students about troubleshooting network problems. The course focuses on the documenting and baselining a network, troubleshooting methodologies and tools, and Layer 1 to 7 troubleshooting.

CSIS 221 Introduction to Computer Architecture
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: CSIS 123 and MATH 120.
Data representation, number systems, Boolean algebra, sequential logic, inter-register transfer and other micro-operations, computer organization and design, computer software, and input and output organization.
CSIS 223 Object-Oriented Programming
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATH 110 and CSIS 123.
Introduction to object-oriented programming for students with procedural background. Data encapsulation, information hiding, built-in classes and libraries, inheritance, polymorphism, simple graphical user interfaces, user-defined classes and event-driven programming. Basic object-oriented design, maintainable software, software reuse, class hierarchies, design patterns and Universal Modeling Language. Uses object-oriented language.

CSIS 228 Advanced Web Development
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 128.
Building on the topics discussed in CSIS 128, this course provides in-depth coverage of HTML and client-side scripting, with an introduction to current web development topics. Topics include DHTML, e-commerce, security, web database programming, server-side scripting, XML, and web site architecture and configuration.

CSIS 233 Web-Centric Programming
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATH 110 and CSIS 223.
Develop sophisticated GUI programs that work in a World Wide Web or intranet environment. Programs deal with database, multimedia, hypertext, network operating system, client/serve and n-tier configurations, security and privacy.

CSIS 241 Discrete Structures for Computer Science II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 141 and CSIS 223.
Lattice structures and graph theory, algorithms and complexity, recurrence relations, introduction to computability theory and abstract machines. The theory introduced will be applied to appropriate areas of computer science.

CSIS 244 ORACLE Database Programming
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 123 and CSIS 144.
In-depth hands-on experience utilizing the programming language of ORACLE relational database management software package. Students will write and manage PL/SQL program units, including error handling and database triggers. Object types and manipulation, and large objects will also be studied.

CSIS 250 Assembler Programming
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110 and CSIS 123.
Assembler language programming with disk files, various data formats, and debugging techniques.

CSIS 251 Advanced Microcomputer Operating Systems Concepts
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 151.
This covers the advanced concepts and features of a command line and graphical user interface operating systems for microcomputers.

CSIS 262 Advanced Digital Media Design and Development
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 162.
This course expands upon the theories, concepts and practical applications presented in Introduction to Multimedia. Students will learn how to create and edit more complex audio elements, learn to use authoring tools, create an optical media based multimedia application and discuss the most current issues facing multimedia developers.

CSIS 263 Digital Video Production
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 162.
This course expands on the theories and concepts covered in Introduction to Multimedia (CSIS 162), focusing on the creation of digital video. The student will use modern video lighting, recording, digitizing, and editing equipment to create video productions suitable for distribution via multimedia CD-ROM, and discuss the issues facing the digital video developer.

CSIS 265 Graphical User Interface Programming
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 223.
This course is designed for programmers to write programs for operating systems that support Graphical User Interfaces. Topics include graphical user interface concepts, message-driven architecture, multitasking, and threads, dynamic linking and the application programmer interface library. These topics will be discussed from an Object-Oriented design perspective.

CSIS 269 Securing Wireless Networks
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 113.
This introductory course to Wireless LANs focuses on the design, planning, implementation, operation and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands on skills in the following areas: Wireless LAN setup & troubleshooting; 802.11 (a, b, and g) technologies, products & solutions; Radio Technologies; WLAN applications and site surveys; Resilient WLAN products, design, installation, configuration and troubleshooting; WLAN security; Vendor interoperability strategies; Emerging wireless technologies.

CSIS 271 Data Structures and Algorithm Analysis
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 141 and CSIS 223.
An introduction to data organizations, strings, stacks, queues, linear lists, linked-lists, heaps, and trees. These topics will be integrated with the notion of abstract data types. Students will develop skills in the use of abstraction, specification, and program construction using modules. Algorithms used to implement data structures will be introduced and their efficiency analyzed.

CSIS 272 Network Security
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 213.
This course helps students develop the skills needed to succeed in IT related degree programs and prepare for the CCNA Security certification. It provides a theoretically rich, hands-on introduction to network security, in a logical sequence. The goals of this course are to: provide an in-depth, theoretical understanding of network security; provide students with the knowledge and skills necessary to design and support network security; provide an experience-oriented course that employs industry-relevant instructional approaches to prepare students for associate-level jobs in the industry, and enable students to have significant hands-on interaction with IT equipment to prepare them for certification exams and career opportunities.
CSIS 273 Network Security II
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: CSIS 272.
This course focuses on the overall security processes in a network with particular emphasis on hands-on skills in the following areas: Security policy design and management; Security technologies, products and solutions; Firewall and secure router design, installation, configuration, and maintenance; Intrusion Detection System (IDS) implementation using routers and firewalls; Virtual Private Network (VPN) implementation using routers and firewalls.

CSIS 277 Database Programming with Access and Advanced Access Features
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 123 and CSIS 177.
In-depth, hands-on experience utilizing the programming language of Access (Visual Basic for Access), a relational database management software package. This “object-oriented” language assists developers to use the full power of the database management package. Student will also learn to use several advanced features (of the constantly growing number of features) of the Access database management system.

CSIS 281 Support Technologies
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 111, 151, and 161.
Learn concepts and techniques related to computer support staff. Topics will include user needs analysis and assessment, troubleshooting, product evaluation strategies, and computer facilities management.

CSIS 290 Computer Science/Information Systems Field Project
3-5 credits. 6-10 hours. (Field Studies 6-10 hours.)
Actual or simulated on-the-job work experience in the area of degree emphasis.

CSIS 291 Computer Support Practicum
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: Concurrent enrollment or completion of CSIS 111, 151, 161 and 281.
This course provides an environment to apply computer skills to the process of supporting computer hardware, software, and human resources in a business setting. Through actual or simulated on-the-job work experience, the instructor will assist students to integrate the principles and techniques learned in prior coursework.

CSIS 293 Computer Science/Information Systems Major Field Project
6 credits. 12 hours. (Field Studies 12 hours.)
Actual or simulated on-the-job work experience in the area of degree emphasis.

◆ Computer Software

CSOF 80 Beginning Keyboarding
1 credit. 2 hours. (Laboratory 2 hours.)
Introduction to the keyboard. Keying by touch.

CSOF 100 Introduction to Personal Computing
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
This course provides a basic introduction to the personal computer. Through the use of lecture, demonstration and hands-on experience, the student will be introduced to microcomputer hardware, operating systems, and several applications, including word processing, spreadsheet and database.

CSOF 101 Introduction to Word Processing
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisite: Keyboarding proficiency minimum of 35 wpm.
An introduction to word processing.

CSOF 102 Introduction Spreadsheet Applications
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
An introduction to spreadsheet applications.

CSOF 103 Introduction to Database
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Introduction to database.

CSOF 104 Introduction to Microcomputer Operating Systems
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
An introduction to microcomputer operating systems.

CSOF 106 Introduction to Presentation Software
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
This course is a hands-on introduction to presentation software.

CSOF 107 Assistive Technology for Computer Applications
1 credit. 1 hour. (Lecture 0.5 hour. Laboratory 1 hour.)
This course demonstrates assistive technology and how it can assist individuals with disabilities in fulfilling their educational and career goals. Students who take this course, can either focus on their own assistive technology needs or obtain an overview of assistive technology that can be used in their own career field.

CSOF 108 Introduction to Internet
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
This course is a hands-on introduction to the Internet. The student will learn how to gain access to the Internet and use it to send and receive mail, access forums on topics of interest and access other computer systems.

◆ Construction Management

MCC Business & Technology

CSMG 110 Problem Solving/Decision Making
1 credit. 1 hour. (Lecture 1 hour.)
Topics include information to help the supervisor understand that effective decision-making is a vitally important management skill. Processes are examined to assist the supervisor in performance decision-making.

CSMG 120 OSHA and Site Security
1 credit. 1 hour. (Lecture 1 hour.)
The Occupational Safety and Health Act will be studied and interpreted. The student will learn to recognize and avoid dangerous conditions and understand theft prevention techniques for the construction job site.

CSMG 130 Cost Awareness/Production Control
1 credit. 1 hour. (Lecture 1 hour.)
Students will study conditions that must be met if production is to be under control. Participants will be able to use the Short Interval Production Schedule (SIPS) and will recognize factors that affect both the productivity of their work crews and the workers.
CSMG 140 Beginning Print Reading
2 credits. 2 hours. (Lecture 2 hours.)
Participants will learn print reading for construction including how to use symbols, work drawings, survey plats, electrical plans and all other drawings related to construction, as well as the relationship of specifications to drawings.

CSMG 150 Construction Management Leadership
2 credits. 2 hours. (Lecture 2 hours.)
Students will develop understanding of leadership and motivation as it relates to the construction trades. Core areas of concentration will be resources, supervisory role, teams and leadership skill development.

CSMG 160 Construction Project Management
2 credits. 2 hours. (Lecture 2 hours.)
Students will explore the techniques used to manage a construction project for which they are responsible and accountable.

CSMG 170 Communication for Construction Management
2 credits. 2 hours. (Lecture 2 hours.)
Students will understand communication as it relates to the construction industry. The importance of good communication skills in the workplace will be the focus of this course.

CSMG 180 General and Specialty Contractor Dynamics
2 credits. 2 hours. (Lecture 2 hours.)
Students will explore all construction systems and the contractual relationships between the general and subcontractors on a construction job-site.

CSMG 205 Intermediate Print Reading
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: CSMG 140.
Participants will learn how to read prints for energy saving structures. Steel-frame structures and reinforced concrete structures. Site plans, floor plans, elevations riser diagrams and all other construction details.

CSMG 210 Accident Prevention and Loss Control
1 credit. 1 hour. (Lecture 1 hour.)
Participants will learn to think proactively about safety in their daily activities and have a good knowledge of the risks involved in construction projects. They will also understand that there are many economic as well as humanistic consequences of unsafe operations.

CSMG 220 Construction Planning and Scheduling
2 credits. 2 hours. (Lecture 2 hours.)
Participants will study the techniques used to plan and organize jobs for which they are responsible and accountable as well as understand the importance of timely and accurate reporting.

CSMG 230 Productivity Improvement
2 credits. 2 hours. (Lecture 2 hours.)
Participants will study productivity improvement as well as external factors and internal factors that influence productivity. Necessary functions for a productive project will be analyzed.

CSMG 250 Construction Estimating
2 credits. 2 hours. (Lecture 2 hours.)
Participants will learn how to bid on construction projects, including all styles of the bid process and learn follow-up and management techniques.

CSMG 260 Contract Documents
2 credits. 2 hours. (Lecture 2 hours.)
This course will help supervisors effectively use job related documents. Participants will understand contract documents are as important as any piece of equipment on the jobsite.

CSMG 270 Advanced Print Reading
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: CSMG 205.
Participants will learn how to read prints for energy saving, steel-frame and reinforced concrete structures. Other print readings will include site and floor plans, elevations riser diagrams and all other construction details.

Criminal Justice

MCC-Blue River  MCC-Longview  MCC-Penn Valley  MCC-Maple Woods
Gary Hacker  Rick Turner  Karen Curls

CRJU 101 Introduction to Criminal Justice
3 credits. 3 hours. (Lecture 3 hours.)
Philosophical and historical background of law enforcement, courts, and corrections. Organization, purpose, and functions of criminal justice agencies on the local, state, and federal levels. The respective roles of personnel in justice agencies in the United States. Career requirements and opportunities in these fields.

CRJU 105 American Corrections
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: CRJU 101 This course will introduce students to the history of corrections, inmate characteristics, elements of supervision, classification system, and security procedures. Students will examine probation and parole issues, contraband control, prisonization, and re-entry back into the community.

CRJU 118 Legal Aspects of Corrections
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: CRJU 101 Law and procedures are examined and discussed that focus on prisoner’s rights, treatment, and care and custody of inmates, Supreme Court cases regarding inmate rights, and the legal processes accorded a detainee from arrest until released.

CRJU 122 Procedural Law
3 credits. 3 hours. (Lecture 3 hours.)
This course will present to the student the fundamental concepts of constitutional law as applied to law enforcement. Rules of evidence, admissions and confessions, Miranda, arrest procedures, and search and seizure issues will be taught. A review of relevant case law and how it affects contemporary law enforcement practices will also be presented.

CRJU 126 Corrections in the Community
3 credits. 3 hours. (Lecture 3 hours.)
This course examines correctional issues and roles of the community in the reintegration and rehabilitation of offenders. Community-based programs, legislative issues, financial support, community resources and impact of social change on corrections are reviewed.

CRJU 132 Community Relations
3 credits. 3 hours. (Lecture 3 hours.)
This course focuses on the dynamics of police and community relationships. Psychological and sociological aspects of police-community relations from the perspectives of the police and ethnic groups, the debate of unequal justice under the law, and efforts towards partnership are introduced.
CRJU 162 Correctional Psychology
3 credits. 3 hours. (Lecture 3 hours.)
Psychological and sociological theoretical approaches related to the behavior of criminal justice and mental health clients. Diagnostic approaches used in mental health and juvenile or adult correctional settings. Application of case assessment and evaluation process. Individual, group, and family therapy approaches utilized with mental health and criminal justice clients.

CRJU 165 Criminology
3 credits. 3 hours. (Lecture 3 hours.)
The course will introduce students to theories associated with criminal behavior and the manifestation of crime. A historical evolution of crime and punishment is introduced along with concepts, terms, and the criminal justice subsystem.

CRJU 167 Special Topics in Criminal Justice
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Guided readings, discussions, writings and/or field experience(s) in criminal justice. Various topics are offered such as computer crimes and gender injustices. Topics are intended to supplement core courses.

CRJU 168 Juvenile Delinquency
3 credits. 3 hours. (Lecture 3 hours.)

CRJU 169 Family Violence and Sexual Abuse
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to concepts related to interpersonal violence. Categories of abuse studied are spousal, child, sibling, ritual, elderly, gay, and lesbian. The course emphasizes legal, social, and psychological aspects of abuse.

CRJU 200 Internship in Criminal Justice
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: The student must complete 15 hours of Criminal Justice including CRJU 101 before taking this course.
This course provides students with opportunities to gain practical work experience under the supervision of professionals with experience in the criminal justice or legal field.

CRJU 201 Criminal Justice Practicum I
3 credits. 3 hours. (Field Studies 3 hours.)
Prerequisite: The student must complete 5 credit hours of Criminal Justice including CRJU 101 before taking this course.
This course provides students with opportunities to gain practical work experience under the supervision of professionals with experience in the criminal or legal field.

CRJU 202 Criminal Justice Practicum II
3 credits. 3 hours. (Field Studies 3 hours.)
Work in a correctional institution or social agency. Exploration of an area of special interest or need. Exploration of a special problem and development of a written proposal for its solution.

CRJU 203 Criminal Investigation I
3 credits. 3 hours. (Lecture 3 hours.)
This course will present an introduction to modern criminal investigations. This course presents theory of investigation, procedures at a crime scene, collection and preservation of physical evidence, sources of information, questioning of witnesses and suspects, preliminary and follow-up investigations, and case and case trial preparation.

CRJU 204 Criminal Investigations II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: CRJU 203.
This course will present the student techniques and information for investigating deaths, sex crimes, assaults, stealing, robbery, property crimes, burglary, bombs, and arson. Examine evidence, collection, and crime laboratory analysis procedures will also be presented.

CRJU 215 Juvenile Law
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to juvenile law, jurisdiction over and disposition of the juvenile offender, court processing, adjudicatory process, and the Uniform Juvenile Court Act.

CRJU 223 Criminal Law I
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to criminal law. Classification and analysis of crimes and criminal acts. Criminal law as a means of preservation and protection of life and property.

CRJU 224 Criminal Evidence
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: CRJU 101.
Nature, types, and degrees of criminal evidence; rules governing admissibility, competency, and relevancy. Presentation of physical and other material evidence, direct and circumstantial evidence, hearsay rules, and exceptions.

CRJU 228 Fundamentals of Probation and Parole
3 credits. 3 hours. (Lecture 3 hours.)
Historical development of probation and parole from early correctional procedures through modern approaches. Pre-sentence investigation, conditions of probation, and suspended sentences. Prerelease programs, parole conditions, role of probation, and parole conditions, role of probation, and parole personnel.

CRJU 230 Missouri Criminal Law
3 credits. 3 hours. (Lecture 3 hours.)
This course will study the Revised Statutes of Missouri and relevant Federal Statutes relating to general code provisions, justification, homicide, assaults, kidnapping, sexual offenses, drug offenses, robbery, arson, burglary, stealing, armed criminal action, offenses against public order.

CRJU 233 Principles of Management in Criminal Justice Systems
3 credits. 3 hours. (Lecture 3 hours.)
Problems of police administration, functional organization, fundamentals of staff and field operation, planning, budget analysis, recruitment, training assignment, and disciplinary methods. Cooperation with other agencies.

CRJU 236 Correctional Administration
3 credits. 3 hours. (Lecture 3 hours.)
Current administrative and management patterns and functions in correctional agencies and institutions. Concepts of staffing classification, training, budgeting, record keeping, and public relations.

CRJU 244 Group and Individual Counseling in Corrections
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: CRJU 105.
This course introduces students to basic principles of human behavior and techniques for changing attitudes and behaviors within a group or individual settings. Counseling settings will focus on correctional facilities both traditional and community-based and correctional populations.
CRJU 248 Constitutional Law
3 credits. 3 hours. (Lecture 3 hours.)
U.S. Supreme Court rulings that affect law enforcement. Major constitutional decisions, federal statutes, interstate rules, and cases involving constitutional amendments affecting law enforcement jurisdiction and civil liberties.

CRJU 275 Alcohol and Drug Addiction
3 credits. 3 hours. (Lecture 3 hours.)
Exploration of the field of alcohol and drug use, biological, physical, psychological, and social causation theories with particular attention directed toward local and national initiatives in alcohol and drug abuse.

CRJU 280 Addiction Counseling with Special Populations
3 credits. 3 hours. (Lecture 3 hours.)
Cultural, racial, age, and gender differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.

CRJU 285 Addiction Client Management
3 credits. 3 hours. (Lecture 3 hours.)
Case management procedures utilized with addicted clients. Assessment, planning, evaluation, and record keeping employed in addiction treatment. Case presentation techniques. Ethical issues. Case management and recovery.

◆ Dance

MCC-Longview

DANC 100 General Dance
2 credits. 4 hours. (Laboratory 4 hours.)
A studio survey of movement principles common to most forms of dance, including but not limited to ballet, modern dance, jazz, and ethnic dance. Designed for the student who is interested in finding out more about these disciplines before taking a specific technique or style.

DANC 111 Modern Dance I
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: DANC 100 or previous modern dance classes; KCMO Magnet Arts Magnet experience qualifies.
A studio course for beginning students covering basic principles of contemporary modern dance. Students will also learn about the history and vitality of this unique American dance form.

DANC 121 Ballet I
2 credits. 4 hours. (Laboratory 4 hours.)
A studio course for beginning students covering basic principles of contemporary ballet. Students will also learn about the history and variety of this classical dance form.

DANC 122 Ballet II
2 credits. 4 hours. (Laboratory 4 hours.)
A studio course for intermediate students covering intermediate principles of contemporary ballet. Students will also learn about the history and variety of this classical dance form.

Dental Assisting

MCC-Penn Valley
Rose Gupta     Hema Udupa

DENA 100 Introduction to Dental Assisting
1 credit. 1 hour. (Lecture 1 hour.)
This course is a pre-requisite for admission to the Dental Assisting Program.
Dental terminology, roles of dental assistant, scope of dentistry

DENA 101 Body Structure and Function
2 credits. 2 hours. (Lecture 2 hours.)
Admission to Dental Assisting Program is required. Basic anatomy and physiology for the Dental Assistant.

DENA 102 Head and Neck Anatomy
2 credits. 2.5 hours. (Lecture 1.5 hours. Laboratory 1 hour.)
Prerequisite: Admission to the Dental Assisting Program.
Admission to Dental Assisting Program is required. Utilizes a systems approach to the gross anatomy of the head and neck with emphasis on the maxilla and mandible and oral tissues, neuromuscular and circulatory function, supporting structures and the temporomandibular joint and also study of oral embryology and histology.

DENA 103 Dental Anatomy
2 credits. 4 hours. (Laboratory 4 hours.)
Admission to Dental Assisting Program is required. Introduces students to a detailed study of crown and root morphology of both primary and permanent dentition. Eruption Schedule and Numbering System.

DENA 104 Dental Emergencies and Pharmacology
1 credit. 1 hour. (Lecture 1 hour.)
Admission to Dental Assisting Program is required. An overview of emergencies common to the dental office setting. Students will gain knowledge in emergency drugs, allergic reactions and drug related emergencies. Also emphasized are specific medical conditions related to treatment, management of medical emergencies, pharmacology related to dental.

DENA 105 Dental Materials I
2 credits. 4 hours. (Laboratory 4 hours.)
Admission to Dental Assisting Program is required. Basic knowledge and manipulation of waxes, temporary crowns, custom trays, alginate materials, impression materials, bite registration materials, cements, varnishes, bases and liners.

DENA 108 Oral Microbiology and Infection Control
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Admission to Dental Assisting Program is required. An overview of microbiological aspects of health and disease with emphasis on sterile process and disinfection techniques.

DENA 110 Chairside Assisting I
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Admission to Dental Assisting Program is required. Dental terminology and responsibilities of a dental assistant in the dental operatory to include patient preparation and utilization of rubber dam, matrix, anesthetic, fluoride, wedge, amalgam and composite procedure and coronal polishing techniques.

DENA 115 Dental Radiology I
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: DENA 102.
Radiography history, characteristics of radiation production, film composition, x-radiation terminology, effects of radiation exposure, and protection. Exposing, processing, and mounting of radiographs taken on a radiographic manikin.
DENA 125 Clinical Experience I
2 credits. 6 hours. (Clinical 6 hours.)
Prerequisite: Admission to the Dental Assisting Program and completion of CPR for healthcare workers.
Clinical experience in operative and preventive dental procedures utilizing four-handed dentistry in the clinic at the University of Missouri-Kansas City School of Dentistry.

DENA 126 Dental Assistant Seminar I
1 credit. 1 hour. (Lecture 1 hour.)
Prerequisite: DENA 101, 102, 105, 110, 115, and 125.
Practice and preparation for Dental Assisting National Board (DANB).

DENA 205 Dental Materials II
3 credits. 6 hours. (Laboratory 6 hours.)
Prerequisite: DENA 105.
Advanced manipulation of dental cements, amalgam, esthetic restoratives (composites), alginate, gypsum products, sealants and various impressions materials.

DENA 210 Chairside Assisting II
5 credits. 9 hours. (Lecture 1 hour. Laboratory 8 hours.)
Prerequisite: DENA 110.
Specialty area of dentistry to include orthodontics, periodontics, prosthodontics, oral surgery, endodontics, pediatric dentistry and geriatric dentistry. Includes procedures, instruments and current concepts for assisting in these areas.

DENA 215 Dental Radiology II
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: DENA 115.
Radiographic techniques, procedures, and infection control emphasized. Practical experience in exposing, processing and mounting radiographs taken on patients at the University of Missouri-Kansas City School of Dentistry and in private practice offices (general and specialty).

DENA 225 Dental Office Management
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: Enrollment in the Dental Assisting Program.
Principles of business management in the dental office. Control of the appointment book, filing, financial management, insurance forms, supply inventory, and recall systems by conventional and computerized methods. Dental computer applications and use. Hands-on experience in private practice offices and/or clinic DENA 250.

DENA 230 Oral Pathology
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: DENA 108 and 110.
An overview of diseases of the human body, including basic cell tissues, with specific emphasis on diseases of the face and mouth.

DENA 250 Clinical Experience II
4 credits. 16 hours. (Clinical 16 hours.)
Prerequisite: DENA 125.
Advanced clinical experience in front office, at chairside, and in radiographic and laboratory assisting techniques in general and specialty dental offices and clinics.

DENA 260 Dental Assisting Seminar
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: DENA 125.
Preparation for the Dental Assisting National Board Examination (DANB) and for successful employment. Clarification of prior material by discussion and dialogue between students and instructors. Preparation of personal resume and job application. Demonstrate interview techniques.

DENA 270 Expanded Functions in Restorative Dentistry
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Student must meet one of the following:
1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.
Dental restorative materials with emphasis on placing and carving amalgam and composite restorations and palliative care of dental emergencies.

DENA 271 Expanded Functions in Orthodontics
0.5 credit. 1 hour. (Laboratory 1 hour.)
Prerequisite: Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.
Orthodontic procedures with emphasis on impressions, bending archwires, placement and removal of orthodontic bands and brackets, and palliative care of orthodontic emergencies.

DENA 272 Expanded Functions in Periodontics
0.5 credit. 1 hour. (Laboratory 1 hour.)
Prerequisite: Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.
Periodontal procedures with emphasis on air-brasive coronal polishing and placement of periodontal dressings.

DENA 273 Expanded Functions in Prosthetic Dentistry
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Student must meet one of the following:
1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.
Prosthodontic procedures with emphasis on prosthodontic impression techniques, cementation of dental appliances, extr-oral adjustment of fixed and removable prostheses, placement of soft-tissue liners.

◆Economics
MCC-Blue River  MCC-Longview  MCC-Maple Woods
Hossein Bahmaie  Jill Kingsbury
MCC-Penn Valley

ECON 110 Introduction to Economics
3 credits. 3 hours. (Lecture 3 hours.)
ECON 210 Macroeconomics
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 40 or 40L of satisfactory score on the placement test.
A basic examination of the principles of economics that apply to the economic system in the aggregate. Topics include opportunity costs, gains from trade, demand and supply, determination of aggregate output, employment, inflation, and exchange rates, and the role of fiscal and monetary policy in the U.S. and world economy.

ECON 211 Microeconomics
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 40 or 40L of satisfactory score on the placement test.
A basic examination of the microeconomic behavior of individual consumers, firms, and markets in the domestic and world economy. Topics include opportunity costs, gains from trade, demand and supply, production, market structures, and externalities and public goods.

Education
MCC-Blue River  MCC-Longview  MCC-Maple Woods
Barbara Eubank  Russell Powlas
MCC-Penn Valley  Carrie Pickerel-Brooks

EDUC 131 The Paraprofessional Educator
2 credits. 2 hours. (Lecture 2 hours.)
This course will assist students in understanding the career of a paraprofessional educator. Emphasis is placed on the most typical classroom placements for paraprofessionals - special education and ELL classrooms - and the skills required to serve as a support to the lead instructor. The growth, expansion, and new requirements of the career will be detailed. Professionalism in terms of ethics, teamwork, goal sharing, collaboration, and continued career growth will be promoted.

EDUC 160 Literacy Instruction for Paraprofessionals
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101. This course focuses on helping paraprofessionals work with students on key reading and writing skills. Emphasis is placed on teaching student explicit, systematic approaches to skills based on state standards. Key reading (phonemic awareness, fluency, comprehension and vocabulary) and writing elements are addressed. Students will develop a variety of assessment, instructional, and remediation skills to be used in the classroom.

EDUC 162 Math Instruction for Paraprofessionals
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 100 or higher.
This course will assist student in understanding mathematical concepts and relationships commonly needed for paraprofessionals in elementary school programs. A review of basic math concepts and procedures will be provided. The class will then proceed to elaborate on teaching techniques and student learning needs. Emphasis will be placed on State and the National Council of Teachers of Mathematics (NCTM) Standards.

EDUC 190 Art for Elementary Teachers
3 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prepares students to include art in their elementary classrooms. Creative learning activities are provided to promote visual awareness in children pre-K through grade 8. Emphasis is placed on the development and motivation of children through creative art projects. Art production, curriculum integration, criticism, aesthetics, and the evaluation of art works are included.

EDUC 200 Foundations of Education
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101.
This course is designed to examine the historical, philosophical, sociological, political, economic and legal foundations of the American public education system. Students will explore the nature of school environments, design and organization of school curricula, and characteristics of effective schools and instruction in grades P-12. Educational structures, practices and projections for the future will be studied.

EDUC 201 Teaching Profession With Field Experience
3 credits. 32.5 hours. (Lecture 2.5 hours. Field Studies 30 hours.)
Prerequisite: ENGL 101.
This course provides students an opportunity to observe teaching and learning for thirty (30) hours or more in P-12 classrooms. The student is introduced to the requirements for teacher preparation and certification. Students will examine characteristics of effective teaching. The course is designed to assist the student in determining if a career in teaching is an appropriate goal.

EDUC 205 Physical Education for Elementary Teachers
2 credits. 2 hours. (Lecture 2 hours.)
Theory and practice of physical education activities for elementary school children and ways to integrate these activities throughout the curriculum.

EDUC 210 Music for Elementary Teachers
2 credits. 2 hours. (Lecture 2 hours.)
A professional music educational skills course designed to focus on basic music teaching for elementary teachers, grades pre-K through grade eight. The professional portfolio will be expanded to include a collection of elementary music artifacts that can provide evidence of professional competency. Strategies and techniques for integrating music throughout the elementary curriculum are stressed. There will be opportunity for micro-teaching.

EDUC 215 Children's Literature for Elementary Teachers
3 credits. 3 hours. (Lecture 3 hours.)
A survey and history of literature appropriate for children from pre-K through grade eight. Criteria for selection and evaluation of children's literature is included. Techniques for using literature in the elementary classroom are emphasized. Micro-teaching opportunities are provided.

EDUC 235 Diversity Issues in Education
3 credits. 3 hours. (Lecture 3 hours.)
This course will survey the major social and psychological processes involved in diversity and human relations, and the way these processes impact teaching, learning, and other human interactions. The course will cover theories of multicultural education, as well as use an experiential model for making the theoretical knowledge relevant in the individual educator's life.
EDUC 238 Classroom Management
3 credits. 3 hours. (Lecture 3 hours.)
The student will develop strategies for successfully managing classroom environments. Focus is on educator as guide/facilitator with a range and variety of choices of management plans. Emphasis will be placed on student recognizing the developmental appropriateness of a management plan for varying classroom settings. Student will be charged with identifying personal philosophy of management, and a theoretical management plan that will be congruent with beliefs and values and is supportive of professional ethics, laws, school policy, student achievement, and human dignity.

EDUC 239 Internship in Paraprofessional Education
3 credits. 90 hours. (Field Studies 3 hours.)
Prerequisite: The student must complete 15 credit hours of Education courses before taking this course. The student must complete 15 credit hours of Education courses before taking this course. This course provides student with opportunities to gain practical work experience under the supervision of a certified classroom teacher and a school administrator. Student must complete 90 clock hours in a PreK-12 classroom setting.

EDUC 270 Educational Psychology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
This course is designed to help students relate the application of psychological principles to teaching, learning and assessment, and the education practice in P-12 classrooms. It will focus on the learner and the learning process, teacher characteristics and classroom processes that increase student motivation. Student diversity and appropriate instructional strategies for students with special needs will also be introduced.

EDUC 280 Technology for Teachers
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101.
In this course students will learn how to integrate instructional technology into the P-12 classrooms. Students will study a variety of software program and telecommunication tools. The focus will also be on social, ethical, legal and human issues surrounding the use of technology.

EDUC 285 Education of Exceptional Learners
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: EDUC 270.
This survey course is an introduction to exceptional learners and their education in grades P-12. Students will attain knowledge, skills, and dispositions that will enable them to work effectively with exceptional learners in general education or special education.

EDUC 299 Special Topics in Paraprofessional Education
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Guided readings and discussion in Paraprofessional Education. Topics and material will vary by instructor each semester. Specific reading list activities and writing assignments to be determined by instructor. This course is intended to go into more detail and research beyond the material covered in the teacher education and/or paraprofessional educator courses.

◆ Electric Utility Line Technician
MCC-Business & Technology
Susan Blaser

LINE 104 Pole Climbing Skills
5 credits. 8 hours. (Lecture 2 hours. Laboratory 6 hours.)
This course introduces the student to proper and safe methods of wood pole climbing. The student must master climbing wood pole structures with the use of all arrest equipment. The student will be taught two methods of climbing: free-climbing while tethered to a fall arrest device and hitchhiking with a fall arrest safety device. Upon completion of this class, the student will be able to demonstrate the ability to safely climb a wooden pole and conduct work practices associated with the electrical utility industry.

LINE 105 Electrical Distribution Systems
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
The student will learn how power is generated, transported and distributed. Different methods and types of electrical power transmission and distribution systems, structures and equipment will be emphasized. The student will learn how the Power Grid is interlocked across multiple utilities.

LINE 106 Safety and Accident Prevention
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
The student will learn the hazards and safe work practices of an electrical line technician. The student will learn CPR, First Aid and OSHA rules and regulations associated with the utility industry.

LINE 210 Pole Framing and Construction Specifications
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: LINE 104 and 106.
This will give the student a working knowledge of the line construction specifications and knowledge of pole framing on the ground and aerial framing. The student will be able to recognize the different types of materials used for the different types of construction by sight and definition. They will also be introduced to the different sizes and types of overhead and underground conductors.

LINE 215 Setting and Replacing Poles
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: LINE 104 and 106.
The student will learn the basic principles in setting and replacing poles. There will be an emphasis on the safety, the proper use vehicle grounding practices and manual pole setting. The student will gain working knowledge of temporary pole supports, rigging, minimum approach distances and worksite hazard analysis.

LINE 237 Transformer Theory and Installation
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: INTE 110, and LINE 106 and 210.
The student will gain a thorough knowledge of transformer theory and installation. Single-phase and three-phase configurations with different types of connections will be included. Topics will include: over voltage and over current protection, equipment grounding, cutout protection, proper cover-up techniques, lightning arrestor application and installation, basic troubleshooting practices and current and potential transformers use and safety.
Basic Life Support Course Certification.
Successful completion of the course qualifies the student for resuscitation according to American Heart Association standards. Cardiopulmonary resuscitation skills, including adult, child, and infant.

Overview of the Emergency Medical Services system. Current clinical observations. Successful completion makes student eligible to take the National Registry of Emergency Medical Technicians examination for EMT-Basic.

Emergency Medical Services

William Bishop  Michael Peters  Harold Kenyon

Emergency Medical Services

MCC-Penn Valley

EMS 110 First Responder
3 credits. 3 hours. (Lecture 3 hours.) Overview of the Emergency Medical Services system. Recognizing the mechanisms of injury. Patient assessment and management techniques. Patient packaging techniques for evacuation.

EMS 150 Emergency Medical Technician - Basic
8 credits. 11 hours. (Lecture 5 hours. Laboratory 4 hours. Clinical 2 hours.) Prerequisite: The student must be 18 years old by the end of the course and must hold a high school diploma or GED. Basic life support and emergency care. Signs, symptoms and procedures of field management for emergency medical situation.

EMS 200 Introduction to Paramedic Care
4.5 credits. 5 hours. (Lecture 4 hours. Laboratory 1 hour.) Prerequisite: BIOL 108, or BIOL 109, or BIOL 110 & 210, admission to the Paramedic Program, and Missouri licensed EMT or equivalent from another state.

LINE 241 Conductor Installation and Metering
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.) Prerequisite: LINE 237.
The student will gain extensive knowledge of single and three-phase watt-hour meters; meter locations; and the different types of copper and aluminum conductors. The student will also gain practical experience in the sizing, proper connection types, installation, stringing, sagging, dead-ending, and splicing of overhead and underground service conductors.

LINE 250 Fusing, Substations and Voltage Regulation
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.) Prerequisite: LINE 241.
The student will be familiarized with the different types and methods of system coordination, substations, capacitors, voltage regulators and auto-transformers, oil reclosures, sectionalizers and the application/coordination of fuses will also be gained. Practical experience in the grounding, inspection, maintenance and operation of basic substations will be expanded. The student will be familiarized with installation and operation of single and three-phase regulators, gang operated air break and load break switches, and substation fuses and reclosures.

LINE 251 Installation and Troubleshooting Underground Distribution Systems
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.) Prerequisite: LINE 250.
The student will have a working knowledge of the different types of underground distribution systems, able to identify the types of cable used in underground distribution, describe proper cable installation procedures, demonstrate proper cable preparation techniques using manufacturers’ specifications for splicing and terminating cable, list safe work procedures and demonstrate the proper techniques for isolation and grounding underground cable sections.

LINE 252 Advanced Pole Climbing
3 credits. 4 hours. (Lecture 1 hour. Laboratory 4 hours.) Prerequisite: LINE 104 and 106.
This course reinforces to the student the proper and safe methods of wood pole climbing. The student must master climbing wood pole structures with the use of fall arrest equipment while performing various detailed tasks. The student will spend extended periods of time on the pole while constructing complex assignments. The student will be taught pole top rescue methods. Upon completion of this class, the student will be able to demonstrate the ability to safely climb a wooden pole and conduct safe work practices associated with the electrical utility industry.

EMS 100 Basic Emergency Patient Care
1 credit. 1 hour. (Lecture 1 hour.) Overview of the Emergency Medical Services system. Current cardiopulmonary resuscitation skills, including adult, child, and infant resuscitation according to American Heart Association standards. Medical, traumatic, and environmental emergencies review. (Successful completion of the course qualifies the student for the Basic Life Support Course Certification.)
### EMS 230 Care of Women and Children
2.5 credits. 3 hours. (Lecture 2 hours. Laboratory 1 hour.)
Prerequisite: EMS 224.
This course covers womens health issues that the Paramedic may encounter. Additionally, the student will be trained to handle emergency childbirth and to provide emergency care to pediatric patients. The American Heart Association and American Academy of Pediatrics Pediatric Advanced Life Support (PALS) course is offered as well.

### EMS 236 Prehospital Care Integration
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: EMS 230.
This course provides the learner with the opportunity to link information learned in proceeding coursework with the realities of patient care in the clinical and field setting. Challenging the student to think critically about patient assessment and to develop scene management and leadership skills.

### EMS 254 Paramedic Hospital Clinical
5.5 credits. 26 hours. (Clinical 26 hours.)
Prerequisite: EMS 206.
This course provides the learner with the opportunity to link information learned in preceding coursework with the realities of patient care in the clinical setting. Challenging the student to think critically about patient assessment and to perform the patient assessment and practice skills on the live patient, in a supervised hospital environment.

### EMS 258 Paramedic Field Internship
5.5 credits. 26 hours. (Field Studies 26 hours.)
Prerequisite: EMS 230.
This course provides the student with the opportunity to link information learned in preceding coursework with the realities of patient care in the field setting. Challenging the student to think critically about patient assessment and to perform the patient assessment and practice skills on the live patient, in a supervised environment.

#### Engineering

**MCC-Business & Technology**

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>ENGR 101</td>
<td>Introduction to the Profession</td>
<td>1</td>
<td>1</td>
<td>Information relative to fields of engineering, necessary preparations and working conditions.</td>
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<tr>
<td>ENGR 104</td>
<td>Programming for Engineers and Scientists</td>
<td>3</td>
<td>4</td>
<td>Prerequisite: MATH 120 and MATH 130, or MATH 150.</td>
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<tr>
<td>ENGR 113</td>
<td>Engineering Design Microcomputer Applications</td>
<td>3</td>
<td>5</td>
<td>Prerequisite: MATH 110. Introduction to software tools (computer aided design drafting, word processing, spreadsheets) with application to professional engineering practice. Principles of engineering design. A semester long group project designed and built by students in an integral part of the course.</td>
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**MCC-Longview**

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<th>Instructor</th>
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<tr>
<td>Randall Forchee</td>
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<td>Dan Justice</td>
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**MCC-Maple Woods**

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<th>Course Code</th>
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<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 121</td>
<td>Metallurgy for Engineers</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: CHEM 111. Introduction to the structure and properties of metals and alloys. Introduction to processes used to modify the structure and properties of metallic materials, including alloying, deformation and heat treating.</td>
</tr>
<tr>
<td>ENGR 215</td>
<td>Engineering Statistics and Computation</td>
<td>3</td>
<td>4</td>
<td>Prerequisites: MATH 190. An introduction to statistical methods in engineering dealing with basic probability, statistical distribution functions, confidence intervals, significance tests, and sampling. Limited treatment of curve-fitting and time-series analysis. Structured programming in Matlab.</td>
</tr>
<tr>
<td>ENGR 223</td>
<td>Thermodynamics and Heat Transfer</td>
<td>4</td>
<td>4</td>
<td>Prerequisites: MATH 190 and PHYS 220. Properties of pure substance, work and heat, the first law of thermodynamics, the second law of thermodynamics, entropy, irreversibility, exergy (availability), and some power and refrigeration cycles. Introduction to heat transfer, thermal conduction, convective heat transfer, and thermal radiation.</td>
</tr>
<tr>
<td>ENGR 229</td>
<td>Statics</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: MATH 190 and PHYS 220. Resultants of force systems, including couples in two and three dimensions, centroids, equilibrium of force systems, friction, and vector methods, moments of inertia, shear and bending moment diagrams.</td>
</tr>
<tr>
<td>ENGR 230</td>
<td>Dynamics</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: ENGR 229. Principles of kinematics, kinetics, and moments of inertia. Engineering applications and vector methods.</td>
</tr>
<tr>
<td>ENGR 233</td>
<td>Circuit Analysis I</td>
<td>4</td>
<td>4</td>
<td>Prerequisites: PHYS 221 or concurrent enrollment in PHYS 221. DC Steady-state Circuit analysis, Node and Mesh analysis, Independent and Dependent Sources, Capacitors and Inductors, Op-Amps, Transient analysis, AC Analysis.</td>
</tr>
<tr>
<td>ENGR 240</td>
<td>Mechanics of Materials</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: ENGR 229. Introduction to the techniques of determining stresses and strains in mechanical and structural components.</td>
</tr>
</tbody>
</table>

#### Engineering Technology

**MCC-Business & Technology**

<table>
<thead>
<tr>
<th>Instructor</th>
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<tbody>
<tr>
<td>William Allyn</td>
</tr>
<tr>
<td>Joseph Roche</td>
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</tbody>
</table>

**MCC-Penn Valley**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETEC 110</td>
<td>Basic Electronics</td>
<td>3</td>
<td>4</td>
<td>Prerequisite: Completion of or concurrent enrollment in MATH 103. This course is an introductory course for the individual who is moving into an industrial maintenance or related activity. Behavior of electricity, sources of electricity, Ohms’ and Watts’ laws, electrical power distribution, transformers, electrical safety, electrical measurements and basic components are covered.</td>
</tr>
</tbody>
</table>
ETEC 111 Microcomputer Hardware Repair
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSIS 110.
This course introduces the student to maintenance, upgrading, setup, and expansion of personal computer hardware. Students will explore microcomputer architecture, functions, and components as well as methods and procedures for installation, troubleshooting, and modifications of computer systems. Emphasis will be on the use of microcomputer hardware and software used in an industrial setting.

ETEC 118 AC Circuit Analysis
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: ETEC 110 or INTE 110.
This course covers AC circuits, complex numbers, inductance, capacitance, RL and RC circuits, RC time constants and transients, resonance, transformers, relays, and switches.

ETEC 130 Digital Electronics
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: Completion of or concurrent enrollment in ETEC 110 or INTE 110.
The course covers basic digital gates, logic circuits, timers, counters, shift registers, flip flops, analog to digital and digital to analog conversions, and the conversions between different number systems. An introduction to the architecture of the microprocessor is also included.

ETEC 152 Engineering Graphics and CADD I
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisites: MATH 40/43.
Introduction to engineering communications and basic computer aided drafting/design (CADD). Emphasis on technical sketching, orthographic projection, drawing layout, drafting and CADD standards and conventions, dimensioning, sectioning, annotation and basic design principles. Foundation for computer aided drafting/design including file management, basic drawing commands, basic editing commands, layering, blocks and wblocks, dimensioning, polylines, hatching and plotting.

ETEC 153 Descriptive Geometry
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: ETEC 152.
Graphic solutions of spatial relationships between points, lines, angles, planes and solids. Includes mechanical, architectural and civil problems and concepts. Determining true length, angle, visibility, bearing, slope, intersections, parallelism and perpendicularity using CADD and technical sketching.

ETEC 155 Introduction to Residential Architectural Drafting
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152.
Introduction to residential architectural design and drafting. Course includes residential construction materials and methods, building codes, site selection, home styles, foundation plan, floor plan, electrical and plumbing plans, roof plan, elevations and wall sections, window and door schedules, energy efficiency and community considerations. An emphasis will be placed on design. A complete drawing set will be produced using CADD.

ETEC 169 CADD I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Basic computer aided drafting and design (CADD) using a current industry standard CADD software package. Includes file management, basic drawing and editing commands, blocks and wblocks, dimensioning, polylines, hatching, plotting, intermediate drawing and editing commands and CADD standards (layers, text styles and dimension styles).

ETEC 170 CADD I, Alternate
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152.
An introduction to computer aided drafting/design using a selected CADD package. Topics will be based on the CADD package selected.

ETEC 189 ETEC Internship I
1 credit. 5 hours. (Field Studies 1 hour.)
Prerequisite: ETEC 152.
This course is designed to give the student real world experience in an engineering department of an engineering or architectural office. The student will strengthen design techniques as well as the soft skills required of modern industry under the supervision of a mentor.

ETEC 190 ETEC Internship II
2 credits. 10 hours. (Field Studies 2 hours.)
Prerequisite: ETEC 152.
This course is designed to give the student real world experience in the an engineering department of an engineering or architectural office. The student will strengthen design techniques as well as the soft skills required of modern industry under the supervision of a mentor.

ETEC 191 ETEC Internship III
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisites: ETEC 152.
This course is designed to give the student real world experience in an engineering department of an engineering or architectural office. The student will strengthen design techniques as well as the soft skills required of modern industry under the supervision of a mentor.

ETEC 199 Special Projects in ETEC
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Prerequisite: ETEC 152.
Independent study in Engineering Technology or related areas under supervision of the faculty member.

ETEC 200 Applied Statics & Mechanics
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: MATH 104 or MATH 130.
Foundation for mechanical and structural design calculations and procedures. Topics include vectors, free body diagrams, force analysis, truss design, column and beam selection, bearing plate design, and bolted connections.

ETEC 210 Introduction to Commercial Architecture
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: ETEC 152 and 155.
Introduction to commercial architecture and structures. Topics include commercial structure types, site considerations, foundation plans, structures, construction materials and methods, cost estimating and environmentally friendly design practices. An emphasis will be placed on building systems and building system planning.

ETEC 211 Building Information Modeling
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152.
This course will introduce the student to the technology of Building Information Modeling. Building design, layout and components will be created. Levels, views detailing, scheduling, elevations and sections will be covered.
ETEC 212 Computer Integrated Manufacturing & Robotic Control
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
This course applies principles of robotics and automation to Computer Aided Design (CAD). Course builds on computer solid modeling skills developed in Introduction to Engineering Design, and Design & Drawing for Production. Students use Computer Numerical Control (CNC) equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing, and design analysis are included.

ETEC 220 Analog Devices
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: ETEC 118.
This course covers semiconductor devices and their applications. Diodes, rectifiers, power supplies, limiters, clamps, voltage regulators, and transistors will be presented, along with various small and large signal and multistage amplifier circuits. This course also covers field effect transistors, oscillators and trigger devices.

ETEC 230 Microcontroller Architecture
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: ETEC 130.
This course covers the operation and architecture of the basic microcontrollers, programming commands and system design. Also includes an introduction to robotics.

ETEC 240 Design Project
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ETEC 220 or 230.
An engineering technology research course in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses.

ETEC 258 Introduction to Machine Design
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152.
An introduction to machine design with an emphasis on current materials and standard machine parts. Topics include advanced dimensioning, basic tolerancing, gearing, threads and thread notes, welding and weld symbols, bearings, adjustment and the drawing set. Course includes a comprehensive design project with drawing set.

ETEC 262 Technical Illustration
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152.
An introduction to a professional technical illustration and animation software tool. Topics covered are object modeling and editing, lights, shadows, materials, backgrounds, scenes, images and basic animation. A comprehensive final project is included in the course.

ETEC 265 Introduction to Civil Design
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: ETEC 152.
An introduction to civil drafting and design using surveying and engineering data to draw civil engineering plans. Topics included are legal descriptions, plan and profile drawings, topographic mapping, cross-sections, and required calculations. An introduction to a Civil specific CADD package is included.

ETEC 268 Structural Steel Blueprint Reading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ETEC 152.
Introduction to structural steel and structural steel blueprints. Topics include steel as a material, structural steel shapes, drawing types, connection methods and fabrication methods. The AISC Manual of Steel Construction will be introduced and used in reference to structural members and drawings.

ETEC 269 Computer Aided Design II
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: ETEC 152 or ETEC 169.
Advanced computer aided drafting and design (CADD). Advanced dimensioning and tolerancing techniques, attributes, advanced drawing aids, file management and basic customization. Effective use of model space, paper space and viewports. An introduction to three-dimensional wire frames, surface models, solid models and rendering tools.

ETEC 270 Parametric Modeling
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152 or 169.
An in-depth introduction to three-dimensional parametric modeling. A current release of an industry parametric modeler will be used to produce three-dimensional part files, assemblies, presentations and orthographic production documents. Students will work on individual and group projects to solve simulated industry design problems.

ETEC 271 Parametric Modeling, Alternate
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: ETEC 152 or ETEC 169.
An in-depth introduction to three-dimensional parametric modeling. A current release of an industry parametric modeler will be used to produce three-dimensional part files, assemblies, presentations and orthographic production documents. Students will work on individual and group projects to solve simulated industry design problems.

ETEC 275 Build Project
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ETEC 220.
This is a capstone course, and the student should be in the final semester of the program. The student will work with the instructor to build an electronic project, which will require a demonstration of proficiencies in the assembly, testing, and troubleshooting phases of electronics.

English

MCC-Blue River
Theresa Hannon
Richard Higgason
Richard L. Nunez
Robyn McGee
Emily Morgan
David Smith

MCC-Longview
Zoe Albright
Kurt Canow
Anne Dvorak
Morsie Edgerson
Diana Grahn
Terri Lowry
Dawniele Robinson-Walker
Jan Rong
Pat McKeown-Sparks
Erik Sullivan

MCC-Maple Woods
T. Joel Conway
Michelle Potts
Melissa Renfrow
David Sharp
Michael Warren
Stephanie Zerkel-Humbert
Casey Reid
Richard L. Nunez
Janette Renfrow
Richard Higgason
Kurt Canow
Anne Dvorak
Morsie Edgerson
Diana Grahn
Terri Lowry
Dawniele Robinson-Walker
Jan Rong
Pat McKeown-Sparks
Erik Sullivan
ENGL 28 Basic Writing Skills I
3 credits. 3 hours. (Lecture 3 hours.)
Students will work toward writing clear, correct, and effective sentences and paragraphs; incorporating their use in extended pieces of writing.

ENGL 30 Basic Writing Skills II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ENGL 28 or satisfactory score on placement test.
Students will work toward understanding and utilizing the conventions of Standard American English, sentence structure, and writing focused, adequately supported and mechanically sound paragraphs and essays.

ENGL 101 Composition & Reading I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 30 or appropriate placement test score.
Focus on instruction in the composing process that includes exploration of ideas through reading, methods of writing development, and use of writing conventions. Instruction takes students from reflective expression to critical analysis through writing.

ENGL 101R Composition and Reading I - Reentry
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisite: ENGL 30 or a satisfactory score on the English placement test.
Focus on instruction in composing process that includes exploration of ideas through reading, methods of writing development, and use of writing conventions. Instruction takes students from reflective expression to critical analysis through writing. The reentry course provides a campus orientation, an introduction to campus resources, and strategies for memory, listening, note taking, test preparation, test taking, stress management, and time management.

ENGL 102 Composition & Reading II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101.
Students are asked to analyze and evaluate persuasive essays for the writer's use of logical thinking. Students will develop research skills for the purpose of creating documented essays that reflect critical thinking and logical argument.

ENGL 104 News Writing and Reporting I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101.
This course offers instruction and practice in writing and editing copy for college news publications. Students will contribute work for publication. The course also includes analysis and discussion of professional and college newspapers.

ENGL 105 News Writing and Reporting II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 104.
Continued instruction and practice in writing and editing copy for college news publications. Students will contribute work for publication. Introduction to production skills.

ENGL 109 Introduction to the Electronic Library
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
A hands-on exploration of electronic technology that teaches students information-seeking strategies and critical thinking skills needed for information literacy.

ENGL 111A Vocabulary
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

ENGL 129 Directed Reading
1-3 credits. 1-3 hours. (Independent Study 1-3 hours.)
Directed reading in a field chosen by the student with the advice and direction of the instructor. In-depth investigation of a particular author, genre, or area of literature.

ENGL 129B Directed Reading
2 credits. 2 hours. (Independent Study 2 hours.)
Directed reading in a field chosen by the student with the advice and direction of the instructor. In-depth investigation of a particular author, genre, or area of literature.

ENGL 129C Directed Reading
3 credits. 3 hours. (Independent Study 3 hours.)
Directed reading in a field chosen by the student with the advice and direction of the instructor. In-depth investigation of a particular author, genre, or area of literature.

ENGL 198 Service-learning in English
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
This is an experiential learning opportunity that links concepts and principles of English to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the speech or drama course topic and learning objectives.

ENGL 201 Creative Writing I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 101.
Various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction.

ENGL 202 Creative Writing II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 201.
Continuation and advanced study of the primary themes found in Creative Writing I, including various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction. More in-depth analysis of the processes of manuscript preparation and submission.

ENGL 203 Creative Writing III
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 202.
Continuation and advanced study of the primary themes found in Creative Writing II, including various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction. More in-depth analysis of the processes of manuscript preparation and submission, including the preparation of longer fiction, collections of poetry and specialized scripts.

ENGL 204 Creative Writing IV
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 203.
Continuation and advanced study of the primary themes found in Creative Writing III, including various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction. Practice in submitting works for publication, including fiction/longer fiction, poems and/or collections of poetry and specialized scripts.

ENGL 206 News Writing and Reporting III
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 105.
Instruction in advanced news writing and reporting; introduction to news editing. The focus of the course is on editing skills and newsroom leadership.
ENGL 207 News Writing and Reporting IV  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 206.  
Instruction in advanced news writing and reporting; introduction to news editing. The focus of the course is on editing skills and newsmarket leadership.

ENGL 209 Creative Writing: Screenwriting  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: ENGL 101.  
Instruction and practice of the elements, format, professional development, and marketing of a complete 90-120 page feature-length screenplay based on an original idea.

ENGL 210 Creative Writing: Writing Children's Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 101.  
Writing various types of literature for children from preschool to junior high.

ENGL 214 Introduction to Fiction  
3 credits. 3 hours. (Lecture 3 hours.)  
Reading, discussion, and analysis of short stories and novels. Interpretation, evaluation, and enjoyment of works within the two literary forms.

ENGL 215 Technical Writing  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 101.  
Prepares students to compose written products appropriate to contexts requiring technical communication and documentation.

ENGL 216 Introduction to Drama and Poetry  
3 credits. 3 hours. (Lecture 3 hours.)  
Reading, discussion, and analysis of poetry and drama; interpretation, evaluation, and enjoyment of works within the two literary forms.

ENGL 217 Scientific Writing  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 101.  
Course focuses on developing skills in scientific writing for students interested in or majoring in the sciences. Prepares students to compose written products appropriate to contexts requiring scientific communication and documentation.

ENGL 218 Introduction to Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Reading, discussion, and analysis of short stories, plays, and poems. Interpretation, evaluation, and enjoyment of these forms.

ENGL 219 Advanced Screenwriting  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: ENGL 209.  
Review of professional screenwriting standards; revision and marketing of a completed full-length screenplay.

ENGL 220 British Literature to 1750  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of British literature from the early Middle Ages to the middle of the 18th century.

ENGL 221 British Literature 1750-Present  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of British literature from the end of the 18th century to the present.

ENGL 222 American Literature to 1860  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of American literary works to the Civil War.

ENGL 223 American Literature 1860-Present  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of American literary works from the Civil War to the present.

ENGL 230 Science Fiction  
3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to science fiction. Its current position as an independent genre making a unique contribution to the social comment of the 21st century.

ENGL 232 Detective Fiction  
3 credits. 3 hours. (Lecture 3 hours.)  
Representative works of detective fiction from Poe to the present.

ENGL 234 Film as Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Viewing, discussion, and analysis of films. Interpretation, evaluation, and enjoyment of works within this literary form.

ENGL 240 Mythology  
3 credits. 3 hours. (Lecture 3 hours.)  
The origins, purposes, and meanings of myth in past and present human experiences as seen through mythological stories and characters.

ENGL 242 The Bible as Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Selected passages from Old and New Testaments as illustrations of different types of literature (stories, drama, poetry). Analysis of the literary qualities of the Bible.

ENGL 250 Masterpieces of American Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Masterpieces of American literature that represent American culture and themes.

ENGL 254 World Literature I  
3 credits. 3 hours. (Lecture 3 hours.)  
Representative works of world literature up to 1600 AD and their significance to the 21st century reader.

ENGL 255 World Literature II  
3 credits. 3 hours. (Lecture 3 hours.)  
May be taken without ENGL 150. Representative works of the later Renaissance, the Neoclassical period, the Romantic period, Realism, Naturalism, and the contemporary period and their significance to the 21st century reader.

ENGL 256 World Masterpieces  
3 credits. 3 hours. (Lecture 3 hours.)  
World masterpieces of prose, drama, and poetry as embodiments of views of the human condition.

ENGL 260 African-American Literature  
3 credits. 3 hours. (Lecture 3 hours.)  
Survey of African-American literature from various genres and historical periods. Students will examine the artistic responses of male and female writers to the social, political, and cultural forces that help shape the African-American experience. Requirement Designation: Human Diversity

ENGL 262 Women's Lives and Autobiography  
3 credits. 3 hours. (Lecture 3 hours.)  
This course focuses on the literature of women's lives and will explore the historical, political, social and religious contexts in which women live and through which they perceive their worlds.
ENGL 264 U.S. Latino and Latina Literature
3 credits. 3 hours. (Lecture 3 hours.)
This course is a survey of U.S. Latino and Latina literature from various genres and historical periods. The literary contributions from Chicano and Chicanas, Cuban-Americans and Puerto Rican writers will be included. Students will read and discuss essays, drama, novels, poetry, short stories and ideological discourse while also exploring historical motivators of the literature that have made cultural impacts on the Latina and Latina communities and the American mainstream. Requirement Designation: Human Diversity

ENGL 265 African Literature
3 credits. 3 hours. (Lecture 3 hours.)
This course is a survey of African literature from various genres and historical periods. Students will read and discuss oral stories, poems, short stories, plays, and novels and examine social, political, and cultural forces that have shaped the African experience. Requirement Designation: Human Diversity

ENGL 267 North American Indian Literature
3 credits. 3 hours. (Lecture 3 hours.)
This course will examine North American Indian literature and cultures. Attention will be paid to both traditional and contemporary native writings. The course will cover themes of traditional beliefs, identity, and other relevant topics. Genres include poetry, fiction, film, and/or non-fiction prose. Requirement Designation: Human Diversity

ENGL 268 Women's Literature
3 credits. 3 hours. (Lecture 3 hours.)
Women's Literature focuses on the ideas, experiences, and imagination of women through discussion and analysis of various literary genres written by women. The course will explore the historical, political, and social contexts in which women live and write. Requirement Designation: Human Diversity

ENGL 270 Special Topics
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Selected topics of current interest. Available to individual students or to small groups through arrangement with an instructor.

ENGL 299 Shakespeare
3 credits. 3 hours. (Lecture 3 hours.)
Study of Shakespeare's life and major works. Consideration of the significance of the playwright and his plays for both Elizabethan and 21st century audiences.

English as a Second Language

MCC-Penn Valley

ESL 2 Novice I: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate ESL placement test score.
The study and practice of speaking and listening at the level of isolated words and formulaic phrases in areas of immediate need. Development of survival level aural/oral skills for beginning ESL students.

ESL 3 Novice I: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate ESL placement test score.
The study and practice of survival level reading. Introduction of basic reading skills in English.

ESL 4 Basic Writing
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: Applied Language Institute approval.
The study and practice of survival level writing skills including spelling, capitalization and some punctuation. Basic sentence structure and completion of simple standard forms.

ESL 5 Basic Grammar
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: Applied Language Institute approval.
The study and practice of survival level sentence structures and words. Basic level sentences, questions, directions, and directions, and descriptions that relate to students’ immediate surroundings and some life skill areas.

ESL 6 Basic Reading
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: Applied Language Institute approval.
The study and practice of survival level reading English vocabulary context. Basic reading comprehension, and the introduction of dictionary skills.

ESL 7 Basic Speaking/Listening
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: Applied Language Institute approval.
The study and practice of speaking and listening for survival level social functions in English. Production of isolated words and phrases in areas of need. Development of survival level oral/aural skills for beginning ESL students.

ESL 8 Novice 1: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate ESL placement test score.
The study of basic sentence structure and words in writing and speaking. Students will study statements, negatives and questions in a variety of contexts.

ESL 9 Novice 1: Composition
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate ESL placement test score.
The study and practice of basic sentence structure and completion of simple standard forms in writing using survival level vocabulary.

ESL 10 ESL Composition I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 04.
The study and practice of writing skills in the skills in the present and past, and the introduction of some organizational patterns; multiple sentence structures, descriptions, and simple narratives.

ESL 11 Grammar I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 05.
The study and practical application of some sentence structures and word parts. Simple sentences, questions, directions, and descriptions in the present and past tenses.

ESL 12 ESL Speaking & Listening I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 07.
The study and practice of speaking and listening for basic social functions. Practice of basic descriptions and the development of oral/aural skills.

ESL 13 ESL Reading and Vocabulary I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 06.
The study and practice of reading with English vocabulary in context. Reading comprehension, identifying the topics of short readings, and using some dictionary skills.

ESL 16 Novice II: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 02 or appropriate ESL placement test score.
The study and practice of speaking and listening for survival level social functions. Development of aural/oral skills for beginning ESL students.
ESL 17 Novice II: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 3 or appropriate ESL placement test score.
The study and practice of reading English vocabulary and short narratives in instructional context. Vocabulary is limited to life-skill areas.

ESL 18 Novice II: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ESL 008 or appropriate ESL placement test score.
The study and practical application of basic sentence structures including statements, negatives and questions. The study of parts of speech as they relate to level appropriate contexts.

ESL 19 Novice II: Composition
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 10.
Understanding and use of all parts of speech, basic conditionals, and some modals.

ESL 20 ESL Composition II
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 11.
The study and practice of techniques for writing paragraphs in English. Paragraph organization and the improvement of punctuation and mechanical skills in writing.

ESL 21 Grammar II
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: ESL 11.
The study and practice of sentence structures including future and irregular past tense constructions. Comparatives, information questions, and compound nouns and verbs.

ESL 22 ESL Speaking & Listening II
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 12.
The study and practice of speech in different environments and some simple social occasions. Sound distinction and production in the context of a sentence and listening for specific information.

ESL 23 ESL Reading and Vocabulary II
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 13.
The study and practice of reading narrative and expository texts and standard forms. Development of vocabulary and introduction of reading techniques such as a identification of topics and main ideas, skimming, scanning, prediction, and inference.

ESL 24 Intermediate I: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 16 or appropriate ESL placement test score.
The study and practice of speaking and listening for basic social functions. Practice and development of aural/oral skills.

ESL 25 Intermediate I: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 17 or appropriate ESL placement test score.
The study and practice of narratives and expository texts. Development of vocabulary through formal analysis and prediction.

ESL 26 Intermediate I: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ESL 018 or appropriate ESL placement test score.
The study and practical application of intermediate level verb tenses and related adverbs and adverb phrases. The study and practice of function words including modals and coordinating conjunctions.

ESL 27 Intermediate I: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 3 or appropriate ESL placement test score.
The study and practical application of writing skills. The introduction of process writing and organizational patterns. The application of context appropriate verb tenses including present simple, present progressive, and past simple, past progressive and simple future.

ESL 28 Intermediate I: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ESL 018 or appropriate ESL placement test score.
The study and practical application of basic writing skills. The introduction of organizational patterns. The application of context appropriate verb tenses including present simple, present progressive, and past simple.

ESL 29 Intermediate I: Composition
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ESL 019 or appropriate ESL placement test score.
The study and practical application of writing multi-paragraph academic essays. Process writing, and a variety of rhetorical styles.

ESL 30 ESL Composition III
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 20.
The study and practice of writing multi-paragraph academic essays. Process writing, and a variety of rhetorical styles.

ESL 31 ESL Grammar III
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 21.
The study and practical application of complex sentence structures, including perfect and perfect progressive tenses. Understanding and use of passive voice, gerunds and infinitives, articles, conditionals, and modals.

ESL 32 ESL Speaking & Listening III
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 22.
The study and practice of comprehension and production of speech in a variety of social situations and environments. Note-taking techniques and understanding and expressing abstract ideas.

ESL 33 ESL Reading and Vocabulary III
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 23.
The study and practice of longer reading passages of various rhetorical styles. Improvement of reading speed, development of vocabulary and comprehension through complex inferences.

ESL 34 Intermediate II: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 26 or appropriate ESL placement test score.
The study and practice of comprehension and production of speech in different environments and social occasions. Sound distinction and production in the context of the sentence. Note-taking techniques and basic presentation skills.

ESL 35 Intermediate II: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 27 or appropriate scores on ALI placement test.
The study and practice of reading passages of various rhetorical styles. Improvement of reading speed, development of vocabulary and comprehension through prediction and inferences.

ESL 36 Intermediate II: Grammar
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 20.
The study and practice of writing multi-paragraph academic essays. Process writing, and a variety of rhetorical styles.

ESL 37 Intermediate II: Composition
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 29 or ESL Institute placement test score.
The study and practice of composing multi-paragraph academic narrative essays within the writing process approach. Emphasis on organization and correctly punctuated complex language structures.
ESL 40 ESL Composition IV
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 30.
The study and practice of rhetorical principles in standard English prose. Critical thinking and research skills as well as fluency and accuracy in academic writing.

ESL 41 ESL Grammar IV
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 31.
The study and practice of grammatical structures in standard English prose. All verb tenses and the relationship between ideas and the construction of sentences in academic discourse.

ESL 42 ESL Speaking and Listening IV
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 32.
The study and practice of standard English particularly in the introductory level college classroom. Academic lecture comprehension and note-taking, as well as formal and informal discourse.

ESL 43 ESL Reading and Vocabulary IV
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: ESL 33.
The study and practice of reading, and the development of vocabulary, in academic level English. Critical thinking, reading skills and the ability to contextually identify unfamiliar vocabulary in reading from a variety of disciplines.

ESL 46 Advanced I: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 36 or appropriate ESL placement test score.
The study and practice of oral/aural standard English in a variety of environments and social situations. Presentation skills and note-taking techniques related to secondary-level of lecture comprehension.

ESL 47 Advanced I: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 37 or appropriate ESL placement test score.
The study and practice of reading, and the development of vocabulary, in pre-academic (secondary level) English. Critical thinking and reading skills; and the ability to contextually identify unfamiliar vocabulary in complex readings.

ESL 48 Advanced I: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 038 or appropriate ESL placement test score.
The study and practice of grammatical structures in standard English prose. Emphasis on most complex verb structures. Exploration of the relationship between ideas and the construction of sophisticated sentences in academic discourse.

ESL 49 Advanced I: Composition
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 039 or appropriate ESL placement test score.
The study and the practice of rhetorical principles in standard English prose. Critical thinking as well as fluency and accuracy in academic writing.

ESL 50 ESL Multiskills I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: Applied Language Institute approval.
The comprehensive study of standard English skills for advanced students. College level materials focusing on current issues as the basis for writing exercises and for classroom activities and presentations.

ESL 56 Advanced II: Speaking and Listening
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 46 or appropriate ESL placement test score.
The study and practice of comprehension and production of standard English in academic discourse. Academic note-taking; post-secondary-level materials focusing on current issues as the basis of exercises and presentations.

ESL 57 Advanced II: Reading and Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 47 or appropriate ESL placement test score.
The study and practice of reading, and the development of vocabulary in academic level English. Variety of college level texts focusing on current issues as the basis of critical analysis. Improvement of reading skills, and the ability to contextually identify unfamiliar vocabulary in complex readings.

ESL 58 Advanced II: Grammar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 048 or appropriate ESL placement test score.
The study and practice of grammatical structures in standard English prose. Emphasis on the relationship between ideas and the construction of sophisticated sentences in academic discourse.

ESL 59 Advanced II: Composition
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 49 or appropriate ESL placement test score.
The study and the practice of rhetorical principles in standard English prose. Critical thinking and research skills as well as fluency and accuracy in academic writing.

ESL 97 English as a Second Language I
3 credits. 3 hours. (Lecture 3 hours.)
English for student who have a low-intermediate level of proficiency and who wish to improve all areas language learning. The study and practice of integrated English skills focusing on reading, writing, structure, and conversation.

ESL 98 English as a Second Language II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 97.
English structure, pronunciation, reading and writing for students who have an intermediate level of proficiency and who wish to improve all areas of language learning.

ESL 99 English as a Second Language III
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ESL 98.
English structure, pronunciation, reading and writing for students who have a high-intermediate level of proficiency and who wish to improve all areas of language learning. Conversation, reading, writing and style are addressed.

◆Environmental Health and Safety

MCC-Business & Technology
Sybil Chandler

EHSS 100 Introduction to Environmental Health and Safety
3 credits. 3 hours. (Lecture 3 hours.)
This course for non-EHS students is a review of environmental and health and safety regulations published by the EPA, DOT, OSHA, and the states’ regulatory agencies. The topics will include clean air, clean water, hazardous waste, hazard communication, fall protection, recordkeeping, confined space, respiratory protection, and chemical protective clothing.
EHSS 101 Hazardous Material Management and Emergency Response Operations  
3 credits. 3 hours. (Lecture 3 hours.)  
This course provides a review of hazardous waste operations, handling, and regulations for facilities and hazardous waste sites. In addition, medical monitoring programs, engineering controls, respiratory protection, personal protective equipment, sampling, air monitoring equipment, hazardous waste documentation, and incident command system (ICS) will be covered.

EHSS 110 Properties and Hazards of Hazardous Materials  
3 credits. 3 hours. (Lecture 3 hours.)  
This course covers the recognition and communication of the physical hazards (flammability, corrosivity, reactivity, toxicity) of hazardous materials based on the nine DOT hazard classes and EPA’s definition of characteristic hazardous waste.

EHSS 111 Introduction to Health and Safety for General Industry  
1 credit. 1 hour. (Lecture 1 hour.)  
This course provides the participants with an overview of the Occupational Safety and Health Administration (OSHA) standards relevant to general industry. Among the subjects covered in the program are: an introduction to OSHA, fire protection, electrical safety, hazard communication, bloodborne pathogens, walking and working surfaces, personal protective equipment, machine guarding and safety and health programs. Students will receive a 10-hour General Industry Safety and Health Outreach Card.

EHSS 112 Introduction to Health and Safety for Construction  
1 credit. 1 hour. (Lecture 1 hour.)  
This course provides the participants with an overview of the Occupational Safety and Health Administration (OSHA) standards relevant to general industry. Among the subjects covered in the program are: an introduction to OSHA, stuck by, and caught in/between, excavations, electrical safety, health hazards, walking and working surfaces, stairs and ladders, tool hand and power, personal protective equipment, fall protection and safety and health programs. Students will receive a 10-hour Construction Safety and Health Outreach Card.

EHSS 200 Safety and Health Regulations and Standards  
3 credits. 3 hours. (Lecture 3 hours.)  
A comprehensive overview of OSHA and other health and safety regulations and guidelines. Subject areas include OSHA history, specific regulations regarding respiratory protection, protective clothing, medical monitoring, fall protection, confined space, lock out/tag out, recordkeeping and compliance techniques.

EHSS 202 Transportation and Storage of Hazardous Materials  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 203.  
A presentation of detailed information required for the handling, transportation, and storage of hazardous materials. Methods are given for the preparation of hazardous materials prior to shipment. The distinction and regulatory differences between hazardous waste and hazardous material handling and shipment are presented in relation to different types of transportation.

EHSS 203 Environmental Regulations  
3 credits. 3 hours. (Lecture 3 hours.)  
This course provides a comprehensive overview of EPA and other environmental regulations and guidelines. Subject areas included in this course are: EPA history, specific regulations regarding surface water, air drinking water, pollution prevention, hazardous waste, Superfund, and Community Right-to-Know.

EHSS 204 Emergency Preparedness and Planning  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 200 and EHSS 203.  
This course will provide a broad coverage of proactive and regulatory approaches to emergency planning. Analysis techniques, methods of auditing, and conducting hazards assessments are covered. Incident prevention and life and cost savings are emphasized. Subject materials are presented for students working in industry as well as the public sector of emergency planning and incident response. Environmental health and safety liabilities are addressed in terms of incident prevention and proper management.

EHSS 205 Principles of Industrial Hygiene  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 200 and CHEM 102, 105 or 111.  
This course is designed to provide the fundamentals of hazards control and industrial hygiene to environmental health and safety management students. Information is given in key areas that cover hazard recognition, hazard evaluation, hazards control, industrial hygiene, governmental regulations, and employee training.

EHSS 210 Incident and Accident Investigation  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 200.  
Fundamentals and techniques of investigating accidents and incidents.

EHSS 211 Workers Compensation Legislation for EHS  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 200.  
This course is designed to provide EHS students a comprehensive study of legislation and standards designed to protect the worker.

EHSS 213 EHS Program Development and Management  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: EHSS 200 and 203.  
This course is designed to merge all the former EHS courses into a cohesive and comprehensive unit. This course outlines the principles of program development and implementation for all EHS type programs including training, emergency preparedness, waste minimization, workers compensation, air and water quality, and compliance. This course will cover the development of materials, techniques and procedures in the implementation of EHS programs and their application in a variety of occupational settings.

EHSS 217 Concepts of Waste Minimization, Recycling and Pollution Prevention  
3 credits. 3 hours. (Lecture 3 hours.)  
This course is presented to familiarize EHS students with options available to minimize waste, recycle, or other energy conserving concepts in the workplace. Information is presented to present ways of encouraging sustainability through better business practices. Emphasis is placed upon economical considerations for recovery and recycling materials used in industry, and methods to reduce materials placed in landfills. Key topics are given to show methods of making money from materials that cost to be destroyed.
EHSS 218 Industrial Process and Hazard Control
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: EHSS 203.
This course is presented to provide an overview of health and safety variables involved in common processes used in industry today. The EHS student is provided with information from the perspective of controlling and managing mechanical, electrical and chemical hazards associated with processes and the by-products from those processes. Students will work together to address common problems in process control and become aware of potential liabilities that employers endure in today’s industrial climate.

EHSS 220 Air Quality Management
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: EHSS 203.
This course serves as an introduction to all aspects of air pollution control and maintaining air quality. Major areas of study will include: nature and origin of air pollution, air pollution control methods and strategies, dispersion modeling, assessing/monitoring air quality and air quality programs and requirements.

EHSS 225 Water Quality Management
3 credits. 3 hours. (Lecture 3 hours.)
Prequisite: EHSS 203. This course provides an overview of regulatory programs and requirements of the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA); typical treatment processes for drinking water, municipal and industrial wastewater and hazardous wastes; and basic permits for storm water and effluent. The course will provide an overview of the spill prevention control and countermeasure (SPCC) plans. Students will develop a practical understanding of advantages and disadvantages of established and new treatment processes, conduct case studies, evaluate treatment options.

EHSS 230 Waste Management
3 credits. 3 hours. (Lecture 3 hours.)
Intense coverage of EPA’s Resource Conservation and Recovery Act (RCRA) including pollution prevention, USTs, treatment options, EPA inspections and hazardous waste manifesting. Special emphasis on hazardous waste determination, accumulation, storage, and related generator issues.

Fire Science Technology
MCC-Blue River
Doug Hobbs Rusty Sullivan

FSTE 101 Introduction to the Fire Service
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Acceptance into the Public Safety Center of Excellence.
This course focuses on the introduction to the fire service. Psychological and sociological aspects of firefighting, community involvement, and ethics will be discussed and applied. The student will also be introduced to basic firefighting equipment and skills.

FSTE 107 Fire Service Physical Fitness I
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: Admission to the Fire Academy.
First in a series of classes designed to develop the students level of physical fitness related to the fire service and fire service testing (C-PAT). Emphasis will be given to the individuals muscle strength and endurance, cardiovascular endurance, flexibility, and body composition. Includes assessment, planning, and participation in an individual fitness program based on the International Fire Chiefs Association and the International Association of Fire Fighters C-PAT criteria. The student will be shown and explained the C-PAT process and will have access to specific C-PAT equipment, training free weights, weight machines, and a variety of cardiovascular equipment.

FSTE 108 Fire Service Physical Fitness II
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: FSTE 107.
Second in a series of classes designed to develop the student’s level of fire service physical fitness. This course will expand on the concepts introduced in FSTE 107, in addition to offering an introduction to C-PAT the student will began training on and using the fire service C-PAT equipment. Emphasis is given to the individual program of each student.

FSTE 109 Fire Service Physical Fitness III
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: FSTE 108.
Last in a series of classes designed to develop the student’s level of fire service physical fitness. This course will expand on the concepts introduced in FSTE 107/108, in addition to offering a variety of advanced techniques and programming ideas to complete the C-PAT test in the allotted time.

FSTE 169 Fire Prevention
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: Involvement in fire prevention activities approved by the instructor.
This course is designed to teach fire prevention by identifying conditions that could cause fire; corrective actions and cooperation skills between the fire department and community.

FSTE 170 Hazardous Materials Awareness and Operations
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to provide instruction in the handling of hazardous materials in an emergency situation. Upon successful completion of this program and the state exam, the student will become state certified in hazardous materials awareness and operations.

FSTE 172 Firefighting Tactics and Strategy
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to prepare a fire officer to be able to provide strategies and tactics at a structure fire, fully utilizing available resources in a safe and efficient manner.

FSTE 179 Fire Fighter I
6 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)
This course is designed to instruct the student in all phases of basic firefighter techniques. The student will be eligible for state certification upon completion of the course and successful completion of the state certification exam.

FSTE 183 Incident and Disaster Management
3 credits. 3 hours. (Lecture 3 hours.)
This course describes how emergency and disaster incidents should be managed by immersing the student in the incident and unified management systems. It also provides the student with a detailed look at disaster mitigation planning.
FSTE 189 Fire Fighter II
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisites: FSTE 179.
This course is designed to instruct the student in all phases of advanced fire fighting skills and techniques. The student will be eligible for state certification upon completion of the course and successful completion of the state certification exam.

FSTE 192 Suppression and Detection Systems
3 credits. 3 hours. (Lecture 3 hours.)
This course will provide the student with basic information concerning water and its use as a tool for combating fire, especially in fixed extinguishing systems. It will also provide information on other types of fixed extinguishing systems, as well as how all fixed systems detect the fires they are built to extinguish.

FSTE 193 Fire Service Law
3 credits. 3 hours. (Lecture 3 hours.)
As with all parts of society, the fire service is becoming increasingly embroiled in litigation and potential litigation. This course will lay the groundwork for fire service managers to provide service to its citizens with knowledge of potential legal problems that need to be avoided.

FSTE 200 Fire Service Supervision
3 credits. 3 hours. (Lecture 3 hours.)
This course will involve the student in learning proper methods of leadership and supervision as it pertains to today's first line service supervisor. It will encompass basic supervisory techniques and help the student to apply them to their special problems in supervising in today's fire service.

FSTE 201 The Fire Service Manager
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: FSTE 200.
This course is the second of three courses designed to provide information fire personnel in the areas of supervision, management and administration. It shows the history of general management principles, and how they fit in today's fire service. It also provides basic information on the information on the variety of areas that a fire service manager may become a part of as a manager.

FSTE 202 Fire Service Administration
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: FSTE 200 & 201.
This is the third course in the fire service management series. It delves into the needs of the fire department organization as a whole. It discusses the needs of all parts of the department, as well as how the department fits in to the larger governance structure. It also discusses the need to provide better information and service to the citizens it serves.

FSTE 203 Managing in Today's Fire Service
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: FSTE 200 and 201, and ENGL 101.
The student shall have also completed a minimum of 45 credit hours of course work in the Fire Science Program. This course is an internship. The student will meet with various members of a fire department management team. The student will choose an area of the organization and provide an in-depth report on its functions, process, and operations. It will compare and contrast this area with studies accomplished in class as well as other organizations of similar size. This report will form the backbone of this student's final evaluation.

◆Foreign Language◆

MCC-Blue River  MCC-Longview  MCC-Maple Woods
Jennifer Rogers  Carol Kuznacic  Mary Ann Blitt
MCC-Penn Valley  Ruth Heath

◆ARABIC◆

ARAB 101 Elementary Modern Arabic I
4-5 credits. 4-5 hours. (Lecture 4-5 hours.)
A practical beginning course in speaking and understanding modern Arabic. Proper pronunciation, words and structures used in daily conversation. Social conventions and Arabic culture necessary for interpersonal communication with native speakers of contemporary Arabic.

ARAB 102 Elementary Modern Arabic II
4-5 credits. 4-5 hours. (Lecture 4-5 hours.)
Prerequisite: ARAB 101D or ARAB 101E.
A continuation of Elementary Modern Arabic I. Complete basic elements of Arabic grammar, increase vocabulary, gain added facility in speaking and reading Arabic.

◆CHINESE◆

CHIN 101D Elementary Chinese I
4-5 credits. 4-5 hours. (Lecture 4-5 hours.)
An introduction to Chinese. Course develops basic communication skills: Listening, reading, writing, and speaking. Informal study of the culture of Chinese-speaking countries.

CHIN 102 Elementary Chinese II
4-5 credits. 4-5 hours. (Lecture 4-5 hours.)
A continuation of Elementary Chinese I. Elements of Chinese grammar, increasing vocabulary, and gain added facility in speaking and reading Chinese. Informal study of the culture of Chinese-speaking countries.

◆FRENCH◆

FREN 101 Elementary French I
5 credits. 5 hours. (Lecture 5 hours.)
An introduction to French. Develop basic communication skills (listening, reading, writing, and speaking). Informal study of the culture of French-speaking countries.

FREN 102 Elementary French II
5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: FREN 101.
Grammar essentials. Develop communication skills (listening, reading, writing, and speaking). Informal study of the culture of French-speaking countries.

FREN 203 Intermediate French I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: FREN 202.
Advanced grammar. Continued development of communication skills with emphasis on reading, writing and speaking. French is the language of instruction.

FREN 204 Intermediate French II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: FREN 203.
A continuation of French 203. Advanced grammar. Continued development of communication skills with emphasis on reading, writing and speaking. French is the language of instruction.
GREEK

GREEK 101 Elementary Greek 5 credits. 5 hours. (Lecture 5 hours.)
Introduction to speaking, reading, and writing Greek.

GREEK 102 Intermediate Greek II 5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: GREEK 101.
Continuation of GREEK 101.  Advanced grammar.  Continued development of communication skills with emphasis on reading, writing and speaking.  Greek is the language of instruction.

SPANISH

SPAN 100 Beginning Occupational Spanish 3 credits. 3 hours. (Lecture 3 hours.)
An introduction to Spanish.  Course develops basic communication skills specifically tailored to a particular degree or occupation.

SPAN 101 Elementary Spanish I 5 credits. 5 hours. (Lecture 5 hours.)
An introduction to Spanish.  Course develops basic communication skills: Listening, reading, writing, and speaking.  Informal study of the culture of Spanish-speaking countries.

SPAN 102 Elementary Spanish II 5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: SPAN 101 or SPAN 111.
Grammar essentials.  In addition, course develops communication skills: Listening, reading, writing and speaking.  Informal study of the culture of Spanish-speaking countries.

SPAN 107 Spanish Composition & Conversation: Topics in Culture 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPAN 102.
Students will improve their communication skills and knowledge of Spanish-speaking cultures through in-class discussions and written compositions.  Requirement Designation: Human Diversity

SPAN 111 Accelerated Elementary Spanish I 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Prior elementary Spanish at the college level or two years high school Spanish.
An accelerated elementary Spanish course for students who may need to brush up on the basics before continuing onto Elementary Spanish II.  Students will enhance communication skills (listening, reading, speaking, and writing) while reviewing Spanish grammar.  Informal study of culture of selected Spanish-speaking countries.

SPAN 203 Intermediate Spanish I 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPAN 102.
Advanced grammar.  Continued development of communication skills with emphasis on reading, writing and speaking.  Spanish is the language of instruction.

SPAN 204 Intermediate Spanish II 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPAN 203.
Continuation of SPAN 203.  Advanced grammar.  Continued development of communication skills with emphasis on reading, writing and speaking.  Spanish is the language of instruction.

SPAN 205 Advanced Spanish I 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPAN 204.
Advanced grammar.  Continued development of communication skills with emphasis on reading, writing and speaking.  Spanish is the language of instruction.

SPAN 207 Spanish Composition and Conversation 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPAN 203.
Students will improve their communication skills and knowledge of Spanish-speaking cultures through in-class discussions and written compositions.  Requirement Designation: Human Diversity

SPAN 209 Introduction to Hispanic Literature 3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: SPAN 204.
An introduction to literature in written Spanish from various genres and historical periods.  Selected texts will introduce students to major writers as well as provide insights into the cultural, political and social contexts of Latin America and Spain.

SPAN 210 Spanish Immersion I 3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: SPAN 101.
Students will broaden their language skills while at the same time experiencing a new culture through a total immersion program in a Spanish-speaking country.  Special emphasis will be placed on spoken communication while expanding listening, reading and writing skills.  Students will be tested and placed into the appropriate level of instruction.  All classes are conducted in Spanish by native Spanish speakers.  Requirement Designation: Human Diversity

SPAN 212 Spanish Immersion II 3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: SPAN 210.
Students will broaden their language skills while at the same time experiencing a new culture through a total immersion program in a Spanish-speaking country.  Special emphasis will be placed on spoken communication while expanding listening, reading and writing skills.  Students will be tested and placed into the appropriate level of instruction.  All classes are conducted in Spanish by native Spanish speakers.  Requirement Designation: Human Diversity

SPAN 214 Spanish Immersion III 3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: SPAN 212.
Students will broaden their language skills while at the same time experiencing a new culture through a total immersion program in a Spanish-speaking country.  Special emphasis will be placed on spoken communication while expanding listening, reading and writing skills.  Students will be tested and placed into the appropriate level of instruction.  All classes are conducted in Spanish by native Spanish speakers.  Requirement Designation: Human Diversity

SPAN 216 Spanish Immersion IV 3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: SPAN 214.
Students will broaden their language skills while at the same time experiencing a new culture through a total immersion program in a Spanish-speaking country.  Special emphasis will be placed on spoken communication while expanding listening, reading and writing skills.  Students will be tested and placed into the appropriate level of instruction.  All classes are conducted in Spanish by native Spanish speakers.  Requirement Designation: Human Diversity
GEOG 104 Principles of Physical Geography  
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Survey of the characteristics and distribution of the components of the Earth's natural environment, using basic geology, meteorology, climatology, vegetation, soil, map studies, geomorphology, surficial processes and the relationship to human activity. Optional field trips.

GEOG 105 World Geography  
3 credits. 3 hours. (Lecture 3 hours.)
Introduction and application of geographic principles to the survey of the major world regions: Europe, Asia, Africa, Middle East, North America, and the Pacific World.

GEOG 110 Meteorology  
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Introduction to the structure, composition, and interaction of the atmosphere with emphasis on atmospheric processes and related phenomena, storm systems, weather information resources, basic forecasting, equipment and techniques of meteorologists, and climate variability.

GEOG 111 Geography of the Western World  
3 credits. 3 hours. (Lecture 3 hours.)
A regional survey of North and South America, Europe, Australia and New Zealand. Emphasis on each region's unique attributes and on how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

GEOG 112 Geography of the Eastern World  
3 credits. 3 hours. (Lecture 3 hours.)
A regional survey of the Middle East, Africa, and Asia. Emphasis on each region's unique attributes and how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

GEOG 113 Cultural/Human Geography  
3 credits. 3 hours. (Lecture 3 hours.)
Addresses techniques of geographic interpretation, and cultural and political diversity, the relationship to physical environment, availability of water, food, and other natural resources, language, religion, industry, spatial relationships of cities and settlements, population, ethnic characteristics, migration, folk and popular cultures, and the effects of globalization. Requirement Designation: Human Diversity

GEOG 114 Introduction to Geography  
3 credits. 3 hours. (Lecture 3 hours.)
Presents a dynamic view of the breadth of discipline of geography. Provides a geographic perspective of the interrelationship of earth and atmosphere and their relationship of the earth and atmosphere and their influence on population, culture, and lifestyle. Explores geographic methods of gathering and analyzing information and modern tools for these functions. Also focuses on applied geography in local and international settings in areas such as marketing, urban planning, political relationships, and natural resource assessment.

GEOG 207 Geography of the United States and Canada  
3 credits. 3 hours. (Lecture 3 hours.)
A study of the unique physical and cultural aspects of regions within the United States and Canada. Includes map interpretation, land features, climate, settlement patterns, cities, industry, natural and recreational resources, comparison of economic and political systems.
GEOG 210 Economic Geography
3 credits. 3 hours. (Lecture 3 hours.)
Overview of economic geography covering topics such as demographics, population processes, economic development, growth of regional global economy, multinational corporations, economic alliances, transportation, urban economics, manufacturing, energy and agriculture.

GEOG 220 GIS Database and Design
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: GEOG 120.
Concepts of Geo-database design and management in Geographic Information Systems (GIS), SQL statements, geographic data types and functions, data entry, techniques of geographic information structure and indexing, querying techniques, searches, and spatial analysis, creation and use of metadata real-world applications.

GEOG 224 Applications in Geographic Information Systems
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: GEOG 120, GEOG 220.
Applications in Geographic Information Systems. Data collection, incorporation of local and global data, and analysis of spatial information that can be used to investigate major application areas, national GIS policy.

GEOG 228 Administrative Issues in GIS
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: GEOG 120.
Addresses issues unique to a GIS operation such as implementation issues, decision making procedures, strategies for success, legal issues, involvement of management, NCGIA Guidelines, marking within an organization, strategic planning, and industry outlook.

GEOG 230 Geographic Information Systems Internship
1-3 credits. 225-675 hours. (Lecture 0.5 hour. Field Studies 225-675 hours.)
Prerequisites: GEOG 120 and GEOG 220.
Internship in a Geographic Information System facility. Experience real-workplace requirements, complete assigned tasks by hosting facility such as GIS data entry, data retrieval, GPS field work, documentation, or general GIS facility duties. Arranged meetings with instructor includes work ethics, expectations, challenges, evaluation.

◆ Geology

MCC-Blue River
Benjamin Wolfe

MCC-Longview
Carl Priesendorf

GEOL 101 Physical Geology
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Study of plate tectonics, rocks, minerals, volcanoes, earthquakes, resources, geologic time, and the processes that affect the surface and the interior of the earth. Laboratory analysis of rocks and minerals. Interpretation of topographic and geologic maps as investigative tools. Optional field trips.

GEOL 102 Historical Geology
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
History of the earth from its origin as a planet to the present time. Succession of geologic formations and their contained fossils in revealing the evolution of the earth and forms of life throughout the four and a half billion years of geologic time. Laboratory analysis of geologic problems and identification of fossils. Optional field trip.

GEOL 103 Environmental Geology
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
Introduces fundamental concepts and philosophy of environmental study; discusses natural hazards with underlying causes and human interaction with the environment; applies environmental concepts to problems of pollution, garbage, and hazardous waste; explores the source, types, availability, and evaluates intelligent use of geologic resources; suggests techniques for hazard prevention and remediation; addresses current media topics concerning the environment.

GEOL 110 Oceanography
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Ocean as part of Earth’s dynamic and ecologic systems. Influence of the ocean on atmosphere, climate, and land processes. Ocean stewardship, problems, and policy.

GEOL 180 Energy and the Environment
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Introduces fundamental concepts of energy generation and environmental impact. Analysis of energy fundamentals, fossil fuel exploration and use, atmospheric pollution, global warming, nuclear energy, alternative energy sources and energy conservation. Optional field trips.

GEOL 185 Solar/Photovoltaic Systems
3 credits. 3 hours. (Lecture 3 hours.)
Solar radiation as applied to photovoltaic technology, photovoltaic system component selection, and introduction to safe design and installation of photovoltaic systems.

GEOL 186 Solar Water and Space Heating
3 credits. 3 hours. (Lecture 3 hours.)
Solar radiation applied to heating water and air, introduction to safe design and installation of solar thermal systems with emphasis on domestic hot water.

GEOL 199 Special Topics
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
A focused study of a topic in geology. May take the form of individual research projects based on library, internet, and/or oral presentation information; field or laboratory project; and short courses such as, but not limited to, topics in environmental geology, national parks, earthquakes, rock and minerals.

GEOL 214 Geology Field Study in the Midwestern U.S.
1-3 credits. 1-3 hours. (Field Studies 1-3 hours.)
Prerequisite: GEOL 101.
Study of selected locations in the Midwest during a field trip. Location of field trip varies. Apply basic geologic principles and collect rock and mineral samples.

GEOL 215 Geology Field Study
3 credits. 3 hours. (Field Studies 3 hours.)
Prerequisite: GEOL 101.
Study of selected locations in the Western United States during a field trip. Location of field trip varies. Apply basic geologic principles and collect rock and mineral samples.

GEOL 224 Energy Management, Efficiency, and Conservation
3 credits. 3 hours. (Lecture 3 hours.)
Introduces fundamental concepts of energy management, including energy production and costs, and efficiency/conservation methods available for energy use reduction. Analysis of methods by which energy is used, and its environmental and financial impacts and consequences. Investigation of methods to identify and assess energy conservation opportunities. Optional field trips.
GEOL 225 Solar/Photovoltaic Design and Installation  
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
Design, installation and maintenance of grid-tied and stand-alone photovoltaic systems. This course is designed to prepare the student for the NABCEP Entry-Level PV Installer Certification exam.

GEOL 226 Solar Thermal Design and Installation  
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
Design and installation and maintenance of solar thermal systems, with special emphasis on residential domestic hot water.

◆ Guided Studies

GUID 100 Personal Skills I  
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
Examination of the transition process; analysis of emotional and behavioral responses; comparison of coping styles and techniques; examination and evaluation of the decision-making process; and self-assessment of life planning and goal-setting.

GUID 108 Academic Success  
3 credits. 3 hours. (Lecture 3 hours.)  
Students taking this course will participate in activities designed to identify components of the learning process and personal resources for attitude and motivation management. Students will apply specific study strategies to design effective personal learning and study strategies for academic success.

GUID 109 Career Exploration Seminar  
1 credit. 1 hour. (Lecture 1 hour.)  
Exploration of factors affecting career choice. Identification and discussion of individual values, interests and abilities related to occupations. Overview of the world of work as it relates to career and academic planning. Expansion of career development knowledge, skills and use of resources.

GUID 112 Effective Study Skills  
1 credit. 1 hour. (Lecture 1 hour.)  
Students taking this course will participate in activities designed to identify their type(s) of intelligence(s), their learning style(s) and preference(s), and learning strategies to enhance their learning and study skills. Based on their own self-assessment of their learning style(s), preference(s), and needs, students will examine and learn to use various types of technologies and software programs to enhance their language.

GUID 113 Orientation  
1 credit. 1 hour. (Lecture 1 hour.)  
Comparison of the academic and social demands of college; utilization of campus services and facilities; utilization of college information resources; and exploration and identification of college opportunities to enhance and prepare for current and future life roles.

GUID 114 Educational Options  
1 credit. 1 hour. (Lecture 1 hour.)  
Exploration of the rights and responsibilities of students in the college setting; demonstration of self-advocacy, negotiation, and problem solving skills; design and implementation of action plans; and identification of personal learning styles, strengths, and compensatory strategies.

GUID 115 Stress, Strength, and Satisfaction  
2 credits. 2 hours. (Lecture 2 hours.)  
In-depth examination of sources of personal stress in a changing world. Extended self-assessment of external and internal stressors and useful coping strategies. Application and evaluation of coping strategies/lifestyle choices with an emphasis on recognition of individual strengths. Specific training in healthy practices to promote increased quality of life.

GUID 116 Stress Management  
1 credit. 1 hour. (Lecture 1 hour.)  

GUID 150 Career Planning & Employment Strategies  
3 credits. 3 hours. (Lecture 3 hours.)  
Exploration of factors affecting career choice. Identification and discussion of individual values, interests, and abilities related to occupations. Overview of the world as it relates to career, academic planning and job seeking strategies including resumes, cover letter and interviewing techniques. Learn research techniques for exploring occupations and employment opportunities.

GUID 152 Employment Strategies  
1 credit. 1 hour. (Lecture 1 hour.)  

GUID 199 Special Topics in Guided Studies  
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Guided readings, discussions, and activities related to college adaptation, resilience, and success. Topics and material will vary determined by instructor each semester. Specific readings and activities to be determined by instructor.

◆ Health Information Technology  

HITE 101 Introduction to the Health Information Technology Profession  
2 credits. 2 hours. (Lecture 2 hours.)  
Orientation to the health information management profession and the supporting professional organization. History and evolution of health care delivery, facilities, and practitioners. Supervisory functions of the medical record department.

HITE 102 Health Records Systems, Analysis and Control  
3.5 credits. 4.5 hours. (Lecture 2.5 hours. Laboratory 2 hours.)  
Content, storage, retrieval, control, and retention of medical records, especially hospital records. Forms design and control, microfilming, and computer applications for medical record departments.

HITE 103 Medical Terminology for Health Records  
3 credits. 3 hours. (Lecture 3 hours.)  
Professional language of medicine. Analysis of medical terms by roots and combining forms. Disease processes, diagnostic and operative procedures for each system of the body. Selected medical specialties.
HITE 106 Health Care Statistics
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: HITE 102.
Vital health statistics, their uses and values. Abstracting and
analysis of data from medical records, collection of data from other
sources, and methods of presenting the information.
HITE 108 Legal Aspects of the Health Information
Technology Profession
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: HITE 102.
Legal principles applied to the health care professions.
Confidentiality of the medical record, informed consent, the medical
record as a legal document, release of clinical information, response
to subpoena, and testimony.
HITE 109 Directed Practice I
2.5 credits. 5 hours. (Laboratory 2 hours. Field Studies 3 hours.)
Prerequisite: BIOL 108 and HITE 102.
Supervised on-the-job training in a medical records department.
Supervised discussion of clinical experiences.
HITE 110 Pharmacology
1.5 credits. 2 hours. (Lecture 1 hour. Laboratory 1 hour.)
Prerequisite: BIOL 108 and HITE 103.
Introduction to basic pharmacology with a body systems approach
to disease.
HITE 200 Introduction to Classification Systems
1 credit. 1 hour. (Lecture 1 hour.)
Classification systems used to organize clinical data in health care.
ICD-9-CM classification system will be discussed.
HITE 201 Quality Management
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: HITE 108.
Methods of assessing and improving quality in a health care setting.
Concept of continuous quality improvement. Compliance with
guidelines of regulatory and accrediting agencies.
HITE 202 Classification Systems, Nomenclatures,
Indexes, and Registers I
4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)
Prerequisite: HITE 200.
Study of nomenclatures and classification systems used for coding
and indexing diagnoses and procedures with special emphasis on
ICD-9-CM.
HITE 203 Directed Practice II
2 credits. 4 hours. (Laboratory 1 hour. Field Studies 3 hours.)
Prerequisite: BIOL 108, HITE 202 and HITE 210 or BIOL 108,
and concurrent enrollment in HITE 202 and 210.
Supervised learning experience in a medical records department
under the direction of a credentialed professional involving a variety
of procedures including coding and abstracting health information,
medical transcription, and release of information. Supervised
discussion of clinical experiences.
HITE 204 Specialized Health Records Systems
2 credits. 2 hours. (Lecture 2 hours.)
Overview of specialized health care systems with an emphasis on
record maintenance, requirements of accrediting and regulating
agencies and specialized health information registries.
HITE 206 Specialized Health Records Systems
2 credits. 2 hours. (Lecture 2 hours.)
Overview of specialized health care systems with an emphasis on
record maintenance, requirements of accrediting and regulating
agencies and specialized health information registries.
HITE 207 Classification Systems, Nomenclatures,
Indexes, and Registers II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: BIOL 108 and HITE 202.
Nomenclatures and classification systems for coding and indexing
diagnoses and procedures with emphasis on specialized health care
facilities. Impact of DRGs on the coding function.
HITE 208 Directed Practice III
2 credits. 4 hours. (Laboratory 2 hours. Field Studies 2 hours.)
Prerequisite: HITE 203.
Supervised on-the-job instruction about health record systems in
specialized health care facilities. Supervised discussion of directed
practice experiences.
HITE 210 Classification Systems and Nomenclatures
for Ambulatory Care
3 credits. 4 hours. (Laboratory 2 hours. Laboratory 2 hours.)
Prerequisite: HITE 200 and BIOL 108 or concurrent enrollment in
BIOL 108.
Outpatient coding, classification and payment systems. Assignment
of CPT-4 codes to procedures and services. Common outpatient
procedures. Role of health information technologist in ambulatory
coding and billing.
HITE 211 Organization and Administration in Health
Information
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: HITE 201, 202, and 203.
General principles of management and organization as applied
to health information settings. Budget development and control,
personnel, recruitment and retention, performance appraisal,
and progressive discipline. Office design, productivity monitoring,
work simplification, job analysis and job descriptions, and quality
management.
HITE 212 Introduction to Medical Insurance & Office
Procedures
1.5 credits. 2 hours. (Laboratory 1 hour. Laboratory 1 hour.)
Prerequisites: HITE 103, HITE 202, HITE 210, BIOL 108.
An overview of medical office systems and administrative
procedures, with emphasis on insurance billing, compliance with
regulatory agencies, and technology tools, including medical
transcription.

◆ Heating, Ventilation and Air Conditioning

Richard Decker  Mike Thorne  Jess Harding

HVAC 109 Electricity for HVAC/R Technicians
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Advanced AC and DC theory, control relays, motors, compressors.
Assembly and use of all major HVAC components. Construction
and use of wiring diagrams.
HVAC 111 Principles of Heating, Ventilation, and Air
Conditioning
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to the basic elements of heating, ventilation, and air
conditioning systems. Heat laws, psychrometrics, heating and
cooling load estimating, design, and distribution.
HVAC 120 Fundamentals of Refrigeration
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Basic principles of refrigeration and their application in domestic refrigeration. Development of manipulative skills required for the installation, maintenance, and servicing of domestic equipment.

HVAC 135 Residential Heating A/C I
4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)
Prerequisite: HVAC 109, 111, and 120 (or take concurrently).
Installation of residential systems; tools, equipment, uniform mechanical code. Troubleshooting and servicing standard efficiency units.

HVAC 136 Residential Heating and Air Cooling II
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: HVAC 135.

HVAC 201 Stationary Engineering
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HVAC 111 and 120.
Principles and safe operation of low pressure and high pressure boilers. The course will prepare students for the basic licensing examination for stationary engineering.

HVAC 211 Design and Estimating
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HVAC 111.
Design and function of air conditioning ductwork. Calculations for proper distribution. Construction and installation of duct systems for residential and commercial heating and cooling.

HVAC 221 Commercial Refrigeration
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: HVAC 120 and 109.
The refrigeration cycle applied to commercial uses. Sizing, selection, installation, and servicing of commercial and industrial refrigeration equipment.

HVAC 230 Sheet Metal Layout and Fabrication
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Study of the design, installation, balancing, and selection of components for air distribution systems. Lab work includes planning, layout, and fabrication of duct work.

HVAC 235 Systems Installation
3 credits. 4 hours. (Lecture 0 hour. Laboratory 2 hours.)
Prerequisites: HVAC 136 and 230.
Installation of residential HVAC systems including building code review, sizing, selection and installation practices.

HVAC 240 Geo-Thermal & Air Source Heat Pumps
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: HVAC 136.
Installation and service of Geo-Thermal and Air Source Heat Pumps. Troubleshooting and maintenance.

HVAC 250 Co-Op Workstudy
3 credits. 7 hours. (Lecture 1 hour. Field Studies 6 hours.)
Must have a minimum of 15 credit hours in HVAC courses. Advanced student gets on-the-job experience supervised by area employers. Objectives are directed by classroom sessions and job activities.

HVAC 291 Special Topics
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Problem solving related to climate control technology with emphasis on research and/or laboratory projects.

HVAC 292 Special Topics
2 credits. 2 hours. (Lecture 2 hours.)
Problem solving related to climate control technology with emphasis on research and/or laboratory projects.

HVAC 293 Special Topics
3 credits. 3 hours. (Lecture 3 hours.)
Problem solving related to climate control technology with emphasis on research and/or lab projects.

◆History

MCC-Blue River  MCC-Longview  MCC-Maple Woods
Sharon Bagg      Priscilla Jackson-Evans      Crystal Johnson
William Worley  Patricia McGovern        William Young
David Miller    Randall Moore             Elliot Schimmel
MCC-Penn Valley  Lyle Gibson             Greg Sanford

HIST 120 United States History to 1865
3 credits. 3 hours. (Lecture 3 hours.)
Survey of American history and institutions from pre-Columbian times through the Civil War. Examines economic, social, cultural, intellectual, and political development. Federal and Missouri constitutions.

HIST 121 United States History since 1865
3 credits. 3 hours. (Lecture 3 hours.)
Survey of American history and institutions from the Civil War to the present. Examines economic, social, cultural, intellectual, and political development. Federal and Missouri constitutions.

HIST 130 Women in American History
3 credits. 3 hours. (Lecture 3 hours.)
This course focuses on the roles women have played in the history of the United States. It traces the attitude towards women from antiquity through the revolutionary era to the present day. Students will examine the general demographic, economic and social changes affecting women of all classes. Requirement Designation: Human Diversity

HIST 133 Foundations of Western Civilization
3 credits. 3 hours. (Lecture 3 hours.)
Survey of Western Civilization through the classical civilizations of Greece and Rome, the Middle Ages to the Renaissance. Brief comparative summaries of Near Eastern and Oriental civilizations. This course will satisfy either Humanities or Social Science AA degree requirements.

HIST 134 Modern Western Civilization
3 credits. 3 hours. (Lecture 3 hours.)
Survey of European history from the renaissance to the present. Emphasis on Renaissance and Reformations, the emergence of the modern state, industrialism, nationalism, and the problems caused by war, revolution and imperialism in the 20th and 21st centuries. Relationship of European civilization to the developments of the non-European world. This course will satisfy either Humanities or Social Science AA degree requirements.
HIST 140 African American History
3 credits. 3 hours. (Lecture 3 hours.)
The historical experience of people of African civilization, to European contact, enslavement and freedom in the New World Diaspora (Latin America, the Caribbean, and North America). The cultural, social, political, and economic dimensions of African American history will be explored, as will the accomplishments and unique perspectives of African Americans. Requirement Designation: Human Diversity

HIST 145 Survey of English History
3 credits. 3 hours. (Lecture 3 hours.)
Survey of the evolution of England from the middle ages to the present. Emphasis on political, economic, religious, and literary development.

HIST 150 Native American History
3 credits. 3 hours. (Lecture 3 hours.)
This course will examine North American history in the United States from pre-Columbian times to the present. Attention will be paid to social, cultural, political, legal, and environmental factors which influenced intertribal relationships and relationships between Native Americans and non-Native Americans. The course will focus on the diversity of experiences based on region and specific tribal identity. The accomplishments of individual Native Americans will also be examined. Requirement Designation: Human Diversity

HIST 199 Special Topics in History
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Prerequisites: ENGL 101.
Guided readings and discussion in history. Topics and material will vary by instructor each semester. Specific reading lists, activities and writing assignments to be determined by the instructor. This course is intended to go into detail and research beyond the material covered in the United States or Western Civilization survey courses.

HIST 202 Material Culture and the American Past
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HIST 120 or 121.
Introduction to the major themes, issues, and methods relevant to the study of material culture. Covers rise of material culture studies with focus on how objects inform the historical record. Readings and discussion address broad questions including: How do museums inform national identity? What do landscapes and buildings reveal about race, class, and gender relations? When is historical preservation a political act and what does it mean to re-enact? Kansas City metropolitan area used as a lens through which to frame these questions.

HIST 203 Introduction to Public History
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Any history course.
Public history is the application of historical methods outside of colleges and universities, people who work in museums, archives, and historical associations practice public history, as can state and federal policy makers. This course examines issues confronting public historians including methods for collecting and presenting history, the relationship between history and memory, and the politics of practicing history in public.

HIST 226 American Frontiers
3 credits. 3 hours. (Lecture 3 hours.)

Human Sciences

HUMS 100 Introduction to Human Services
3 credits. 3 hours. (Lecture 3 hours.)
This is the introductory course in the field of human services. Students are invited to explore how factors such as poverty, race, gender, mental health, ethnicity, sexual orientation, and disability have affected the ability of individuals and groups to function in society. In addition, students will examine the nature of cross-cultural competence when serving diverse client populations. Course includes examination of strengths-based interventions with diverse client populations facing multiple barriers to physical, psychological, and social well-being.

HUMS 126 Corrections in the Community
3 credits. 3 hours. (Lecture 3 hours.)
Community correctional problems. Diversion, halfway programs, prerelease centers, group homes, probation and parole. Community treatment needed to support these programs. Evaluation of an agency.
HUMS 160 Principles of Youth Work  
3 credits. 3 hours. (Lecture 3 hours.)  
Prepare students to function as youth workers using a youth development approach in community-based, residential, group home and other youth work environments. Students will explore these concepts: developing a professional awareness of youth work, identifying and distinguishing between asset building models and deficit based models of adolescent development and developing a capacity to design implement programs consistent with the needs of youth in relation to available resources.

HUMS 167 Spec Issues in Human Services  
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Topics related to the field of social services that explore areas of concern related to agency needs or student preparation needs.

HUMS 168 Introduction to Practicum  
1 credit. 1 hour. (Lecture 1 hour.)  
Prerequisite: HUMS 100.  
This course is designed to prepare students for HUMS 201. It is structured to assist students to explore their interests and aptitude for various human service delivery systems and to examine their social settings and understanding of self, which is crucial to becoming an effective practitioner.

HUMS 171 Crisis Intervention  
1 credit. 1 hour. (Lecture 1 hour.)  
Prerequisite: HUMS 100 or PSYC 140.  
Crisis intervention involves the short term use of specific skills and strategies to help people in crisis cope with turmoil resulting from specific emergency situations or events. Crisis intervention is an approach to helping relationships that is distinctive from other counseling models. This course is designed to familiarize students to basic crisis theory with the application of helping strategies in basic crisis intervention.

HUMS 172 Aging, Alcoholism and Medications  
1 credit. 1 hour. (Lecture 1 hour.)  
This course will examine the use and abuse of alcohol and drugs among older people. This includes a focus on the social forces impacting the older adult in society, pertinent demographics, special considerations in diagnosis and treatment, and the proper use of prescription drugs. This course is designed for students and in-service professionals working in the fields of aging, mental health or substance abuse. It is believed that mutual participation will enrich the classroom experience through valuable sharing from the perspective of different service providers.

HUMS 174 Counseling Issues with Today's Families  
1 credit. 1 hour. (Lecture 1 hour.)  
Exploring the changing family structure and changing relationship implications within the family. Examining the family as a social system and discussing treatment implications for the human services worker.

HUMS 175 Spirituality in Addiction Recovery  
1 credit. 1 hour. (Lecture 1 hour.)  
Defines the process by which persons in early recovery begin to accept their need for spiritual components in their life. Incorporates spirituality concepts into the treatment process. Demonstrates the importance of spirituality to support recovery for multiple addictions and as a tool for relapse prevention.

HUMS 176 Addiction Management  
1 credit. 1 hour. (Lecture 1 hour.)  

HUMS 177 Positive Dependency  
1 credit. 1 hour. (Lecture 1 hour.)  
Positive aspects of dependency. The challenge model is a therapeutic approach of viewing survivors of troubled families developed by Drs. Steven and Sybil Wolin. This model contrasts with traditional models that emphasize damage and pathology. This course emphasizes strengths found in many children from dysfunctional families that are protective in nature and a positive approach toward healthier choices.

HUMS 178 Women's Issues in Addiction  
1 credit. 1 hour. (Lecture 1 hour.)  
This class will examine the special issues for women who are addicted to chemical substances and/or behaviors. We will discuss factors that may predispose women to addictions, recognition of addiction in women, and the special needs for counseling women who are addicted.

HUMS 180 Gambling Addictions  
1 credit. 1 hour. (Lecture 1 hour.)  
Basic information about gambling addiction in our society and the interventions and treatment for the clients and family. Extensive overview of types of gambling found in our society as well as demographic factors that contribute.

HUMS 190 Community Mental Health  
3 credits. 3 hours. (Lecture 3 hours.)  
Analysis of community mental health from a sociological and clinical social work perspective. It is designed to give students an overview of various dimensions of mental illness which include assessment, intervention strategies with diverse groups, types of treatment facilities, and special issues.

HUMS 191 Youth Development Seminar  
1 credit. 1 hour. (Lecture 1 hour.)  
This course is designed to familiarize students with the theory and practice of youth development. Students will explore conceptual definitions of youth development and discuss the implications of integrating youth development theory into practice.

HUMS 201 Human Services Practicum I  
3 credits. 3 hours. (Lecture 2 hours. Field Studies 1 hour.)  
Prerequisite: Human Services Program Coordinator consent, HUMS 168 and co-enrollment in HUMS 203.  
Initial field experience in a social service, mental health, juvenile treatment, or other community service agency.

HUMS 202 Human Services Practicum II  
3 credits. 3 hours. (Lecture 1 hour. Field Studies 2 hours.)  
Prerequisite: Human Services Program Coordinator consent, HUMS 201 and 203, and concurrent enrollment in HUMS 204.  
Continued field experience in a social service, mental health, educational, or other community service agency. Evaluation of the effectiveness of the agency.

HUMS 203 Colloquia I  
1 credit. 1 hour. (Lecture 1 hour.)  
Prerequisite: Human Services Program Coordinator consent, HUMS 168, and concurrent enrollment in HUMS 201.  
Analysis of the practicum learning experience. Discussion of strategies useful in learning to work with different client populations. Development of interpersonal skills essential to establishing necessary relationships.
HUMS 204 Colloquia II
1 credit. 1 hour. (Lecture 1 hour.)
Prerequisite: Human Services Program Coordinator consent, HUMS 201 and 203, and concurrent enrollment in HUMS 202.
Analysis of the practicum learning experience. Continued development of interpersonal skills. Discussion of community resources, problem solving, agency effectiveness, and counseling skills.

HUMS 210 Basic Counseling Skills and Interpersonal Communication
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HUMS 100.
Development of interpersonal skills necessary for effective performance in the helping professions. Analyzing differences in individual values and social backgrounds. Demonstration interviewing and counseling techniques.

HUMS 220 Social Welfare
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HUMS 100.
Historical perspectives of social welfare policies from prehistoric to present. Analysis of agency structures, administrative policies, and agency politics as they affect delivery systems. Administrative and supervisory styles related to agency function.

HUMS 275 Alcohol and Drug Addiction
3 credits. 3 hours. (Lecture 3 hours.)
Exploration of the field of alcohol and drug use, biological, physical, psychological, and social causation theories. Particular attention is directed toward local and national initiatives in alcohol and drug abuse.

HUMS 280 Addiction Counseling with Special Populations
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HUMS 275 or CRJU 275.
Cultural, racial, age, and sex differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.

HUMS 285 Addiction Client Management
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: HUMS 280 or CRJU 280.
Case management procedures used with addicted clients. Assessment, planning, evaluation, and record keeping employed in treatment addiction treatment. Case presentation techniques. Ethical issues. Case management and recovery.

HUMN 103 Introduction to International Studies
3 credits. 3 hours. (Lecture 3 hours.)
This course will prepare students to be citizens of the world through an understanding of the interconnectedness of the human experience and discussion of global issues from many different perspectives. Topics presented will enable students to reflect upon how individuals in various cultures past, present and future are united in their humanity.

HUMN 105 Leadership Development
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Honors program enrollment.
Study of leadership principles using examples from classical literature, film, and historical events. Interdisciplinary approach.

HUMN 133 Foundations of Western Civilization
3 credits. 3 hours. (Lecture 3 hours.)
Ancient civilizations from primitive human beginnings to premodern era. Greece and Rome-government, religion, philosophy, art, architecture, drama, and social institutions. Exploration of the thoughts and feeling of people of the premodern period about themselves, their place in the universe, and the human condition.

HUMN 134 Modern Western Civilization
3 credits. 3 hours. (Lecture 3 hours.)
May be taken without HUMN 133. Background of the premodern world. The modern state-Renaissance and Reformation, industrialism, war, revolution, and imperialism. Relationship of western civilization to developments in other parts of the world. Exploration of the thoughts and feelings of modern human beings about themselves, their place in the universe, and the human conditions.

HUMN 140 Humanities Past and Present
3 credits. 3 hours. (Lecture 3 hours.)
An overview of the history and philosophy of human culture as seen through the arts and the study of their impact on life today.

HUMN 141 Latin American Humanities
3 credits. 3 hours. (Lecture 3 hours.)
This course introduces students to many forms of Latin American culture, past and present, including art, architecture, music, literature, and film. The course includes an overview of geography, indigenous peoples, colonization and nation formation needed to understand cultural practices and influences. Requirement Designation: Human Diversity

HUMN 145 Comparative Humanities: Myth Through Time
3 credits. 3 hours. (Lecture 3 hours.)
Study and compare global cultural myths throughout time, including their historical, artistic, cultural, and ideological development, in order to better understand the behavior, ideals, values, and beliefs of diverse groups of people. Requirement Designation: Human Diversity

HUMN 165 American Humanities: Diversity in the American Experience
3 credits. 3 hours. (Lecture 3 hours.)
Through a study of American history, literature, and culture, this course will explore issues of critical significance in American life and thought. A special focus will be placed on issues of American identity and on the role that pluralism plays in the life of American communities, especially communities in the Midwest. The contributions of Native Americans, African Americans, Hispanic Americans, Asian Americans, and women's cultural and political activities will be included. Requirement Designation: Human Diversity
HUMN 200 Honors Seminar I
1 credit. 1 hour. (Lecture 1 hour.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 201 Honors Seminar II
1 credit. 1 hour. (Lecture 1 hour.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 202 Honors Seminar III
1 credit. 1 hour. (Lecture 1 hour.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 203 Honors Seminar IV
1 credit. 1 hour. (Lecture 1 hour.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 204 Honors Seminar V
2 credits. 2 hours. (Lecture 2 hours.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 205 Honors Seminar VI
2 credits. 2 hours. (Lecture 2 hours.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 206 Honors Seminar VII
2 credits. 2 hours. (Lecture 2 hours.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

HUMN 207 Honors Seminar VIII
2 credits. 2 hours. (Lecture 2 hours.)
This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester. Requirement Designation: Honors

◆ Industrial Technology
  MCC-Business & Technology

Gene Johnson
Tim Gill

INTE 110 Industrial Electrical Principles
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: Completion of or concurrent enrollment in MATH 103 and INTE 115.
This course is designed to give the student real world experience in moving into an industrial maintenance or related activity. Behavior of electricity, sources of electricity, Ohms and Watts laws, electrical power distribution, transformers, electrical safety, electrical measurements and basic components are covered.

INTE 115 Electrical Print Reading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: INTE 110.
This course is designed to teach the student to read and interpret electrical blueprints commonly found in residential, commercial and industrial maintenance settings. Topics include blueprint layout, symbols, projections, dimensions, tolerances, clearances, assembly and bill of material.

INTE 120 Industrial Technologies Internship I
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to give the student real world experience in the industrial technologies field. The student will perfect techniques and job responsibilities learned in prior courses under the direction of a mentor.

INTE 122 Welding Layout and Fabrication
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Learning layout skills for welding fabrication of structural steel and piping systems. Topics include: laying out angles with a steel square and piping system components such as bolt holes for flanges, two- and three-piece 90-degree turns, header and branch, concentric reducters.
INTE 124 Employment Strategies for Technical Careers
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: CSOF 100 or CSIS 115.
This course prepares the student to use strategies for successful career goal setting, job seeking, obtaining, maintaining and terminating employment in technical areas. Topics include conducting a job search, preparing a resume and cover letter, and participating in job interviews.

INTE 131 Special Problems and Projects
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Independent study in Industrial Technologies related areas under the supervision of the faculty member.

INTE 140 Fundamentals of Industrial Maintenance
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
This course is designed to present the fundamentals of the care and maintenance on a wide range of industrial equipment, including chain and gear drives, couplings and fluid power equipment. Lubricants and lubrication will be covered. The replacement of seals and bearings will be covered. Correct application and selection of tools.

INTE 142 National Electric Code (NEC)
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: INTE 110.
The course is designed to present the requirements of the National Electric Code. Topics include requirements, codes, wiring requirements, conduit, hazardous locations, overcurrent protection, motor protection, installations and safety.

INTE 150 Fundamentals of Hydraulics
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
An introduction to fluid power. Topics include the physics of fluid power, safety, hydraulic pumps, actuators, pressure and flow measurement and regulation, basic maintenance, motors, coolers, and system operation.

INTE 151 Industrial Rigging
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
The course is designed to present the safe and correct ways to rig and hoist equipment. Topics include fiber and wire rope, rope fundamentals, wire rope maintenance, cranes, braking, grounding, center of gravity, nets, slings, hooks and ladders.

INTE 167 Welding I SMAW
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Learn basic shielded metal arc welding of flat, horizontal, vertical and overhead carbon steel plates and cutting with oxy-fuel equipment. Also covered: basic welding theory included coated electrode specs, welding power sources, polarities, duty cycles, cutting gases, gas cylinders, gas regulators, basic weld joints and weld joint preparation.

INTE 168 Welding II SMAW
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: INTE 167.
The course is designed to cover advanced SMAW techniques commonly used in the welding industry. Various types of V groove joints are taught. Different kinds of electrodes are taught and used. The course has an introduction to the technique for pipe welding using the SMAW process.

INTE 170 TIG Welding, GTAW
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
The course is designed to cover Gas Tungsten Arc Welding known as TIG or Heliarl. Techniques and procedures used in the welding of carbon steel sheet metal, plate, and pipe will be taught with emphasis on x-ray quality welds. Lectures on power sources, TIG equipment, types of shielding gas, non-consumable electrodes, filler metals, and weld defects will be covered. Emphasis on shop safety and oxy-fuel safety will be stressed.

INTE 171 MIG Welding, GMAW
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Course is designed to cover Gas Metal Arc Welding. This industrial GMAW (MIG) class studies many welding operations. Learn techniques for welding fillets and open-but, single-vee-groove joints in all positions as well as using oxy-fuel equipment and safety procedures. Study power sources, metal transfer modes and joint design.

INTE 175 Electric Motor Controls I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: HVAC 109 or INTE 115.
The course is designed to present the fundamentals of electrical motor control components, circuits and systems. Topics include electrical control symbols, power distribution, control transformers, solenoids and relays, motor starters, pilot devices, timers and sequencers, dc and ac motor principles, proximity sensors and troubleshooting.

INTE 220 Industrial Technologies Internship II
3 credits. 3 hours. (Lecture 0 hour.)
This course is designed to give the student real world experience in the industrial technologies field. The student will perfect techniques and job responsibilities learned in prior courses under the direction of a mentor.

INTE 225 Industrial Electrical Print Reading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: INTE 115.
This course introduces the student to industrial prints. The student will become familiar with electrical schematics, wiring diagrams, one-line diagrams and P&IDs (Process & Instrumentation Diagrams). Upon completion of this class, the student will be able to demonstrate the ability to use these prints to maintain, troubleshoot and install electrical systems in the workplace. They will be able to determine safety hazards and proper procedures for guarding against those hazards.

INTE 260 Pipe Fitting Fundamentals
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: HVAC 201.

INTE 270 Instrumentation and Process Controls
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: INTE 225 and INTE 272.
The course is designed to provide the individual with an ability to understand the various control schemas found in industrial settings. The course covers pressure, temperature, level, and flow detection and calculations. Lab activities will include calibration, tuning and installation of various analog and smart equipment used in industry.
INTE 271 Programmable Logic Controller I
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: INTE 110, 175 & CSOF 100 or concurrent enrollment.
The course is designed to provide the individual with an ability to understand the various output methods, programming and troubleshooting techniques using the programmable controllers (PLC). I-O methods for dc and ac and analog, ladder programming and analysis, logical functions, timers and counters, forcing and troubleshooting techniques are among the specific topics covered. The student will be able to correlate motor control systems to PLC systems.

INTE 272 Programmable Logic Controller II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: INTE 115 and 271. This course is designed to provide the individual with the skills needed to study process control, motion control, addressing input/outputs and intercommunications. Topics include: advanced instruction sets for applications, analog, stepper, searching, on-line editing, cross referencing and ControlLogix software.

INTE 273 Variable Speed Motors and Drives
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: INTE 175 and 271.
The course will cover the theory and application of AC and DC Motors and their uses in industry. Theory and application of the various methods to control the speed of AC and DC electric motors using solid state devices will also be covered including thyristor and transistor controlled circuits, three phase triggered circuits, variable phase, frequency and voltage circuits.

INTE 275 Electric Motor Control II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: INTE 175.
Installation and maintenance of electrical control equipment, timing devices, solenoids, limit switches, electrical power distribution, reduced voltage motor starting, overcurrent protection and preventative maintenance are covered.

INTE 276 Electrical Troubleshooting
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: INTE 275.
The course is designed to present the systematic approaches to electrical troubleshooting. An emphasis is placed on electrical and electromechanical controls. Discussions of trouble analysis will be followed by the student analyzing various introduced troubles into control systems. Replacement of components are covered.

INTE 277 Programmable Logic Controller Troubleshooting
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisites: INTE 110, INTE 175, and CSOF 100 or concurrent enrollment.
The course is designed to provide the individual with an ability to understand the various output methods, programming and troubleshooting techniques using the programmable controllers (PLC). I-O methods for dc and ac and analog, ladder programming and analysis, logical functions, timers and counters, forcing and troubleshooting techniques are among the specific topics covered. The student will be able to correlate motor control systems to PLC systems.

INTE 290 Programmable Logic Controller Capstone
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: INTE 277.
This course will assist the student in developing and creating documentation to support a portfolio to present to prospective employers. The student will use the skills they have acquired in previous classes to convert several Motor Control relay logic systems to the most current PLC programming software. They will create safety procedures to use in the workplace related to Programmable Logic Controllers. The student will learn how to use function block diagram programming in PLCs.

◆Land Surveying

SRVY 135 Elementary Surveying
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MATH 105, 130, or 150.
Introduction to the care and use of optical surveying instruments; Transits, Total Stations and Auto Levels. Use of cloth tapes, steel tapes and electronic distance machines. Reduction of slope measurements to horizontal and vertical components. Measurement, field data reduction and adjustment of a closed traverse. Horizontal and Vertical curves, earthwork, and coordinates. Extensive field work, field notes and electronic data collection. Introduction to systematic and random errors.

SRVY 137 Subdivision Planning and Layout
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135 and DRAF 152.
Physical elements of designing land subdivisions including traffic circulation, sewer and drainage systems, soils and earthwork, grading considerations, erosion control, lot and block arrangement, topography and existing land use factors, geometric analysis; laws and codes affecting land subdivisions; environmental considerations; site analysis procedures.

SRVY 235 Advanced Surveying
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135.
This course is a continuation of surveying skills introduced in SRVY 135 with an emphasis on advanced techniques beyond plane surveying such as geodetic control networks, practical astronomy, state plane coordinates, photogrammetry, and the US Public Land Surveys System.

SRVY 236 Boundary Control and Legal Principles
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135.
A study of the legal principles of land boundaries, section corners, area; interpretations of land descriptions, identification of land parcels; legal principles of boundary locations, and the United States land survey system.

SRVY 237 Evidence and Procedures for Boundary Location
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135.
A study of the land survey practice of retracement and creation of new parcels as it relates to; the lot survey, the sectional survey, the water boundary survey. Further, standard business practice will be discussed.
SRVY 240 Analysis of Survey Measurements I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135 and MATH 115.
Introduction to the nature of surveying instruments and their use. Analysis of the effect that instruments and observers have on measurements. Explanation of random error propagation and estimates of uncertainty. Introduction to adjustment of data.

SRVY 242 Analysis of Survey Measurements II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: SRVY 240.
This course is a continuation of analytical skills introduced in SRVY 240. Analysis of Survey Measurements I as they apply to adjustments of horizontal, GPS and level networks. Emphasis will also be placed on Coordinate transformation, advanced curve fitting and blunder detection in survey networks.

SRVY 244 Fundamentals of GPS Surveying
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SRVY 135.
The purpose of this course is to introduce the student and practitioner to the modern practices of satellite surveying with an emphasis on its origins in physical geodesy.

◆Law Enforcement

MCC-Blue River
Butch Roll

LWEN 100 Introduction to Public Safety
2 credits. 2 hours. (Lecture 2 hours.)
Students will review the history of law enforcement and be introduced to career requirements and opportunities within the law enforcement community.

LWEN 101 Introduction to Law Enforcement
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: LWEN 100.
Philosophical and historical background of law enforcement. Organization, purpose and functions of law enforcement personnel on the local, state and federal levels. The respective roles of personnel in law enforcement, career requirements and opportunities in these fields.

LWEN 111 Law Enforcement Operational Procedures
3 credits. 5 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: LWEN 101.
This course will present to the student the duties, responsibilities, and techniques of modern law enforcement patrol activities. Types of patrol, vehicle stops, field interview, community policing, and procedures for handling various types of calls for service.

LWEN 112 Traffic Control & Investigation
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: LWEN 100.
This course will present fundamentals of traffic control and accident investigation. Regulation, control, and enforcement of traffic laws and municipal ordinances will be presented and discussed. Procedures for response, evaluating, protecting and investigating accident scenes will be integrated into the course.

LWEN 114 Law Enforcement Report Writing
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: LWEN 101.
This course will present to the student the methods of writing various types of law enforcement reports. Field interview techniques, interview environment, and the steps used to achieve a successful interview will be presented. Written reports will cover a variety of criminal offenses or incidents, and will require the use of interview skills and investigative efforts in order to gather information necessary to complete a law enforcement report.

LWEN 122 Procedural Law for Law Enforcement
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: LWEN 101.
This course presents the fundamental concepts of constitutional law as applied to law enforcement. Rules of evidence, admissions and confessions, Miranda, arrest procedures, and search and seizure issues will be taught. A review of relevant case law and how it affects contemporary law enforcement practices will also be presented.

LWEN 142 Criminal Law Enforcement
4 credits. 7 hours. (Lecture 1 hour. Laboratory 6 hours.)
Prerequisite: LWEN 101.
This course is designed to instruct students in basic physical fitness and defensive tactics for law enforcement.

LWEN 200 Law Enforcement Skills
5 credits. 8 hours. (Lecture 2 hours. Laboratory 6 hours.)
Prerequisite: LWEN 101.
This course provides students with opportunities to gain skill development in usage of firearms under the supervision of professionals with experience in the law enforcement field.

LWEN 203 Criminal Investigation I for Law Enforcement
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: LWEN 101.
This course will present an introduction to law enforcement criminal investigations. This course presents theory of investigation, procedures at a crime scene, collection and preservation of physical evidence, source of information, questioning of witnesses and suspects, preliminary and follow-up investigation, and case and trial preparation.

LWEN 204 Criminal Investigations II for Law Enforcement
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: LWEN 101 and 203.
This course will present to the student the appropriate methods to be utilized in the investigation of County and Municipal offenses. This course will also give the student practical knowledge to deal with Crisis Intervention.

LWEN 230 Missouri Statutory Law
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: LWEN 101.
This course will present to the student definition and practical application of the Missouri Criminal Statutes. Difference between criminal and civil matters will also be discussed. Students will gain knowledge of juvenile justice procedures.
MATE 100 Introduction to Manufacturing Technology and Related Industry
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
This course is designed to introduce the student to the manufacturing environment, requirements and career opportunities of major technologies in industry. The course will cover the history, setting of manufacturing and industry, safety, drawings, measurement and layout and an introduction to basic shop equipment. A brief introduction to CNC concepts will also be covered.

MATE 101 Machining and Tooling I
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: MATE 100.
This course is designed to introduce the student to basic manual machining techniques utilizing band machines, drill presses, lathes, and milling machines.

MATE 102 Machining and Tooling II
5 credits. 8 hours. (Lecture 2 hours. Laboratory 6 hours.)
Prerequisites: MATE 100, 101.
This course is designed to introduce the student to advanced techniques in the operation of lathes, milling machines, and grinders as well as metal finishing and heat treating processes.

MATE 103 Machining and Tooling III
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATE 102.
This course is designed to teach the student advanced techniques in the operation of lathes, milling machines, and grinders. The student will be introduced to automated manufacturing, quality control techniques, and electromachining processes.

MATE 104 Machining and Tooling IV
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATE 103 or concurrent enrollment.
This course is designed to teach the student advanced techniques in the operation of lathes, milling machines, and grinders. The student will be introduced to nontraditional machining techniques, cutter grinding, and other machining processes.

MATE 105 Manufacturing Internship I
3 credits. 3 hours. (Field Studies 3 hours.)
Prerequisite: MATE 102.
This course is designed to give the student real world experience in a manufacturing environment. The student will perfect machining and tooling techniques and job responsibilities learned in prior courses under the direction of a mentor.

MATE 111 Special Problems and Projects
1-3 credits. 1-3 hours. (Independent Study 1-3 hours.)
Independent study in Machine Tool related areas under the supervision of a faculty member.

MATE 114 Metrology
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
The student will develop the technical competency to use, read and care for measuring devices in inspection and manufacturing settings.

MATE 115 Blueprint Reading for the Trades
3 credits. 3 hours. (Lecture 3 hours.)
The student will learn to read and interpret blueprints commonly found in the skilled trades. Topics include drawings, drafting procedures, print reading procedures for the skilled trades, and machining specifications. This course is designed for students in the skilled trades and specific focus will be placed on the manufacturing industry.

MATE 116 Geometric Dimensioning and Tolerancing Printreading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: ETEC 152 or MATE 115.
Geometric Dimensioning and Tolerancing (GD&T) is a method for stating and interpreting design requirements. GD&T is an international system of symbolic language and is simply another tool available to make engineering drawings a better means of communication from design through manufacturing and inspection. GD&T begins with basic principles and builds on these principles with applications-oriented concepts, complex material is presented in a “building-block” approach.

MATE 117 Processes and Quality
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Individuals seeking employment in manufacturing and related occupations should be aware of processes and rigorous quality standards required in technical careers. This course will prepare the student for Six Sigma Green Belt certification upon completion of the course.

MATE 130 Machining for Related Occupations
5 credits. 8 hours. (Lecture 2 hours. Laboratory 6 hours.)
This course is designed to introduce the student to common machining practices. The student will learn layout, measuring tools, benchwork, machine setup and operation required to operate saws, drill presses, lathes and mills. This course is designed for the student pursuing degrees that require a knowledge of machining.

MATE 131 NIMS Level I Credentials - Job Planning, Benchwork & Layout
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, MATE 101, or MATE 130, MATE 115 and MATH 103.
Students receive NIMS Level I Credentials in Job Planning, Benchwork, and Layout upon successful completion of the performance tests and theory exams. NIMS documents the skills of the individuals through the skill standard developed through a consortium.

MATE 132 NIMS Level I Credentials Milling
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, MATE 101, MATE 102, MATE 115 and MATH 103.
A student receives NIMS Level I Credentials in Milling upon successful completion of the performance test and theory exam. NIMS documents the skills of individual through the consortium developed skill standard.

MATE 133 NIMS Level I Credentials Lathe - Chucking
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, MATE 101, MATE 102, MATE 115 and MATH 103.
A student receives NIMS Level I Credentials in Lathe-Chucking upon successful completion of the performance test and theory exam. NIMS documents the skills of individual through the consortium developed skill standards.
MATE 134 NIMS Level I Credentials Lathe - Turning
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, MATE 101, MATE 102, MATE 115 and MATH 103.
A student receives NIMS Level I Credential in Lathe - Turning upon successful completion of the performance test and theory exam. NIMS documents the skills of the individual through the consortium developed skill standards.

MATE 135 NIMS Level I Credentials Surface Grinding
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, MATE 101, MATE 102, MATE 115 and MATH 103.
A student receives NIMS Level I Credential Surface Grinding upon successful completion of the performance test and theory exam. NIMS documents the skills of the individual through the consortium developed skill standards.

MATE 136 NIMS Level I Credentials CNC Milling
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisite: MATE 220.
Students receive NIMS Level I Credentials in CNC Milling upon successful completion of the performance tests and theory exams. NIMS documents the skills of the individual through the skill standard developed through a consortium.

MATE 137 NIMS Level I Credentials CNC Turning
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisite: MATE 220.
Students receive NIMS Level I Credentials in CNC Turning upon successful completion of the performance tests and theory exams. NIMS documents the skills of the individual through the skill standard developed through a consortium.

MATE 138 NIMS Level I Credentials Drill Press
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Prerequisites: MATE 100, 101, 102, 115 and MATH 103.
Students receive NIMS Level I Credentials in Drill Press upon successful completion of the performance tests and theory exams. NIMS documents the skills of the individual through the skill standard developed through a consortium.

MATE 201 Basic Metallurgy
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATE 101.
Metallurgy covers all aspects of metallurgical engineering, which include the three areas of extractive, mechanical, and physical metallurgy. Properties of ferrous and nonferrous metals.

MATE 205 Manufacturing Internship II
3 credits. 3 hours. (Field Studies 3 hours.)
Prerequisite: MATE 102.
This course is designed to give the student real world experience in a manufacturing environment. The student will perfect machining and tooling techniques and job responsibilities learned in prior courses under the direction of a mentor.

MATE 210 Computerized Numerical Control - Lathe
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MATE 101 or 130, and MATH 103 or concurrent enrollment.
This course is designed to provide training on computer numerical controlled lathe turning centers. The student will process, program, verify and troubleshoot CNC lathe programs. Set-up and operations are covered and CADCAM programming will be introduced.

MATE 215 Computer Numerical Control Mill
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MATE 101 or 130, and MATH 103 or concurrent enrollment.
This course is designed to provide training on computer numerical controlled milling centers. The student will perfect, program, verify and troubleshoot CNC mill programs. Set-up and operations are covered and CADCAM programming will be introduced.

MATE 220 Advanced Computer Numerical Control - Mill/Lathe
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisites: MATE 225 and MATH 104.
This course is designed to cover advanced CNC programming techniques taking the student beyond standard code practices. Pre-set tooling and parametric (macro) programming with probing examples are covered. CADCAM will be used to produce CNC lathe and mill projects.

MATE 225 Master Cam I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: CSOF 100, and MATE 210 or 215.
This course is designed as an introduction to Master Cam software. Menu screens and configuration of the software will be covered working thru 2-D projects on the lathe and mill.

MATE 226 Master Cam II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MATE 225.
This course is designed for the experienced Master Cam user wanting to explore 3-Dimensional frame creation and surface modeling. The course focus will be on 3-D surface creation, surface machining, construction planes, drawing organization and four and five axis machine procedures.

MATE 227 Master Cam III
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MATE 226.
This course is designed for the advanced Master Cam user. The student will learn advanced techniques for the lathe and four and five-Axis mill. Advanced topics will include four and five-Axis programming, Solids, IGES files, High Speed Function and Surface Creation.

◆ Mass Communications

MSCM 112 Introduction to Mass Communication
3 credits. 3 hours. (Lecture 3 hours.)
Historical study of content, structure, and control of modern communications in American society. Provides criteria for evaluating media content relative to the nature and consequence of news, entertainment, and advertising.

MSCM 113 Basic Radio Production
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Principles and techniques of developing, producing and directing various types of radio programs in the areas of public service, commercial spots, news and sports. Basic operation of radio production equipment.
MSCM 114 Radio Production II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MSCM 113.
Advanced study of production of various types of radio programs in the areas of public service, commercial spots, news and sports.
Advanced operation of radio production equipment.

MSCM 115 Television Production I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisites: MSCM 112 or concurrent enrollment.
Effective and creative use of television studio. Practical experience in non-technical areas like scripting and program development, and technical areas including lighting, audio, graphics, camera operation, switcher and special effects generator.

MSCM 116 Television Production II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MSCM 115.
Pre-production (concept development), production (camera shooting), and post-production (editing), combining remote productions and studio productions into final product.

MSCM 118 Introduction to Public Relations I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MSCM 112 or concurrent enrollment.
History and practices of public relations. Writing various forms of public relations materials and examining field and case studies.
Topics will include unethical public relations practices, and the relationship of public relations to the press and to society.

MSCM 200 Media Internship I
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisite: Six credits in MSCM.
Practical experience working at a local media outlet.

MSCM 203 Media Internship II
3 credits. 15 hours. (Field Studies 15 hours.)
Prerequisites: MSCM 200.
Students will continue to gain practical experience by working with a local media outlet.

MSCM 299 Editing Techniques
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Introduction to the equipment and techniques of editing three-quarter videotape with practical hands-on experience.

Mathematics

MSCM-Blue River
George Green
Tristan Londré
Eric Parsons
Rebecca Schueing
Cheryl Winter
Sarah Parsons

MSCM-Longview
John Church
Kenneth Eichman
Sharon Hamza
Beth Henkle
Le Ann Lotz-Todd
Diane Bailey
Jason Pallett
Kristi Rottinghaus
Suzanne Smith
Janet Wyatt

MSCM-Maple Woods
Audrey Battrum
Kimberly Christensen
Terry Hobbs
Saeeed Irfan
Bob Morgan
Robert Skruckrd
Andrea Vorwark

MSCM-Penn Valley
Tim Chappell
Nic LaHue
Gregory Mitchell

MCC-Business & Technology
Kimball Marsh

MATH 20 Basic Mathematical Operations
3 credits. 3 hours. (Lecture 3 hours.)
Review of all basic mathematical operations. Fractions, decimals, proportions, and percentages. Elementary geometry (perimeter, area and volume).

MATH 20L Basic Mathematics/Lab
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)
Review of basic mathematical operations. Fractions, decimals, proportion, and percentages. Elementary geometry (perimeter, area and volume)

MATH 40 Introductory Algebra
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 20 or MATH 20L, or a satisfactory score on the math placement test.
Review of all operations and properties of real numbers with special attention to work with signed numbers. Solutions of linear equations and inequalities in one variable, using and manipulation formulas. Properties of exponential numbers, definition and basic operations with polynomials and solution of polynomial equations by factoring. Basic operations and simplification of rational expressions. Graphing linear equations in two variables.

MATH 40L Introductory Co-Laboratory Algebra
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATH 20 or MATH 20L, or an acceptable score on the math placement test.
Review of operations and properties of the Real Number System. Operations on polynomials, exponents, and rational expressions. Solving and graphing linear equations. Applications are emphasized throughout the course.

MATH 100 Mathematics for Business
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: MATH 20 or 20L, or an acceptable score on math placement test.
Application of arithmetic and mathematical processes to the solution of practical problems in general business, retailing, accounting, consumer credit, and personal finance.

MATH 102 Technical and Business Math
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: MATH 20 or 20L, or an acceptable score on math placement test.
Applications of unit conversions, ratios, percents, algebra, geometry to basic electricity, mixture rations, pressure, hydraulics, compression, comparing specifications. Applications of percents in consumer credit and personal finance.

MATH 103 Technical Mathematics I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 20 or MATH 20L, or a satisfactory score on the math placement test.
Review of all operations and properties of real numbers with special attention to work with signed numbers. Solutions of linear equations and inequalities in one variable, using and manipulation formulas. Properties of exponential numbers, definition and basic operations with polynomials and solution of polynomial equations by factoring. Basic operations and simplification of rational expressions. Graphing linear equations in two variables.

MATH 103R Technical Mathematics I with Review
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: MATH 20 or MATH 20L or appropriate score on placement exam.
Algebraic expressions, linear equations and systems of linear equations, functions, exponents, graphical analysis. Quadratic equations, factoring common factors and difference of squares, unit conversions, percents, tolerances, clearance, and inference, mean, median, mode.

MATH 108 Technical Mathematics I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 40 or MATH 40L or appropriate score on placement exam.
Algebraic expressions, linear equations and systems of linear equations, functions, exponents, graphical analysis. Quadratic equations, factoring common factors and difference of squares, unit conversions, percents, tolerances, clearance, and inference, mean, median, mode.

MATH 109 Technical Mathematics II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 40 or MATH 40L or appropriate score on placement exam.
Algebraic expressions, linear equations and systems of linear equations, functions, exponents, graphical analysis. Quadratic equations, factoring common factors and difference of squares, unit conversions, percents, tolerances, clearance, and inference, mean, median, mode.

MATH 109R Technical Mathematics II with Review
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisite: MATH 20 or MATH 20L or equivalent placement criteria.
Applications of unit conversions, ratios, percents, algebra, geometry to basic electricity, mixture rations, pressure, hydraulics, compression, comparing specifications. Applications of percents in consumer credit and personal finance.

MATH 1103R Technical Mathematics I with Review
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisite: MATH 20 or MATH 20L or appropriate score on placement test to MATH 103R.
A review of basic math operations including decimals, fractions, percents, and order of operations. Algebraic expressions, linear equations and systems of linear equations, functions, exponents, graphical analysis, quadratic equations, factoring common factors and difference of squares, unit conversions, percents, and tolerances, clearance, interference, mean, median and mode.

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MATH 104 Technical Mathematics II  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 103.  
Applied geometry including complex, multi-step problems, complex numbers, solutions of right and oblique triangles, ratio and proportion, radian measure, exponential and logarithmic functions (graphical approach) and practical applications.  

MATH 105 Algebra and Trigonometry for Land Surveyors  
4 credits. 4 hours. (Lecture 4 hours.)  
Prerequisite: MATH 40 or 40L or equivalent score on placement exam.  
Review of order of operations, scientific notation, rounding and significant digits. Review of basic area and volume formulas with applications to more general shapes. Quadratic and linear functions including piecewise definitions. Distance formula, midpoint formula, equations of circles. Map reading, contours and elevation. Classification of angles and triangles. Right triangle trigonometry. Conversions between radians and degrees/minutes/seconds and decimal degrees. Law of sines, law of cosines, arc length, vectors, and bearing. For all topics there will be an emphasis on applications appropriate to the study of land surveying.  

MATH 110 Intermediate Algebra  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 40 or 40L, or a satisfactory score on the math placement test.  
Functions and their graphs, systems of linear equations, application problems, inequalities, absolute value equations. Rational exponents, radicals, quadratic functions and equations, ratios and proportions.  

MATH 110R Intermediate Algebra with Review  
5 credits. 5 hours. (Lecture 5 hours.)  
Prerequisites: Satisfactory score on the math placement test. A combination of the topics in MATH 40 or 40L and MATH 110.  
The study of operations with polynomials, operations with rational expressions, properties of exponents, solution of linear equations and inequalities with applications, solution of absolute value equations and inequalities, solution of quadratic equations with applications, solution of linear systems of equations with applications, rational exponents and radicals, introduction to functions and graphs, and graphing linear equations in two variables.  

MATH 115 Statistics  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 110 or satisfactory score on Math placement test.  
Descriptive statistics, ungrouped and grouped data, elementary probability, discrete and continuous statistical inference, significance and distribution measures, regression and correlation analysis.  

MATH 119 College Mathematics  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 110.  
A course designed for students seeking a liberal arts education. The objective of this course is to provide students with a mathematical experience that will include topics from algebra, geometry, probability, and statistics. This course has a strong emphasis on applications.  

MATH 120 College Algebra  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 110 or satisfactory score on the math placement test.  
A study of various types of equations and inequalities, functions and their inverses, theory of higher degree equations, systems of equations, determinants, logarithms and exponentials, and applications.  

MATH 120R College Algebra with Review  
5 credits. 5 hours. (Lecture 5 hours.)  
Prerequisite: MATH 110 or satisfactory score on the math placement test. A combination of topics in Intermediate Algebra and College Algebra. A study of various types of equations and inequalities, functions and their graphs, inverse functions, systems of equations, determinants, logarithms and exponential applications.  

MATH 130 Trigonometry  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 120, or satisfactory score on the placement test.  
Plane geometry is strongly recommended. Angle based trigonometric functions and their inverses, multiple angle formulas, identities, conditional equations, radian measure, arc length, angular velocity, function graphing, logarithms, and tables. Solution of triangles.  

MATH 135 Number Systems for Elementary Teachers  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 119 or above.  
Designed for elementary school teachers. A constructive development of the real number system beginning with the system of whole numbers; concepts from elementary number theory; applications of quantitative systems to problems in discrete mathematics.  

MATH 136 Geometry, Probability, and Statistics for Elementary Teachers  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 119 or higher.  
Designed for elementary school teachers. A development from informal geometric concepts to elements of the Euclidean deductive system; groups of congruence transformations, similarity transformations and symmetries; coordinate systems and vectors.  

MATH 141 Discrete Structures for Computer Science I  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: MATH 120 or 150.  
Mathematical logic, sets, relations, functions, mathematical induction, Boolean algebra, algebraic structures. The theory introduced will be applied to appropriate areas of computer science.  

MATH 150 PreCalculus  
5 credits. 5 hours. (Lecture 5 hours.)  
Prerequisite: MATH 110 or satisfactory score on the math placement test.  
A study of various types of algebraic equations and inequalities, functions and their inverses, theory of higher degree polynomial equations, systems of equations, determinants, logarithms, exponentials and applications. A study of trigonometric functions and their inverses, formulas and identities, conditional equations, radian measure, arc length, angular velocity, function graphing and solution of triangles.
MATH 175 Calculus for Business and Social Science
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 120 or an appropriate placement test score.
Quadratic, polynomial, rational exponential, and logarithmic functions used in differential and integral calculus application in business, economic and social science.

MATH 180 Analytic Geometry and Calculus I
5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: MATH 130 or 150.
A study of plane analytic geometry, limits, continuity, the derivative for functions of a single variable, differentials, indefinite and definite integrals, the Fundamental Theorem of Calculus, and applications of the derivative and integral.

MATH 190 Analytic Geometry and Calculus II
5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: MATH 180.
A study of the calculus of elementary transcendental functions; integration by parts, by trigonometric substitution, by partial fraction and by miscellaneous substitutions; improper integrals; L'Hopital's Rule; conic sections; the transformation of axes, infinite series, parametric and polar equations and their derivatives; and graphs, area, and arc length in polar coordinates.

MATH 196 Special Topics I
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Mathematical topics of special interest.

MATH 210 Analytic Geometry and Calculus III
5 credits. 5 hours. (Lecture 5 hours.)
Prerequisite: MATH 190, or an appropriate score on the math placement test.
A study of analytic geometry in three dimensions, functions of more than one variable and their calculus, directional and partial derivatives, vector functions and their calculus, two- and three-dimensional applications, multiple integrals, and line integrals.

MATH 230 Differential Equations
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 190.
Solution and application of ordinary differential equations including the nth order non-homogeneous linear cases. Laplace transform, and power series methods.

MATH 241 Discrete Structures for Computer Science II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: MATH 141 and CSIS 223.
Lattice structures and graph theory, algorithms and complexity, recurrence relations, introduction to computability theory, and abstract machines. The theory introduced will be applied to appropriate areas of computer science.

◆ Medical Transcription

MCC-Penn Valley

MTRN 101 Medical Transcription I
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisite: ENGL 101 and CSIS 115.
Introduction to the transcription of medical reports using correct terminology, punctuation and format.

MTRN 112 Medical Transcription II
5 credits. 10.7 hours. (Lecture 2 hours. Laboratory 2 hours. Clinical 6.7 hours.)
Prerequisite: HITE 103 and MTRN 101, and concurrent enrollment in MTRN 113.
Development of transcription skills including medical vocabulary, punctuation, monitoring for quality, and productivity. Selection of word processing and dictation equipment.

MTRN 113 Terminology for Health Records II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BIOL 108, HITE 103, and MTRN 101.
Advanced study of medical terms including those used in specialties such as radiology, pathology, cardiology, obstetrics, neurology, and surgery.

◆ Music

MCC-Blue River
Rebecca Johnson

MCC-Maple Woods
Jim Murray III

MCC-Penn Valley
Clarence Smith

MCC-Longview
Cathy Hardy-Parcell

MUSI 101 Mixed Chorus I
1 credit. 3 hours. (Laboratory 3 hours.)
Open to all students interested in group singing. Performance of various types of choral music in public.

MUSI 102 Mixed Chorus II
1 credit. 3 hours. (Laboratory 3 hours.)
Open to all students interested in group singing. Performance of various types of choral music in public.

MUSI 103 Band I
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

MUSI 104 Band II
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

MUSI 105 Orchestra I
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students who play violin, viola, cello or bass interested in group performance. Performance of various types of orchestra music in public.

MUSI 106 Orchestra II
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students who play violin, viola, cello or bass interested in group performance. Performance of various types of orchestra music in public.

MUSI 107 Fundamentals of Music
3 credits. 3 hours. (Lecture 3 hours.)
This course will introduce students to fundamental concepts of music notation and ear training through the use of scales, key signatures, intervals, chords, and chord progressions. This course is designed for the general student and the student preparing for music theory.

MUSI 108 Music Appreciation
3 credits. 3 hours. (Lecture 3 hours.)
This course will introduce the student to the aesthetics of music through the study of musical eras including the Middle Ages through 20th century and music genres through vocal and instrumental mediums.
MUSI 110 Music Theory I
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
This course will introduce students to beginning concepts of music notation and ear training through the use of intervals, scales, triads, seventh chords and their inversions, chord progressions in major and minor keys, and non-harmonic tones including suspensions, appoggiatura, and passing tones. Practical application will include sight-singing, ear training, and keyboard skills.

MUSI 111 Music Theory II
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: MUSI 110.
This course is a continuation of Music Theory I and will introduce students to secondary triads, secondary sevenths, and secondary dominants and all their inversions, non-harmonic tones including suspensions, pedal tones, and added sixths, and modulation by secondary dominants to closely related keys.

MUSI 112 Class Piano I
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: Some experience with note reading in at least one clef and with rhythmic notation is recommended.
A practical approach to keyboard techniques including harmonization, transposition, and sight reading.

MUSI 113 Class Piano II
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: MUSI 112.
Development of increased facility at the piano keyboard through mastery of elementary exercises in harmonization of melodies, sightreading, and transposition.

MUSI 116 Evolution of Jazz
3 credits. 3 hours. (Lecture 3 hours.)
A study of the rich ethnic background and evolution of jazz music and its many styles. African, African-American, and European cultures will be examined in terms of the role each has played, and continues to play, in defining and influencing American culture through jazz. Important performers, composers, musicians, educators, and writers of jazz will be identified with respect to their contributions to the art form. Critical listening activities supplement the course content. Requirement Designation: Human Diversity

MUSI 117 Special Problems in Music
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

MUSI 120 Class Voice I
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Fundamentals of sight singing in major and minor keys.
Fundamentals of correct voice production, breathing, and breath control. Elementary vocal literature in English. Development of stage presence and poise.

MUSI 121 Class Voice II
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: MUSI 120.
Advanced sight singing in major and minor keys. Develop independence necessary for private voice instruction. Elementary Italian art songs and more difficult vocal repertoire in English.

MUSI 125 Class Guitar I
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Open to all students interested in learning proper fundamentals of playing guitar, including improvisation.

MUSI 126 Class Guitar II
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: MUSI 125.
Open to all students interested in further development of playing guitar, including improvisation.

MUSI 130 Private Instruction I
1 credit. 0.5 hour. (Laboratory 2 hours.)
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 131 Private Instruction I
2 credits. 1 hour. (Laboratory 4 hours.)
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 132 Private Instruction II
1 credit. 0.5 hour. (Laboratory 2 hours.)
Prerequisite: MUSI 130 or MUSI 131.
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 133 Private Instruction II
2 credits. 1 hour. (Laboratory 4 hours.)
Prerequisite: MUSI 130 or MUSI 131.
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 150 Midi Music Production on the Computer
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: One of the following: MUSI 107, 112, 130, or 131.
A study of the applications of MIDI music and computer-based music MIDI recording, arranging, and composition. The students will work with computers and MIDI keyboards and will use sequencing/editing software.

MUSI 160 Music of the World's Cultures
3 credits. 3 hours. (Lecture 3 hours.)
This course will be an investigation of music of a variety of cultures, focusing on musical style, aesthetic viewpoints of differing cultures and the function in which music fulfills these diverse societies. Within this course, students will study the connection between music and religion, drama, gender, ethnicity and dance. Requirement Designation: Human Diversity

MUSI 201 Mixed Chorus III
1 credit. 3 hours. (Laboratory 3 hours.)
Prerequisite: MUSI 102.
Open to all students interested in group singing. Performance of various types of choral music in public.

MUSI 202 Mixed Chorus IV
1 credit. 3 hours. (Laboratory 3 hours.)
Prerequisite: MUSI 201.
Open to all students interested in group singing. Performance of various types of choral music in public.

MUSI 203 Band III
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.
MUSI 204 Band IV
1 credit. 4 hours. (Laboratory 4 hours.)
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

MUSI 205 Orchestra III
1 credit. 4 hours. (Laboratory 4 hours.)
Prerequisite: MUSI 106.
Open to all students who play violin, viola, cello or bass interested in group performance. Performance of various types of orchestra music in public.

MUSI 206 Orchestra IV
1 credit. 4 hours. (Laboratory 4 hours.)
Prerequisite: MUSI 205. Open to all students who play violin, viola, cello or bass interested in group performance. Performance of various types of orchestra music in public.

MUSI 210 Music Theory III
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: MUSI 211.
This course is a continuation of Music Theory II and will introduce students to chromatically altered chords including diminished 7ths and augmented 6ths, modulation to all keys, analysis of Greek modes, and analysis of 19th century harmonic techniques. Opportunity for original compositions. Practical application in sight-singing, dictation, and keyboarding skills.

MUSI 211 Music Theory IV
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: MUSI 210.
This course is a continuation of Music Theory III and will introduce students to chromatically altered chords including diminished 7ths and augmented 6ths, modulation to all keys, analysis of Greek modes, and analysis of 19th century harmonic techniques. Opportunity for original work and practical application in sight-singing, dictation, and keyboarding skills.

MUSI 212 Class Piano III
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: MUSI 113 with a minimum grade of C.
Melodic harmonization, sight-reading, and transposition. Performance of piano literature of various periods.

MUSI 213 Class Piano IV
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: MUSI 212.
Melodic harmonization, sight-reading, transposition, accompanying, and reading from an open score. Performance of piano literature of various periods.

MUSI 230 Private Instruction III
1 credit. 0.5 hour. (Laboratory 2 hours.)
Prerequisite: MUSI 132 or MUSI 133.
Private instruction in strings, brass, guitar, percussion, piano, voice or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 231 Private Instruction III
2 credits. 1 hour. (Laboratory 4 hours.)
Prerequisite: MUSI 132 or MUSI 133.
Private instruction in strings, brass, guitar, percussion, piano, voice or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 232 Private Instruction IV
1 credit. 0.5 hour. (Laboratory 2 hours.)
Prerequisite: MUSI 230 or MUSI 231.
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

MUSI 233 Private Instruction IV
2 credits. 1 hour. (Laboratory 4 hours.)
Prerequisite: MUSI 230 or MUSI 231.
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

Occupational Therapy Assistant

Theresa Chop
Amber Jenkins

OTHA 100 Introduction to Occupational Therapy
2 credits. 2 hours. (Lecture 2 hours.)
Introduction to the history, philosophy, and practice of occupational therapy. Exploration of diversity and the role it plays in health care.

OTHA 102 Documentation Guidelines
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Formal admission to the Occupational Therapy Assistant program.
Guidelines for documentation of occupational therapy services.

OTHA 103 Clinical Conditions
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Formal admission into the Occupational Therapy Assistant Program.
Etiology, clinical process and prognosis of common diseases and illnesses. Effect of disease or illness on an individual's performance and the impact this has on the person, family and society.

OTHA 106 Therapeutic Interventions I
4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)
Prerequisite: Formal admission to the Occupational Therapy Assistant program.
Basic therapeutic interventions, techniques, applications and legislation pertinent to OT practice. Learn OT's role in promoting health and wellness.

OTHA 116 Level I Fieldwork I
1 credit. 1.5 hours. (Laboratory 0.5 hour. Laboratory 1 hour.)
Prerequisite: Formal admission to the Occupational Therapy Assistant program.
Introduction to the role, policies, and procedures of fieldwork. Directed experience in a specified community setting.

OTHA 118 Assistive Technology
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106, and 116.
Hands-on introduction to high tech assistive technology and augmentative communication.

OTHA 120 Pediatrics
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: BIOL 109, EMPT 102, and OTHA 100, 102, 103, 106 and 116.
Occupational therapy practice as it relates to individuals from birth to early adolescence. Study of normal growth and development.
OTHA 121 Level I Fieldwork II
0.5 credit. 1 hour. (Clinical 1 hour.)
Prerequisite: BIOL 109, EMPT 102, and OTHA 100, 102, 103, 106, and 116; concurrent enrollment in OTHA 120.
Directed experience in a specified community setting.

OTHA 130 Analysis of Physical Performance
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: BIOL 109, EMPT 102, and OTHA 100, 102, 103, 106, and 116.
Analysis and evaluation of the components of physical performance and their relationship to functional activities.

OTHA 154 Applied Neurology
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisites: BIOL 109 or BIOL 110 Human Anatomy, and BIOL 210 and admission to OTHA or PTHA program.

OTHA 173 Special Topics
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Concurrent enrollment in PTA or OTA programs or completion of an Associate’s or advanced degree in physical therapy or occupational therapy.
A study of advanced topics relevant to the current practice of rehabilitation. Cross-listed as PTHA 173.

OTHA 201 Mental Health
2.5 credits. 3 hours. (Lecture 2 hours. Laboratory 1 hour.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Occupational therapy assessment and treatment techniques in the mental health setting.

OTHA 202 Physical Dysfunction
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Occupational therapy assessment and treatment used with the physically and cognitively challenged population.

OTHA 203 Gerontology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Concepts and process of aging. The role of occupational therapy with the elderly.

OTHA 208 Therapeutic Interventions II
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Advanced therapeutic interventions and techniques used to enhance functional ability and independence in daily life tasks and occupations.

OTHA 212 Level I Fieldwork III
2 credits. 4 hours. (Clinical 4 hours.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Directed experience in specified community settings.

OTHA 217 Fieldwork Seminar
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: OTHA 118, 120, 121, 130 and 154.
Preparation for full-time clinical practice, the national certification process, state licensure, and future employment.

OTHA 222 Level II Fieldwork
12 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: OTHA 201, 202, 203, 208, 212, and 217.
Directed clinical experience in different practice areas of occupational therapy.

Paralegal

MCC-Penn Valley
Gordon Wells, Jr.

PARA 100 Introduction to Paralegal Practice
3 credits. 3 hours. (Lecture 3 hours.)
An introduction to the American legal system and the role of the paralegal. Students will examine the philosophical and historical background of law, legal context, organization, purpose and ethics. Paralegal career requirements opportunities and responsibilities are presented. Systems approaches to law office management including billing practices, timekeeping and law office library systems are reviewed.

PARA 126 Criminal Law and Procedures
3 credits. 3 hours. (Lecture 3 hours.)
The student will be introduced to criminal law, classification and analysis of crimes and criminal acts; fundamentals of constitutional and criminal law concepts; elements of local, state and federal jurisdiction, venue and procedure as they apply to law enforcement, and detailed concepts in the laws of arrest, search and seizure and the preservation and protection of life and property.

PARA 173 Contracts
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PARA 100.
Introduction to the formation of simple contracts, consideration, conditions, benefits, and impossibility. Remedies, performance, and breach.

PARA 175 Torts
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PARA 100.
Introduction to the civil law of torts including negligence, strict liability, intentional torts, battery, false imprisonment, rights to privacy and privilege. Techniques of interviewing witnesses and parties to an action.

PARA 176 Legal Research
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PARA 100.
Introduction to sources of laws and legal research methods. Students will learn the techniques and skills necessary to conduct legal research and evaluate factual scenarios to formulate research issues and topics.

PARA 177 Legal Writing
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PARA 176.
Students will draft weekly briefs, memoranda, or pleadings and review and revise settlements, leases, transactional documents, and employment documents.

PARA 181 Property
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PARA 100.
An introduction and overview of the legal issues pertaining to both real and personal property, including ownership and tenant rights; deeds, leases, easements, licenses, bailment, zoning, condemnation/eminent domain, and related issues.
PARA 185 Ethics for the Paralegal  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
The course will introduce students to the type of ethical dilemmas that they will face once in the work force, the ethical rules developed by the American Bar Association and methods for researching the answers to ethical dilemmas. This course will help the paralegal student delineate clearly between the tasks in which a paralegal can legally do and those tasks which must be done by or under the supervision of an attorney.  

PARA 199 Special Topics in Legal Studies  
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Prerequisite: PARA 100.  
The open topic format of this course provides students opportunities to study, analyze, and discuss selected topics of law or current issues related to paralegals or the legal profession. Instruction will vary by topic and may include lecture, guided readings, discussions, research, writing, and/or field experiences. Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or paralegal program degree requirements.  

PARA 224 Criminal Evidence  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
An introduction and overview of federal and State laws and rules pertaining to criminal evidence including admissibility, competency, relevancy, presentation of physical and other material evidence, direct and circumstantial evidence, hearsay and exceptions to the hearsay rule.  

PARA 248 Constitutional Law  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
The course will examine the United States Constitution and Amendments with special attention to governmental powers, limitations on those powers, commerce, and the rights guaranteed to individuals by the 4th, 5th, 6th, 8th, and 14th Amendments.  

PARA 278 Employment Law  
3 credits. 3 hours. (Lecture 3 hours.)  
An introduction and overview of the legal relationship between employer and employee, management and labor, and the applicable federal and state laws and regulations.  

PARA 279 Family Law  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
An introduction and overview of the legal rights, responsibilities and related issues in the area of domestic law, including marital, non-marital and parental family relationships.  

PARA 283 Wills, Trusts and Probate  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
An introduction and overview of estate administration, including legal principles and issues involved in the construction and administration of the various forms of wills, trusts, testament and intestate estates and related issues.  

PARA 284 Intellectual Property  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
This course is an introduction to intellectual property law including patent, trademark, trade secrets and copyright with special attention to recent technology advances in medicine, aerospace, and computer science.  

PARA 285 Media Law  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
The course examines the First Amendment, free speech theory and its common law origin, history and the significance of a free press, prior restraints, regulation of media, and balancing the rights to a fair trial, and a free press. Civil law including defamation and invasion of privacy as well as current developments involving the Internet and social networking are introduced.  

PARA 290 Internship in Paralegal Practice  
3 credits. 1.5 hours. (Field Studies 1.5 hours.)  
Prerequisite: PARA 100, PARA 126, PARA 176, PARA 177, PARA 185.  
The student must complete 15 credit hours of Paralegal courses before taking this course. This course is a capstone to the Paralegal Program and provides student with opportunities to gain practical work experience under the supervision of an attorney in the legal field.  

PARA 292 Litigation  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
Introduces the student to the essential role which paralegals play in the initial, pretrial and trial process in civil litigation.  

PARA 294 Bankruptcy  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisite: PARA 100.  
This bankruptcy course is designed to provide the student an overview of bankruptcy laws and procedures, the history of bankruptcy, and summary of the bankruptcy code and roles. This course will also teach the different roles of the U.S. Bankruptcy Court, Bankruptcy Judges, Panel of Trustees, Creditors and the Bankruptcy Bar in the process of bankruptcy administration. This course will broaden the student’s perspective on how bankruptcy affects the economy, politics, employment and business throughout the nation.  

PARA 299 Special Topics in Legal Studies  
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Prerequisite: PARA 100.  
The open topic format of this course provides students opportunities to study, analyze, and discuss selected topics of law or current issues related to paralegals or the legal profession. Instruction will vary by topic and may include lecture, guided readings, discussions, research, writing, and/or field experiences. Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or paralegal program degree requirements.  

Philosophy  

**MCC-Blue River**  
Dennis Lowden  

**MCC-Maple Woods**  
Douglas Washer  

**MCC-Longview**  
Michael Connelly  

**MCC-Penn Valley**  

PHIL 100 Introduction to Philosophy  
3 credits. 3 hours. (Lecture 3 hours.)  
This course will introduce students to the fundamental questions of human existence including the foundation of knowledge, the nature of ethical, religious, and social values and meaning, conceptions of being, and human freedom. Consideration will be given to the application of philosophical methods to contemporary society and problems.
PHIL 101 Philosophy of Religion
3 credits. 3 hours. (Lecture 3 hours.)
This course is an inquiry into the nature of religion and religious claims, religious thought, and religious language. It includes such philosophical topics as arguments for the existence of God; arguments against the existence of God; the problem of evil, the relationship between religion and other disciplines such as science, history, and ethics; religious language and its special problems; the influence of religion and the philosophy of religion on the contemporary world, and other specific philosophical and theological problems.

PHIL 102 World Philosophy
3 credits. 3 hours. (Lecture 3 hours.)
This course is an introduction to some of the great philosophical tradition in the world, both Western and non-Western. It compares and contrasts different cultures from Africa, Latin America, the Middle East, the Orient, Native America, and Europe, and their respective and distinctive attempts to discern meaning and order from human existence. Foundations of knowledge and reality, conceptions of God and the afterlife, and ethical theories are among the considered topics. Special distinctions between Western and non-Western philosophical methods will be emphasized. Requirement Designation: Human Diversity

PHIL 200 Logic
3 credits. 3 hours. (Lecture 3 hours.)
An introduction to the art of rational thinking as applied to the critical evaluation of information, the construction and evaluation of deductive and inductive arguments, the resolution of practical and intellectual problems, and the persuasive defense of ideas.

PHIL 201 History of Philosophy I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PHIL 100.
Survey of the major aspects of philosophical thought from the ancient Greeks to the end of the Middle Ages.

PHIL 203 Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include a historical overview of several traditional theories of ethics and approaches to ethical decision-making, an examination of the role of reason and logic in ethical analysis, and a consideration of some of the many ethical dilemmas and problems which confront our society today.

PHIL 204 Contemporary Philosophies of Value
3 credits. 3 hours. (Lecture 3 hours.)
Analysis of modern philosophies of personal and social value. Major contemporary “academic” and “popular” thinkers.

PHIL 205 Professional Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and some philosophical questions and problems found within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 206 Applied Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 207 Business Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 208 Health Care Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 209 Law and Ethics
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 210 Ethics in Journalism
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 211 Ethics in Public Policy
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 212 Ethics in International Relations
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 213 Ethics in Environmental Policy
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 214 Ethics in Technology
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

PHIL 215 Ethics in Aging
3 credits. 3 hours. (Lecture 3 hours.)
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.
PHED 119 Basketball I
1 credit. 2 hours. (Laboratory 2 hours.)
Techniques, skills, and rules of basketball.

PHED 120 Basketball II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 119.
Advanced techniques, skills, and rules of basketball. Team and league play.

PHED 121 Aerobics I
1 credit. 2 hours. (Laboratory 2 hours.)
A program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

PHED 122 Aerobics II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 121.
An advanced program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

PHED 123 Bench Aerobics
1 credit. 2 hours. (Laboratory 2 hours.)
Concentrates on strengthening and toning the legs while working the cardiovascular system. By using the bench step-up format, low-impact exercises are incorporated into this class. All fitness levels can be accommodated in the same class by having the student change the height of the bench.

PHED 126 Lifetime Fitness I
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: Successful completion of preliminary health screening or permission of personal physician.
First in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course introduces basic concepts of lifetime fitness development, health, and exercise programming. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

PHED 127 Lifetime Fitness II
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: PHED 126 and successful completion of preliminary health screening or permission of personal physician.
Second in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course expands on concepts introduced in PHED 126. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

PHED 128 Lifetime Fitness III
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: PHED 127 and successful completion of preliminary health screening or permission of personal physician.
A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on the concepts introduced in PHED 126 and 127. Additional concepts integrated include strength and body composition. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

PHED 129 Lifetime Fitness IV
2 credits. 4 hours. (Laboratory 4 hours.)
Prerequisite: PHED 128 and preliminary health screening or permission of personal physician.
A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on concepts introduced in PHED 126, 127, and 128. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

PHED 130 Fitness Walking
1 credit. 2 hours. (Laboratory 2 hours.)
Designed to introduce the student to walking as a form of cardiovascular fitness. Students will learn the proper form for fitness walking as well as proper intensity monitoring techniques.

PHED 131 Jogging and Distance Training
1 credit. 2 hours. (Laboratory 2 hours.)
Basic principles and precautions are covered in setting up a beginning and/or advanced running program. This course is designed for those who wish to run for fitness or competition.

PHED 135 Fencing I
1 credit. 2 hours. (Laboratory 2 hours.)
Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.

PHED 136 Fencing II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 135.
Advanced techniques of foil fencing.

PHED 137 Tennis I
1 credit. 2 hours. (Laboratory 2 hours.)
Skills, rules, and practice in the techniques and strategy of tennis.

PHED 141 Bowling I
1 credit. 2 hours. (Laboratory 2 hours.)
History of bowling. Development of individual skills and techniques. Facilities, etiquette, equipment, league organization, and abridged rules.

PHED 142 Bowling II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 141.
Improvement of performance skills and techniques. Form, rhythm, and coordination. Individual bowling and league play.

PHED 143 Self-Defense
1 credit. 2 hours. (Laboratory 2 hours.)
A course designed for both men and women emphasizing "street self-defense." Effective physical techniques and strategies to avoid or terminate threatening actions or a violent attack will be introduced.

PHED 144 Karate I
1 credit. 2 hours. (Laboratory 2 hours.)
Fundamental skills and techniques in the art of karate.

PHED 145 Karate II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 144.
Intermediate techniques in the art of karate.

PHED 146 Karate III
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 145.
Further development of intermediate techniques in the art of karate.

PHED 147 Karate IV
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 146.
Advanced techniques in the art of karate.

PHED 151 Introduction to Exercise Science, Physical Education and Recreation
3 credits. 3 hours. (Lecture 3 hours.)
An introductory course for the student considering a career in exercise science, physical education and recreation. History, philosophy and careers in physical activity will be explored.
PHED 154 Principles of Group Exercise Instruction
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
To teach individuals the methods and principles necessary to safely and effectively lead a group fitness (aerobic's) class. Students will be prepared to successfully complete professional certification by the course's end. Class will include choreography, proper body mechanics, form and technique, the FITT principle, target heart rate, rate of perceived exertion, prevention of injury and a variety of fitness activities.

PHED 155 Care and Prevention of Athletic Injuries
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Athletic training procedures for prevention of injury. Recognition and treatment of athletic injuries.

PHED 156 Principles of Strength Training
2 credits. 2 hours. (Lecture 2 hours.)
Principle of strength training is designed for the student enrolled in the Exercise Science program that intends to work in the field of health & wellness in order to teach strength training and for the person that would like to become personal trainer certified.

PHED 157 Principles of Health
3 credits. 3 hours. (Lecture 3 hours.)

PHED 158 First Aid/CPR
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: The student must be at least 17 years old. Theory and practice of giving aid to ill or injured persons. Treatment of injuries. Cardiopulmonary resuscitation procedures. History and development of safety education. American Red Cross certificates issued to students completing the course successfully.

PHED 159 Individual Wellness
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Designed for individuals interested in a wellness lifestyle. Individuals design personalized fitness programs through consultation with the instructor. Computerized evaluations determine health and fitness levels. Programs are then administered for cardiovascular conditioning, muscle strengthening and toning, nutritional awareness, weight control, and stress reduction. Students choose those activities most relevant to them.

PHED 165 Varsity Sports I
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Current membership in an intercollegiate athletic team. Participation in all phases of a varsity sport.

PHED 166 Varsity Sports II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Current membership in an intercollegiate athletic team. Participation in all phases of a varsity sport.

PHED 167 Varsity Sports III
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Current membership in an intercollegiate athletic team and PHED 165. Participation in all phases of a varsity sport.

PHED 168 Varsity Sports IV
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: Current membership in an intercollegiate athletic team and PHED 166. Participation in all phases of a varsity sport.

PHED 173 Wrestling I
1 credit. 2 hours. (Laboratory 2 hours.)
Wrestling (free style) to develop body control and techniques as well as to develop self-confidence, Physical fitness, and protective skills.

PHED 174 Wrestling II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisites: PHED 173. Advanced wrestling (free style) to develop body control and techniques as well as to develop self-confidence, Physical fitness, and protective skills.

PHED 178 Scuba Diving
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Scuba Diving is a course that develops the basic knowledge and skills needed to safely enjoy recreational diving. Successful completion of this course will prepare the student for Open Water Certification Training dives through the Professional Association of Diving Instructors (PADI) or the National Association of Underwater Instructors (NAUI).

PHED 179 Aqua Aerobics I
1 credit. 2 hours. (Laboratory 2 hours.)
Exercise program of choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

PHED 180 Aqua Aerobics II
1 credit. 2 hours. (Laboratory 2 hours.)
Prerequisite: PHED 179. Exercise program of advanced choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

PHED 197 Topics in Physical Education
1 credit. 2 hours. (Laboratory 2 hours.)
Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

PHED 198 Topics in Physical Education
2 credits. 2 hours. (Laboratory 2 hours.)
Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

PHED 199 Topics in Physical Education
3 credits. 3 hours. (Lecture 3 hours.)
Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

PHED 235 Kinesiology- Exercise Science
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisites: BIOL 108 or BIOL 109 or BIOL 110 & BIOL 210. Discussion of the anatomy and function of the musculoskeletal system which will include muscular origin and insertion and the mechanics of muscular action. Knowledge of body mechanics and the body as a lever system will assist in the ability to analyze movement.
**Physical Therapist Assistant**

Gwen Robertson  Pam Stockman

PTHA 151 Introduction to Physical Therapy
2 credits. 2 hours. (Lecture 2 hours.)
Introduction to the education and roles of the physical therapist and physical therapist assistant as members of the health care team. Overview of physical therapy practice, terms and current issues. Effective interaction with others related to implementation of the physical therapy plan of care.

PTHA 152 Physical Therapy Fundamentals I
4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)
Prerequisite: Formal acceptance into the program.
Basic patient care skills utilized by the physical therapist assistant in carrying out the plan of care established by the physical therapist. Theory and application of basic treatment modalities used in physical therapy, including indications and contraindications. Field trips.

PTHA 153 Kinesiology
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisites: BIOL 109 and PTHA 152 and PTHA 160.
Discussion of anatomy and function of the musculoskeletal system. Analysis of various activities. Application of data collection techniques to monitor effectiveness of physical therapy interventions as outlined in the plan of care established by the supervising physical therapist.

PTHA 154 Applied Neurology
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisites: BIOL 109 or BIOL 110 Human Anatomy, and BIOL 210 and admission to OTHA or PTHA program.

PTHA 155 Rehabilitation
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)
Prerequisite: PTHA 162.
Introduction to the underlying theory, principles, and application of interventions involved in physical rehabilitation. Field trips as required.

PTHA 158 Therapeutic Exercise
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: PTHA 162.
Introduction to the theory and principles of application of therapeutic exercise including patient instruction, manual techniques and equipment commonly used by the physical therapist assistant in carrying out the plan of care as established by the supervising physical therapist. Field trips as required.

PTHA 159 Orthopedic Pathology
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisites: BIOL 109 and PTHA 152 and PTHA 160.
Orthopedic pathologies commonly seen in physical therapy practice: diagnostic tests, signs and symptoms, physiologic factors and common interventions associated with the physical therapy plan of care.

PTHA 160 Medical Diseases
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisites: Formal acceptance into the program.
Medical diseases commonly seen in physical therapy practice: diagnostic tests, signs and symptoms, physiologic factors, and common interventions associated with the physical therapy plan of care.

PTHA 161 Physical Therapy Fundamentals II
4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)
Prerequisites: BIOL 109 and PTHA 152 and PTHA 160.
Introduction to the theory and practical application of documentation, patient care skills, and selected modalities, including indications and contraindications.

PTHA 162 Clinical Experience I
2 credits. 5 hours. (Clinical 5 hours.)
Prerequisite: PTHA 153, 154, 159, and 161 and EMTP 102.
Supervised clinical experience in the practical application of techniques and procedures covered in all previous PTHA courses. Assisting physical therapists in treatment of patients in a variety of clinical settings.

PTHA 164 Pediatrics and Gerontology
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: PTHA 162.
Specialized information related to the treatment of pediatric and older adult populations.

PTHA 170 Clinical Experience II
2 credits. 5 hours. (Clinical 5 hours.)
Prerequisite: PTHA 162 and concurrent enrollment in PTHA 155, 158, 164, and 171.
Supervised clinical experience in the practical application of techniques and procedures covered in all previous PTHA courses. Assisting physical therapists in treatment of patients in a variety of clinical settings.

PTHA 171 Clinical Seminar
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: PTHA 162.
This course contains information on current professional issues and values, administrative policies and procedures, and related clinical topics associated with the practice of physical therapy. Service learning projects required.

PTHA 172 Clinical Experience III
12 credits. 40 hours. (Clinical 40 hours.)
Prerequisite: Completion of all other required courses in the PTHA program.
Practical application of principles learned in the prior didactic semester. Experience rotating internships in selected clinical sites under the supervision of a physical therapist.

PTHA 173 Special Topics
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Concurrent enrollment in PTA or OTA programs or completion of an Associate of advanced degree in physical therapy or occupational therapy.
This course presents specialized topics in physical therapy and the administration of health care.

**Physics**

**MCC-Longview**
D.J. Box
Anne Nienhueser
Deanna Poudel

**MCC-Maple Woods**
Cynthia Sexton-Proctor

**MCC-Penn Valley**
John Hawkins

**PHYS 101 Introductory Physics**
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)
A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics.
PHYS 104 Foundations of Physical Science  
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)  
Fundamental principles and concepts of classical and modern physics, astronomy, chemistry and earth science, and their relationships.

PHYS 106 General Astronomy  
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)  
A survey of astronomy with emphasis on the scientific method, observation, tools of observation, and the models, physical principles, and processes that help describe and predict astronomical phenomena.

PHYS 112 Technical Physics  
5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)  
Prerequisite: MATH 104.  
Principles of mechanics, thermodynamics, sound, electricity, magnetism, light, and nuclear physics with emphasis on applications to technology.

PHYS 130 General Physics I  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: MATH 130.  
Algebraic and trigonometric introduction to the principles of mechanics, heat, and sound with an emphasis on problem solving and applications in technical and health careers.

PHYS 131 General Physics II  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: PHYS 130.  
Algebraic and trigonometric introduction to the principles of electricity and magnetism, light and geometrical optics, and atomic physics with an emphasis on problem solving and applications in technical and health careers.

PHYS 220 Engineering Physics I  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: MATH 190.  
Calculus-based introduction to the principles of mechanics, heat, and sound with an emphasis on problem solving and applications in engineering and science careers.

PHYS 221 Engineering Physics II  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: PHYS 220 and enrollment in or completion of MATH 210.  
Calculus-based introduction to the principles of electricity and magnetism, light and geometrical optics, and modern physics with an emphasis on problem solving and applications in engineering and science careers.

PHYS 221 Engineering Physics II  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: MATH 104.  
Calculus-based introduction to the principles of electricity and magnetism, light and geometrical optics, and modern physics with an emphasis on problem solving and applications in engineering and science careers.

POLS 137 Introduction to Political Science  
3 credits. 3 hours. (Lecture 3 hours.)  
Principles of constitutional and political theory. Federal and Missouri constitutions and political processes in selected contemporary states.

POLS 136 Introduction to American National Politics  
3 credits. 3 hours. (Lecture 3 hours.)  
Principles of political science. Examination of the development, organization, and function of the national government. Its relationship to the cultural, economic, and social institutions of the United States, Federal and Missouri constitutions.

POLS 135 Introduction to Political Science  
3 credits. 3 hours. (Lecture 3 hours.)  
Principles of constitutional and political theory. Federal and Missouri constitutions and political processes in selected contemporary states.

POLS 138 Practicum in Public Administration  
1-6 credits. 1-5 hours. (Field Studies 1-6 hours.)  
Prerequisite: Completion of POLS 135, 136, or 137 with a minimum grade of B.  
Field work in a public agency/legislative office in an entry-level position to obtain exposure to public service. The credit for this course will vary depending upon the hours spent working for the agency and agreement between instructor and student.

POLS 133 The Missouri Constitution  
1 credit. 1 hour. (Lecture 1 hour)  
Directed study of the Missouri Constitution. This course fulfills the state constitution requirement.

PHYS 234 Introduction to International Relations  
3 credits. 3 hours. (Lecture 3 hours.)  
This course acquaints students with the core concepts, processes, issues, and analytical tools of international relations. The course details the actors in international relations, how foreign policy is made, and the role of power. The course examines past, contemporary, and future problems in the international system, including military conflict, economics, demography, and the environment. Upon completion of this course, students should have a strong basic understanding of international relations.

POLS 248 Constitutional Law and Politics  
3 credits. 3 hours. (Lecture 3 hours.)  
Examination of the Constitution and its evolution through studying the cases and procedures of the Supreme Court in the context of the American political process. This course emphasizes the process of judicial decision making and the politics behind Constitutional decisions.

 Practical Nursing

MCC-Lonview
John Shively

MCC-Maple Woods
Perri Lampe

MCC-Penn Valley
Deborah Scott

PNUR 100 Personal and Vocational Concepts  
1 credit. 1 hour. (Lecture 1 hour.)  
Prerequisites: BIOL 108 or 109, and admission to the PN Program.  
An introduction to the role of the student in the program and the role of the practical nurse, including history, nursing trends, health care teams and health care delivery systems. The impacts of social, cultural, ethnic and spiritual issues on health care as well as ethical and legal responsibilities are presented.
PNUR 103 Fundamentals of Practical Nursing
10 credits. 14 hours. (Lecture 8 hours. Clinical 6 hours.)
Prerequisite: PNUR 100.
The Fundamentals of Practical Nursing course introduces the student to the role of the practical nurse in the provision of basic nursing care to diverse populations across the life span. Professional communication, critical thinking, theory concepts, the nursing process and evidenced based practice are taught. Clinical experiences allow the learner to apply knowledge and skills introduced in the lab and classroom. The concepts introduced and incorporated into the care of individuals are: basic needs; biological, nutrition, psychological, social and spiritual, hygiene, physiological functioning, safety, cultural diversity, societal influences, developmental stages and principles of teaching/learning.

PNUR 110 Pharmacology
4 credits. 6 hours. (Lecture 3 hours. Clinical 3 hours.)
Prerequisite: PNUR 103.
Introduction of basic pharmacology information for safe administration of medications by the practical nurse. Calculating accurate dosages for safe administration of medications and understanding the legal and ethical responsibilities related to medication administration is required. Drug classifications, common drugs to each class, usual dosage, and mechanism of action, side effects, contraindications, cautions, nursing implications and patient educational needs are presented.

PNUR 128 Mental Health Nursing
4 credits. 5 hours. (Lecture 3.5 hours. Clinical 1.5 hours.)
Prerequisite: PNUR 110.
Basics for understanding mental illness and its treatment, nursing theory, therapeutic modalities and clinical applications for the major DSM-IV-TR disorders will be presented. The role and functions of the LPN (guided by scope of practice & standards) in addressing a client's psychosocial needs in mental health practice settings will be introduced. Assessment, therapeutic communication, nursing approach and pharmacologic interventions will be emphasized. Clinical component of course allows student opportunity to develop a skill set to use in diverse practice settings to meet client needs.

PNUR 132 The Childbearing Family
4 credits. 5 hours. (Lecture 3.5 hours. Clinical 1.5 hours.)
Prerequisites: PNUR 110.
This course is an introduction to maternity and pediatric nursing. Prenatal development, prenatal care, nursing care during labor and birth with a focus on the family after birth is integrated into the course. Nursing care using basic nursing skills in caring for the term, preterm and post-term newborn is included in the course and clinical components. Care of the hospitalized pediatric client and health care adaptations for the child and family is taught. Common pediatric disorders, illnesses, and diseases are reviewed by body systems. Medication administration and pediatric dosage calculations are incorporated. The clinical component allows the student the opportunity to further develop nursing knowledge using evidence based practice, assessment skills, self-awareness, and demonstrate competency of nursing care.

PNUR 136 Venous Access and Intravenous Infusion
1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)
Venous Access and Intravenous Infusion Course will prepare the student practical nurse to perform limited intravenous fluid therapy treatment using the knowledge, skills, and competency required to perform such therapy safely and in accordance to Missouri Rule 4 CSR 200.6010.

PNUR 138 Nursing of the Adult I
9 credits. 9 hours. (Lecture 4 hours. Laboratory 1 hour. Clinical 4 hours.)
Prerequisites: Successful completion of all previously attempted courses, PNUR 100, PNUR 102, PNUR 103, PNUR 104, and PNUR 110 Pharmacology.
This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. Concepts are presented by body systems, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing problems and then to implement nursing interventions to meet client needs. Care of the elderly and nutrition are integrated as theory content and included in clinical applications.

PNUR 144 Nursing of the Adult II
8 credits. 8 hours. (Lecture 3 hours. Laboratory 1 hour. Clinical 4 hours.)
Prerequisite: Prerequisites: PNUR 100, PNUR 102, or equivalent, PNUR 103, PNUR 104, PNUR 110, PNUR 138.
This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. Concepts are presented by body systems, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing problems and then to implement nursing interventions to meet clients needs. Pharmacology, nutrition and care of elderly are integrated as theory content and included in clinical application.

PNUR 146 Leadership
3 credits. 6 hours. (Lecture 1.7 hours. Clinical 4.3 hours.)
Prerequisite: Successful completion of all previously attempted courses of the program.
Principles of leadership and management are utilized in the nursing process to meet the needs of the diverse client, family, and health team member. Legal responsibilities of the practical nurse in a leadership role are reviewed.

Professional Nursing

**MCC-Penn Valley**
Pamela Anthony  Roger Bidwell  Jennifer Dunlap
Tammie Greathouse  Lee Heath  Shareen Khani
Karen Komoroski  Catherine McClendon  Amy Parrish
Kimberly Ries  Maria Santander  Rosemary Schocklee-Fusaro
Nancy Spangler  Shellie Stufflebeam-Ely  Tammie Willis
Patricia Winberg

RNUR 115 Professional Transition
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisite: Admission to LPN-Bridge Program.
This course facilitates the transition of the Licensed Practical Nurse to the role of Associate Degree Nurse and includes professional and legal/ethical issues. Concepts covered in the course include: nursing process, physical assessment, teaching-learning principles, group dynamics, cultural/ethnic issues, and critical thinking. Community health concepts will be introduced and previously learned nursing content addressed.
RNUR 126 Fundamentals of Professional Nursing
6 credits. 10 hours. (Lecture 4 hours. Clinical 6 hours.)
Prerequisite: Admission to the nursing program; completion of or concurrent enrollment in PSYC 243.
The student will acquire knowledge fundamental to the development of basic skills and attitudes essential for the practice of nursing. The principles of physical, biological, and behavioral sciences and nursing theory serve as the foundation. This first clinical laboratory course is designed to introduce the student to the role of the professional nurse in meeting basic needs common to all clients. Students are prepared to establish the nurse-client relationship through communication skills. Planned clinical experience is designed to allow the student to utilize the nursing process to deliver safe, individualized nursing care according to legal/ethical guidelines.

RNUR 131 Essential Nursing Concepts
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Admission to nursing program; completion of or concurrent enrollment in PSYC 243.
The course provides a basis for beginning nursing practice, introducing the student to nursing as a profession with its component parts: professionalism, health care delivery systems, the health care team, and legal/ethical issues. The student is introduced to communication theory, the hierarchy of basic needs, developmental theories, the impact of culture and ethnicity on health practices, and the nurse-client relationship. The fundamental principles of health assessment are also a part of this course. Competency in calculation of medication dosages will be addressed.

RNUR 134 Mental Health Nursing
4 credits. 8 hours. (Lecture 2 hours. Clinical 6 hours.)
Prerequisite: Admission to nursing program; completion of RNUR 131, RNUR 126, PSYC 243; completion of or concurrent enrollment in BIOL 208.
This course is based on the belief that mental health nursing is an integral part of all nursing. It builds upon the foundation of basic knowledge of human behavior which the student receives from the field of psychology. The student will acquire a basic knowledge of the causes, treatment, and prevention of mental disorders across the life span including the impact of environmental forces. Ethical/legal concepts are integrated throughout. Emphasis is placed on application of therapeutic communication techniques, psychiatric assessment skills, and the nursing process. The impact of the therapeutic environment upon the treatment of specific psychiatric populations across the life span will be presented.

RNUR 138 Nursing Care of Women and Neonates
4 credits. 8 hours. (Lecture 2 hours. Clinical 6 hours.)
Prerequisite: Admission to nursing program; completion of RNUR 131, RNUR 126, PSYC 243; completion of or concurrent enrollment in BIOL 208.
This is a sixteen-week nursing course focusing on nursing care of women and neonates. The course is designed to provide a holistic view of women and their health-related self-care practices. While major emphasis is placed upon providing experiences in meeting the basic needs of the family during the childbearing years, women's changing health care requirements throughout her lifetime are also addressed. Communication with women, mothers, and significant others is emphasized. Developmental tasks of neonate, adolescent, and adult are identified. The nursing process is utilized in the clinical setting to determine needs and related interventions for childbearing women, neonates, and support systems. Emphasis is placed on incorporating teaching-learning needs as part of the plan of care for the cultural diverse family.

RNUR 141 Adult Nursing I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Admission to nursing program; completion of RNUR 131, RNUR 126, PSYC 243; completion of or concurrent enrollment in BIOL 208.
Adult Nursing I is the first of three medical-surgical nursing courses and builds upon the basic nursing content and skills learned in Fundamentals of Professional Nursing and Essential Nursing Concepts. Gerontological concepts are presented along with selected medical-surgical problems associated with this population. The nursing process will serve as the framework to integrate the concepts of legal/ethical issues, culture and ethnicity, developmental stages/tasks, and communication. Emphasis is placed on identifying physiological and psychological changes of clients aged 65 and older.

RNUR 230 Leadership/Management/Trends
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisites: ENGL 101, SOCI 160, RNUR 234, RNUR 238, SPDR 100 or SPDR 102, HIST 120/121 or POLS 135/136/137 (Constitutional requirement may be taken concurrently.)
This fourth semester course will focus on leadership and management principles necessary for the professional nurse to function in an effective manner in the leader/manager role. Concepts and theories of nursing care delivery models, leadership and management, delegation of patient care, communication, time management, conflict resolution, legal responsibilities, ethical issues, decision making, issues, trends in nursing and graduate role integration and professional development will be explored. Concepts and principles of emergency management and disaster planning, and the physical and psychological effects of bioterrorism are also examined.

RNUR 234 Child-Centered Nursing
4 credits. 8 hours. (Lecture 2 hours. Clinical 6 hours.)
Prerequisites: BIOL 208, RNUR 134, RNUR 138, RNUR 141, or taken concurrently: ENGL 101, SOCI 160
This third semester clinical laboratory nursing course is designed to introduce the student to the role of the professional nurse in promoting health care in children and their families. Nursing care will be provided in primary, secondary and tertiary settings. This course stresses the uniqueness of each child and the family unit. Communication is employed to assist the child and family in health maintenance with the goal of independence and autonomy of function. The nursing process will be used as the interactive tool linking all aspects of care for culturally and ethnically diverse clients and their families. Developmental stages/tasks will be stressed in assisting the family unit toward health maintenance.

RNUR 238 Adult Nursing II
5 credits. 9 hours. (Lecture 3 hours. Clinical 6 hours.)
Prerequisites: BIOL 208, RNUR 134, RNUR 138, RNUR 141, or taken concurrently: ENGL 101, SOCI 160, each with a grade of "C" or better.
Adult Nursing II is the second of three medical-surgical nursing courses and is the first with a clinical component. This course allows students to utilize previous nursing concepts as they apply their skills to clients in a variety of secondary and tertiary settings. Students assume professional nursing roles in meeting basic needs by demonstrating skills in communication, critical thinking, and the nursing process. Students interact with culturally/ethnically diverse clients and integrate legal/ethical issues into the plan of care. Content regarding medical-surgical disease processes is continued, giving the student the basis of knowledge to assist the client to reach optimal status on the health-illness continuum.
RNUR 244 Adult Nursing III
7 credits. 13 hours. (Lecture 4 hours. Clinical 9 hours.)
Prerequisite: Admission to the nursing program; completion of RNUR 126, RNUR 131, RNUR 134, RNUR 138, RNUR 141, RNUR 234, RNUR 238, BIOL 208.
This is the final of three adult nursing courses and is designed to prepare the student to transition to the role of the professional nurse. Students will expand their knowledge of therapeutic communication and skills related to health care technology. Concepts from previous nursing courses are integrated to provide comprehensive nursing care to select adult clients and their families experiencing multisystem failure/trauma. Students use the nursing process to organize and manage care in conjunction with other health team members. Critical thinking, developmental stages, cultural/ethnic diversity, and legal/ethical issues are implemented in the care planning process. Clinical laboratory practice occurs in primary, secondary, and tertiary settings with diverse client populations and includes a concentrated practicum which prepares the student to enter the work force. A community health nursing experience if incorporated in theory and clinical practice.

PSYC 220 Psychology of Prejudice
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
This course offers an analysis of psychological theory and research as mechanism for understanding privilege, prejudice, and discrimination. The class will explore meanings of difference and prejudice based on race/ethnicity, gender, class, religion, physical ability, age, and sexual orientation. Themes include cultural values and characteristics of diverse groups, development and causes of social perception, reasons for persistence and maintenance of stereotypes and prejudice, and ways to change or reduce group stereotypes and prejudice. Requirement Designation: Human Diversity

PSYC 230 Death and Dying
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
This course offers a survey of the historical and contemporary issues related to death and dying. It explores cultural, ethnic, individual, social, and ethical views regarding end of life practices. Additionally, the course provides students with basic skills for understanding the psychological and developmental aspects of death and living.

PSYC 240 Child Development
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
Critical factors in understanding development: internal growth forces, self factors, external adjustment processes. Emphasis on interrelatedness of developmental processes.

PSYC 243 Human Lifespan Development
4 credits. 4 hours. (Lecture 4 hours.)
Prerequisite: PSYC 140.
Discussion of the physical, social, emotional, and personality changes occurring during the life of the individual from conception through death. Emphasis is placed on the similarities and differences in development across and within cultures.

PSYC 245 Adolescent Psychology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
Overview of developmental stages of adolescence. Physical, psychological, educational, and social characteristics and implications.

PSYC 250 Criminology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.

PSYC 260 Social Psychology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
Factors influencing individuals in social situations. Attitude formation, prejudice, aggression, interpersonal communication, leadership, and persuasion.
PSYC 270 Social Psychology of Aging
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: PSYC 140.
Social and psychological problems of older persons in contemporary society. Personality change. Environmental conditions and the aging process in late life.

◆Radiologic Technology

Judith Taylor
Kimberly Thebeau-Siercks

MCC-Penn Valley

RATE 150 Introduction to Radiologic Technology
2 credits. 2 hours. (Lecture 2 hours.)
Introduction to the profession of radiologic technology, including the duties of the radiologic technologist in the health care environment.

RATE 160 Survey of Radiologic Technology
6 credits. 10.2 hours. (Lecture 4.2 hours. Clinical 6 hours.)
Prerequisite: Admission to the Radiologic Technology Program. Orientation to the program and clinical responsibilities. Topics related to basic patient interactions, body mechanics, patient transportation, radiographic terminology, radiographic examinations of the chest and abdomen, methods of radiation protection and types of radiographic equipment will be explored.

RATE 162 Image Processing
2 credits. 2.5 hours. (Lecture 1.5 hours. Laboratory 1 hour.)
Prerequisite: RATE 160, 172, and 173.
Materials and factors relating to acquisition, processing, viewing, and storage of radiographs.

RATE 165 Patient Care
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: RATE 160.
This course will explore patient-health professional interactions, basic patient care and management, medico-legal issues, and medical ethics.

RATE 170 Radiation Biology and Protection
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: RATE 160 with concurrent enrollment in the corresponding semester of clinical experience.
The principles of radiation biology and techniques used to protect the patient and personnel from the effects of exposure to ionizing radiation.

RATE 171 Radiographic Exposures I
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: Admission to the program.
Factors which affect radiographic image formation and determine image quality.

RATE 172 Radiographic Positioning I
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: RATE 160 concurrent enrollment in RATE 165 and 173.
Anatomy, positioning and image evaluation of the digestive system, and trauma patients and mobile radiographic procedures.

RATE 173 Clinical Practice I
3 credits. 16 hours. (Clinical 16 hours.)
Prerequisite: RATE 160 concurrent enrollment in RATE 165 and 172.
Performance of patient examination in a clinical setting under the supervision of a Radiologic Technologist.

RATE 174 Radiographic Exposures II
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: Completion of: RATE 160, 171, 172, and 173.
Quality control of radiographic images. Technique charts, calibration of equipment, standard exposure systems, and factors used for conversion of techniques for variables in the exposure system. Special techniques used in producing radiographic images.

RATE 175 Clinical Practice II
4 credits. 24 hours. (Clinical 24 hours.)
Prerequisite: RATE 165, 172, and 173 and concurrent enrollment in RATE 176.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

RATE 176 Radiographic Positioning II
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: BIOL 110 and RATE 165, 172, 173 and concurrent enrollment in RATE 162 and 175.
Anatomy, positioning, and image evaluation of the pelvis, bony thorax, vertebral column, cranium, and facial bones.

RATE 178 Clinical Practice III
4 credits. 20 hours. (Clinical 20 hours.)
Prerequisites: RATE 175 and 176.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

RATE 278 Imaging Modalities and Pathology
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: RATE 279, 280, 281 and concurrent enrollment in RATE 282.
Human disease processes and their relationship to patient examination in the radiology department. Radiographic pathology and imaging modalities.

RATE 279 Radiographic Positioning III
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: RATE 176 and 178 and concurrent enrollment in RATE 280, 281, and 285.
Anatomy, positioning and image evaluation of the biliary system, breasts, and temporal bone; procedural adaptations for pediatric and trauma patients and mobile radiographic procedures. Advanced image evaluation of routine radiographs.

RATE 280 Clinical Practice IV
4 credits. 24 hours. (Clinical 24 hours.)
Prerequisite: RATE 176 and 178 and concurrent enrollment in RATE 279, 281, and 285.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

RATE 281 Radiation Physics
3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)
Prerequisite: RATE 162 and 171.
Application of fundamental physics principles relating to energy, electricity, and magnetism and their relevance to the study of x-ray equipment.

RATE 282 Clinical Practice V
4 credits. 24 hours. (Clinical 24 hours.)
Prerequisite: RATE 279, 280, 281, 285 and concurrent enrollment in RATE 278.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.
RATE 283 Final Seminar
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: RATE 174, 279 and 280.
Preparation for the National Registry examination. Simulation of American Registry of Radiologic Technologists examination.

RATE 285 Special Procedures
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: RATE 170, 171 and 178 and concurrent enrollment in RATE 279, 280 and 281.
Anatomy, positioning, equipment, and special tasks related to performance of special contrast media studies. Vascular, neurological, lymphatic, skeletal, and pulmonary systems.

Reading

READ 10 Foundations for Academic Reading I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores.
Development of fundamental ability to interact independently with printed material as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, word recognition, phonetic analysis, and vocabulary development.

READ 11 Foundations for Academic Reading II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 10/30.
Further development of fundamental ability to interact independently with printed material as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, inference, and organizational patterns, vocabulary development, and textbook strategies.

READ 13 Linguistic Comprehension I (Companion for READ 10)
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Placement based on testing.
Development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, word recognition, structural analysis, and vocabulary development.

READ 14A Reading - Vocabulary
1 credit, 1 hour. (Lecture 1 hour.)
Vocabulary development through word analysis and context clues. Credit for courses numbered under 100 is not applicable to any degree or certificate.

READ 14B Reading - Vocabulary
2 credits. 2 hours. (Lecture 2 hours.)
Vocabulary development through word analysis and context clues. Credit for courses numbered under 100 is not applicable to any degree or certificate.

READ 14C Reading - Vocabulary
3 credits. 3 hours. (Lecture 3 hours.)
Vocabulary development through word analysis and context clues. Credit for courses numbered under 100 is not applicable to any degree or certificate.

READ 15 Phonology I
1 credit, 1 hour. (Lecture 1 hour.)
Prerequisite: Diagnostic testing.
Improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

READ 16 Phonology I
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Diagnostic testing.
Improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

READ 17 Phonology I
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 13/33.
Further development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, and organizational patterns, vocabulary development and textbook strategies.

READ 18 Linguistic Comprehension II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 13/33.
Development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, and organizational patterns, vocabulary development and textbook strategies.

READ 19 Phonology II
1 credit, 1 hour. (Lecture 1 hour.)
Prerequisite: Successful completion of READ 15, 16, or 17.
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

READ 20 Phonology II
2 credits. 2 hours. (Lecture 2 hours.)
Prerequisite: Successful completion of READ 15, 16, or 17.
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

READ 21 Phonology II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Successful completion of READ 15, 16, or 17.
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

READ 22 Language Processing
3 credits. 3 hours. (Lecture 3 hours.)
Improvement of reading, spelling, oral and written language comprehension and retention using multi-sensory information. Structured incremental sequence of instruction.
READ 30 Foundations for Academic Reading I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: Appropriate placement scores.
Development of fundamental ability to interact independently with printed material so as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, word recognition, phonetic analysis, and vocabulary development. Lab component.

READ 31 Foundations for Academic Reading II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 10/30.
Further development of fundamental ability to interact independently with printed material so as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, inference, and organizational patterns, vocabulary development and textbook strategies. Lab component.

READ 38 Linguistic Comprehension II (Companion for READ 31)
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 13/33.
Further development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main idea and supporting details, inference, and organizational patterns, vocabulary development, and textbook strategies. Lab component.

READ 51 Spelling I
3 credits. 3 hours. (Lecture 3 hours.)
Development of adult-level spelling skills by explanation and drill in the fundamentals of spelling. Basic patterns of vowel and consonant sounds, families of structurally similar words, and addition of affixes.

READ 100 College Reading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 11/31.
Enhancement of ability to interact independently with printed material at the college level. College level vocabulary and reading comprehension, flexibility in reading rate, critical and analytical reading, text strategies.

READ 101 Speed Reading
1 credit. 1 hour. (Lecture 1 hour.)
Prerequisite: Appropriate placement scores or the successful completion of READ 100.
Purpose and methods of speed reading. Guided practice in surveying, scanning, skimming, and developing flexibility of reading rates.

READ 103 Linguistic Comprehension III (Companion for READ 100)
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Appropriate placement scores or the successful completion of Read 18/38.
Enhancement of ability to comprehend printed material at the college level. College-level vocabulary, critical and analytical reasoning, and text strategies through auditory and visual input.

READ 108 College Success Skills
3 credits. 3 hours. (Lecture 3 hours.)
Campus orientation, introduction to college environment resources, and campus socialization. Skills for achieving educational goals such as awareness of learning styles, textbook strategies, listening and note taking skills, memory skills, test preparation, and test taking strategies. Life skills such as interpersonal skills, goal setting, time management principles and tools, and stress management.

READ 114 Advanced College Reading
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: Successful completion of READ 100.
Further increase in reading rate and vocabulary. Refinement of reading comprehension and concentration on critical reading.

READ 124 Study Skills
1 credit. 1 hour. (Lecture 1 hour.)
A survey of techniques for organizing the learning process; learning styles, goal setting, time management, textbook strategies, note taking skills, memory skills, test preparation, test-taking skills.

READ 199 Instructional Techniques in Reading and Spelling I
3 credits. 6 hours. (Lecture 6 hours.)

READ 201 Instructional Techniques II
3 credits. 3 hours. (Lecture 3 hours.)
Trains trainers in multi-sensory approaches and Socratic questioning techniques for improving students’ reading, spelling, and language comprehension and retention. Basic techniques and standardized procedures of administering and scoring a battery of diagnostic instruments for assessing literacy development.

Sign Language Interpreting
MCC-Maple Woods

SIGN 101 American Sign Language I
3 credits. 3 hours. (Lecture 3 hours.)
An introductory course in American Sign Language designed to develop basic expressive and receptive communication skills by introducing culturally appropriate signed concepts related to the immediate environment. Students will engage in common communicative events and interactions to acquire a basic working vocabulary and grammar. Cultural awareness and appropriateness is introduced to develop appropriate linguistic/cultural behaviors and awareness of and respect for deaf culture. American Sign Language is the language of instruction.

SIGN 102 American Sign Language II
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SIGN 101.
The second American Sign Language course in the sequence designed to further develop communication skills by examining grammatical features of American Sign Language. Students will develop vocabulary and conversational skills by progressing from common, concrete communicative events and interactions to language usage expressing abstract ideas. Emphasis is on the comprehension and production of increasingly complex linguistic structure focusing on dialogues and conversational expressions. Cultural awareness and appropriateness will also be further examined and applied. American Sign Language is the language of instruction.
SIGN 103 Deaf Culture
3 credits. 3 hours. (Lecture 3 hours.)
A course designed to provide students with an understanding of American Deaf culture and the factors that contribute to defining the Deaf Community as a distinct cultural minority, focusing on an awareness and understanding of cultural diversity and preservation of language. Students will examine cultural identity, group norms, rules of social interaction, values, and traditions held by members who are deaf. Societal attitudes regarding deafness and issues such as cultural oppression and language power by the majority culture will be discussed, as well as the contributions of folklore, literature, plays and works of art made by persons who are deaf to the larger American culture and to their own community organizations. The impact of modern technology, emerging issues, trends and advocacy within the Deaf Community are presented. Requirement Designation: Human Diversity

Social Science

MCC-Blue River
MCC-Maple Woods

SOSC 153 Readings in Social Science
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
A flexible program of guided reading, discussion, and written work designed to provide the student with either a survey of the social sciences or a detailed study of a particular area within social science. Includes a unit on American institutions and the federal and Missouri constitutions when requested.

SOSC 171 Comparative Ethnic and Cultural Studies
3 credits. 3 hours. (Lecture 3 hours.)
Comparative studies of various ethnic cultures and societies with focus on the cultural, social, economic, and political organization. Comparison of such societies to the dominant American culture. Potential points of agreement and conflict between the dominant American culture and some of the other cultures of the world. Requirement Designation: Human Diversity

Sociology

MCC-Blue River
MCC-Maple Woods

MCC-Longview
MCC-Penn Valley

SOCI 101 Sex Roles and Sexuality
3 credits. 3 hours. (Lecture 3 hours.)
Sociological, psychological, and physiological perspectives of the contemporary human sexuality, development of sex roles, and alternatives for personal, interrelational and societal adjustment.

SOCI 160 Sociology
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to sociological principles, practices, and concepts with emphasis on groups, culture, personality, society, communication, cities, and social institutions. Family, religion, government, social change, social control, and social progress.

SOCI 163 Social Problems
3 credits. 3 hours. (Lecture 3 hours.)
Consider representative social problems with emphasis on delinquency, personality disintegration, alcoholism, and family and racial conflicts.

SOCI 164 Sociology of the African-American Family
3 credits. 3 hours. (Lecture 3 hours.)
The Sociology of the African-American Family considers the historical and modern day African-American family in the United States. Emphasis is placed on the influence of the context of their initial immigration to the U.S. as well as on a variety of ongoing historical, social, political, and economic factors that ultimately influenced the African-American family’s quality of life in such areas as, for example, social welfare, access to housing, education, legal rights, and employment. Requirement Designation: Human Diversity

JO 165 Criminology
3 credits. 3 hours. (Lecture 3 hours.)
This course will introduce students to theories associated with criminal behavior and the manifestations of crime. A historical evolution of crime and punishment is introduced along with concepts, terms, and the criminal justice subsystem.

SOCI 168 Juvenile Delinquency
3 credits. 3 hours. (Lecture 3 hours.)

SOCI 169 Family Violence and Sexual Abuse
3 credits. 3 hours. (Lecture 3 hours.)
Introduction to concepts related to interpersonal violence. Categories of abuse studied are spousal, child, sibling, ritual, elderly, gay and lesbian. The course emphasizes legal, social and psychological aspects of abuse.

SOCI 170 General Anthropology
3 credits. 3 hours. (Lecture 3 hours.)
Survey of physical and cultural anthropology. Concentrates on concept of culture, social institutions, and organization: economy, politics, family, religion, law, and language, human evolution, human sexuality, and archaeology.

SOCI 199 Special Topics in Sociology
1-3 credits. 1-3 hours. (Lecture 1-3 hours.)
Guided readings, discussions, writing and/or field experience(s) in Sociology. Topics and material will be determined by the instructor.

SOCI 210 Native Americans in Contemporary Society
3 credits. 3 hours. (Lecture 3 hours.)
Focuses on socioeconomic factors impacting Native Americans in modern society and social construction of Native identity, with particular emphasis on the struggle to maintain and direct changes in the tribal communities in such areas as education, family structures, tribal governments, and religion. Requirement Designation: Human Diversity

SOCI 220 Marriage and Family Living
3 credits. 3 hours. (Lecture 3 hours.)
This course will introduce students to the study of family living in the United States. Attention will be given to the research methods and theoretical framework for understanding family from a sociological perspective. Consideration will also be given to the diversity of family in contemporary society.
Speech and Drama

MCC-Blue River
Dee Mathison
Anne Mahoney

MCC-Maple Woods
Ayanna Bridges
Lynette Jachowicz
Thomas Daniel Wright

MCC-Longview
William Cue
Katharine Kiser
Joyce Kuhn

MCC-Penn Valley
Deborah Craig-Claar
F. Kim Wilcox

SPDR 100 Fundamentals of Speech
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 30 or satisfactory score on placement test.
Introduction to the theory and practice of public speaking with a focus on the skills related to effective speech preparation and delivery.

SPDR 101 Advanced Speech
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPDR 100.
Further practice in public speaking situations with special emphasis on organization, development of ideas, and mechanics of delivery.

SPDR 102 Fundamentals of Human Communication
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: ENGL 30 or a satisfactory score on the English placement test.
An introductory course in the process of human communication, covering the basic forms of public speaking as well as topics in interpersonal communication, which may include small group dynamics and interviewing. Practical application of speaking and listening skills.

SPDR 103 Interpersonal Communication
3 credits. 3 hours. (Lecture 3 hours.)
Principles and skills of human communication relating to interpersonal communication settings: topics include theoretical elements of interpersonal communication, self-concept, perception, emotions, language, non-verbal communication, development and deterioration of human relations, identity and conflict management and analyses of communication climates.

SPDR 106 Theater Appreciation
3 credits. 3 hours. (Lecture 3 hours.)
Theater Application is an overview of theater from the playgoer's perspective. The course will include a discussion of theatre as a composite art form, investigate theatre practices that relate to audiences, and examine the function of the playwright, actor, director, designer, and others in relationship to the creation of a theatrical production.

SPDR 110 Argumentation and Debate
3 credits. 3 hours. (Lecture 3 hours.)
Theory, methods, structure, and execution of competitive debate. Participation in competitive debates with other area debate squads.

SPDR 112 Oral Interpretation of Literature
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPDR 100.
Analysis and presentation of literary works to increase appreciation of and skill in reading aloud in individual and group performances.

SPDR 114 Theater and the Western World
3 credits. 3 hours. (Lecture 3 hours.)
The study of the history of theatre from ancient Greece to the present. The course will explore the evolution of the many types of theatre activities. This course will include the reading and discussion of plays using the elements of theatre based on Aristotle's "Poetics." Exploration of the creation of theatre as a profession. The connection of modern issues with the themes of plays read. Different cultures will be explored through the study of theatre of arts.

SPDR 115 Acting in a Video and/or Digital Medium
3 credits. 4.5 hours. (Lecture 1.5 hours. Laboratory 3 hours.)
This course is an introduction to performance in a video and/or digital medium. Basic performance techniques and test analysis will be explored, culminating in a final performance project.

SPDR 116 Children's Theater
3 credits. 4 hours. (Lecture 1 hour. Laboratory 3 hours.)
This course is an introduction to children's theatre and the various forms of children's theatre based not only on theatrical styles but age levels as well. This class is designed for the adult student actor with emphasis on performance before a live audience. Various imagination games will be employed to help student actors learn how to communicate to a child audience.

SPDR 120 Acting I
3 credits. 3 hours. (Lecture 3 hours.)
An introduction to performance on stage. Basic performance techniques and text analysis will be explored, culminating in a final performance project.

SPDR 121 Elements of Play Production
3 credits. 3 hours. (Lecture 3 hours.)
Prerequisite: SPDR 100.
Identify and apply the elements of play production necessary to produce a theatrical performance through reading, observation and practical experience.

SPDR 122 Theater Practicum
1 credit. 1 hour. (Laboratory 1 hour.)
Theater Practicum is the practical examination of the performance and production of plays. Different areas will be examined with each course, such as acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

SPDR 123 Theater Practicum
1 credit. 1 hour. (Laboratory 1 hour.)
Theater Practicum is the practical examination of the performance and production of plays. Different areas will be examined with each course, such as acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

SPDR 124 Theater Practicum
1 credit. 1 hour. (Laboratory 1 hour.)
Theater Practicum is the practical examination of the performance and production of plays. Different areas will be examined with each course, such as acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

SPDR 125 Theater Practicum
1 credit. 1 hour. (Laboratory 1 hour.)
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

SPDR 126 Summer Theater Workshop
1-3 credits. 1-3 hours. (Laboratory 1-3 hours.)
Acting or technical production in one, two, or three productions of a local summer theater.
**STNU 100 Introduction to Surgical Technology**  
2 credits. 4 hours. (Lecture 2 hours.)  
Prerequisites: BIOL 108, 150, and acceptance into the program.  
Explores historical aspects of surgery, healthcare facilities and organizations, including the roles, duties, and responsibilities of surgical team members. Ethical, legal and moral issues in health care and surgery are addressed with an emphasis on effective communication skills and the impact of transcultural psychosocial outcomes for clients in the surgical setting. Also includes organization and physical layout of the operating room suite.

**STNU 102 Introduction to Fundamentals I**  
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
Prerequisite: BIOL 108, 150, and acceptance into the program.  
Applied principles of medical and surgical asepsis in the operating room. Focused on preparation and maintenance to the sterile field, identification, care and handling of instruments, suture, supplies, and equipment. Emphasis is on basic skills of the Surgical Technologist in preparation for and during the operative procedure.

**STNU 103 Introduction to Fundamentals II**  
6 credits. 9 hours. (Lecture 3 hours. Laboratory 5 hours. Clinical 1 hour.)  
Prerequisites: STNU 100, 102, and 106.  
Duties of the surgical technologist that include maintaining a safe client environment and emphasizes the role of the surgical technologist in the first scrub role. Common surgical techniques and procedures are introduced.

**STNU 105 Pharmacology for the Surgical Technologist**  
2 credits. 2 hours. (Lecture 2 hours.)  
Prerequisites: STNU 100, 102, and 106.  
Metric, apothecary, household and linear systems of measurement. Anesthetic agents and stages of anesthesia are introduced. Emphasis on the use and preparation of drugs and solutions commonly used during operative procedures.

**STNU 106 Microbiology for the Surgical Technologist**  
3 credits. 3 hours. (Lecture 3 hours.)  
Prerequisites: BIOL 108, BIOL 150, and acceptance to the program.  
A study of microorganisms, including the structure, function and pathogenicity, with emphasis on the infectious process, sterilization, disinfection, environmental sanitation, treatment and the immune response.

**STNU 109 Surgical Procedures I**  
8 credits. 16 hours. (Lecture 4 hours. Clinical 12 hours.)  
Prerequisites: STNU 103.  
Diagnosis, pathology and surgical sequence of general surgery, minimally invasive surgery, gynecological and genitourinary surgeries with discussion of post-operative care and complications.

**STNU 110 Surgical Procedures II**  
8 credits. 16 hours. (Lecture 4 hours. Clinical 12 hours.)  
Prerequisite: STNU 109.  
Pathology and surgical sequence of surgical specialties, including preoperative care and client outcomes for: Ophthalmology, otorhinolaryngology, Head and Neck surgery, Plastic/Reconstructive/Burn, Orthopedics.

**STNU 111 Career Development for the Surgical Technologist**  
2 credits. 2 hours. (Lecture 2 hours.)  
Prerequisite: STNU 110.  
This course emphasizes skills in developing employability. Included is an exploration of the advanced practice role as a first assistant in the hospital operating room setting as well as other areas of employment. The process of becoming certified and requirements for maintaining certification are explored.

**STNU 114 Surgical Procedures III**  
8 credits. 16 hours. (Lecture 4 hours. Clinical 12 hours.)  
Prerequisite: STNU 110.  
Pathology and surgical sequence to include post-operative care and complications in: Neuro-, Thoracic, Cardiac, Peripheral Vascular, Pediatric, Geriatric, and Trauma surgery.
VETT 100 Introduction to Veterinary Technology
2 credits. 2 hours. (Lecture 2 hours.)
Orientation to career opportunities available in veterinary technology.
Professional ethics, public relations, and psychological adjustment of the student in terms of understanding the need for physical treatment, and care of animals. Client relations, vaccination programs, regulatory organizations, receptionists duties, breeds and breed characteristics, neutering, puppy care, diets and hospital management.

VETT 101 Principles of Animal Science I
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Principles of handling, housing, and management of animals. Basic dietary and sanitation requirements. Restraint and handling, administration of medications, bathing, skin scraping, and basic laboratory tests. Emphasis on animal physiology including the cell, muscle, nervous, respiratory, and cardiovascular systems. Introduction to anesthesia and general animal nursing.

VETT 108 Clinical Mathematics for Veterinary Technicians
1 credit. 1 hour. (Lecture 1 hour.)
Prerequisite: Admissions into the Veterinary Technician Program.

VETT 110 Principles of Animal Science II
3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)
Prerequisite: VETT 101.
Anesthesia and the physiology of the digestive, urinary, endocrine, and reproductive systems. Blood and specimen collection, basic bandaging, and introduction to surgical preparation and radiographic processing.

VETT 111 Sanitation and Animal Care
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Introduction to microorganisms, sanitation, disinfectants, sterilization, and zoonotic diseases and public health problems. Introduction to parasitology and vermin control, specimen preservation, instrument identification, cleaning, and sterilization, sanitary procedures in patient care.

VETT 130 Veterinary Terminology
2 credits. 2 hours. (Lecture 2 hours.)
Professional language of veterinary medicine. Analysis of veterinary medical terms by roots and combining forms. Disease processes, anatomy, diagnostic and therapeutic procedures for each body system. Selected veterinary medical specialties.

VETT 200 Veterinary Hospital Technology I
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisites: VETT 101 and 110.
Administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparations and postoperative procedures, parenteral fluid administration, and intravenous hookups. Introduction to orthopedics, electrocardiography, bone marrow cytology, and pharmacology.

VETT 201 Clinical Pathology Techniques I
4 credits. 7 hours. (Lecture 1 hour. Laboratory 6 hours.)
Introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis, and parasitology, urinalysis and urine sediment valuation.

VETT 202 Veterinary Anatomy
5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)
Prerequisite: BIOL 101 or 106 and VETT 101 and 110.
Basic principles of anatomy using a systemic approach. Physiology as it relates to anatomy and applicable pathology involving the animal body systems. Comparison of the animal species using the cat for dissection.

VETT 203 Laboratory Animal Technology
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Prerequisite: VETT 101, 110, and 201.

VETT 209 Equine Medicine and Management
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: VETT 200.
Breed and type of horses and their use. A study of conformation as it relates to soundness, horse psychology, fitting, conditioning, first aid and restraint, parasites and their control, farm management for safety, nutrition, mare care, breeding, foaling, hoof soundness, equine diseases and their prevention.

VETT 210 Veterinary Hospital Technology II
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)
Prerequisite: VETT 200.

VETT 211 Clinical Pathology Techniques II
5 credits. 8 hours. (Lecture 2 hours. Laboratory 6 hours.)
Prerequisite: VETT 201.
Theory and performance in hematologic, urinalysis, clinical chemistry, and parasitology. Introduction to simple immunologic tests, blood coagulation tests, and bone marrow evaluation. Emphasis on hematology and hemoparasites.

VETT 212 Large Animal Technology
4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)
Prerequisite: VETT 101 and 110.
Techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Bovine, porcine, and ovine caprine medicine and management including restraint, blood collection, medicating, and nursing techniques.

VETT 213 Radiology and Electronic Procedures
2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)
Intensive study and practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography, and machine electronics.

VETT 214 Veterinary Technician Preceptorship
6 credits. 40 hours. (Field Studies 40 hours.)
Prerequisite: Two semesters of first-year veterinary technology courses. Supervised intensive clinical study under direction of cooperation veterinarian to provide 400 hours of actual work experience.
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Kimberly A. Luken, Accounting  
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A.A., Muscatine Community College  
B.A., University of Northern Iowa  
M.A., University of Iowa
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<td>R. Randell Moore, History</td>
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<td>Emily Morgan, English</td>
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<td>Michael Peters, EMT-Paramedic</td>
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<td>B.S., Quincy College</td>
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<td>Carrie L. Pickeral-Brooks, Education</td>
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<td>B.S., Colorado Technical University</td>
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<td>D.V.M., University of Missouri-Columbia</td>
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<td>Shirley C. Musick, Surgical Technology</td>
<td>MCC-Blue River</td>
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<td>Surgical Technology Certificate</td>
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<td>Patricia L. Munn, Biology</td>
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<td>University of Missouri–Columbia</td>
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<td>Michelle A. Polk, English</td>
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<td>Deanna Poudel, Physics</td>
<td>M.A.</td>
<td>University of Missouri–Kansas City</td>
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<td>M.A., University of Missouri–Kansas City</td>
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<td>Zephyr Perren, Automotive</td>
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<td>University of Missouri–Kansas City</td>
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<td>Chair, Technology and Business</td>
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<td>B.A., University of Central Oklahoma</td>
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<td>James McGraw, Counselor</td>
<td>M.C.C.-Longview</td>
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<td>B.S., University of Missouri–Columbia</td>
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<td>Doctor, Humanities Division</td>
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<td>B.A., Grimball College</td>
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<td>Deanna Poudel, Physics</td>
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<td>Murphy, Computer Science</td>
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<td>Anne Mahoney, Speech &amp; Drama</td>
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<td>Kimball V. Marsh, Mathematics</td>
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<td>B.S., Clarkson College of Technology</td>
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<td>Todd C. Martin, Biology</td>
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<td>J. Burke Maxted, Counselor</td>
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<td>Gloria Maxwell, Librarian</td>
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<td>Frank E. McCarty, Computer Science</td>
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<td>B.A., Grimball College</td>
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<td>Ph.D., Iowa State University</td>
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</table>
Russel D. Sullivan, Fire Science
MCC-Blue River
Missouri State Certification
Class A police officer

Mary Svoboda-Chollet, Child Growth and Development
MCC-Penn Valley
B.S., University of Nebraska-Lincoln
M.S., University of Kansas

Michael E. Sweetland, Chemistry
MCC-Penn Valley
B.S., Saint Norbert College
M.S., University of Pittsburgh

Judith E. Taylor, Radiologic Technology
MCC-Penn Valley
B.H.S., University of Missouri–Columbia
M.Ed., University of Missouri–Columbia

Ronald L. Taylor, Reading
MCC-Longview
B.A., Simpson College
M.A., University of Missouri–Kansas City
Ed.S., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

Penny Tepesch, Manufacturing Technology
MCC-Business & Technology
Chair, Technology
A.A., MCC-Longview
B.S., Central Missouri State University
M.S., Central Missouri State University

Kimberly Thebeau-Siercks, Radiologic Technology
MCC-Penn Valley
B.S., Avila College
M.S., Kansas State University

Michael R. Thorne, Heating, Ventilation, & Air Conditioning
MCC-Business & Technology
Certificate in Heating and Refrigeration

Bernadette E. Torres, Art
MCC-Penn Valley
B.F.A., Kansas City Art Institute
M.F.A., University of Miami

Darlene Town, Art
MCC-Penn Valley
B.F.A., Central Missouri State University
M.A., Central Missouri State University

Rickey H. Turner, Criminal Justice
MCC-Longview
B.A., University of Nebraska
M.A., University of South Carolina

Leta H. Tyhurst, Learning Center
MCC-Longview
B.S., University of Missouri–Columbia
M.S., University of Missouri–Columbia

Handady H. Udupa, Dental Assisting
MCC-Penn Valley
B.D.S., Bangalore University-Bangalore, India

Richard A. Urdiales, English
MCC-Blue River
B.A., University of Akron
M.A., University of Wyoming
M.A., University of Missouri

Patricia A. Vargas, Reading
MCC-Penn Valley
A.A., Metropolitan Junior College
B.A., Avila College
M.A., University of Missouri–Kansas City

Lane Vanham, English
MCC-Penn Valley
B.A., University of Missouri-Columbia
M.A., University of Arizona
Ph.D., University of Arizona

Andrea L. Vorwark, Mathematics
MCC-Maple Woods
B.A., William Jewell College
M.S., University of Missouri–Rolla

Michael Warren, English
MCC-Maple Woods
B.A., University of Kansas
M.A., University of Montana
M.A., University of Central Missouri

W. Douglas Washer, Philosophy
MCC-Longview
B.A., Southwest Missouri State University
M.A., University of Missouri–Columbia

Janel L. Weaver, Outreach Counselor
MCC-Maple Woods
B.A., University of Missouri–Kansas City
M.Ed., University of Missouri–Columbia

dorether Welch, Sociology
MCC-Longview
B.S., Avila College
M.S., Central Missouri State University
M.A., Webster University
Ph.D., University of Missouri–Kansas City

Gordon E. Wells Jr., Paralegal
MCC-Penn Valley
B.S., University of Kansas
J.D., University of Kansas

Matthew R. Westra, Psychology
MCC-Longview
A.A., Golden West College
B.A., California State University–Fullerton
M.S., California State University–Los Angeles

F. Kim Wilcox, Speech
MCC-Penn Valley
B.A., University of Missouri–Kansas City
M.A., University of Kansas
Ph.D., University of Missouri–Kansas City

Robert H. Williams, Psychology
MCC-Maple Woods
A.A., MCC-Maple Woods
B.A., William Jewell College
M.A., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

Tammie L. Willis, Nursing
MCC-Penn Valley
B.A., Washburn University
B.S.N., University of Kansas
M.S.N., University of Kansas

Jeffrey C. Will, Counselor
MCC-Blue River
B.A., University of North Carolina-Chapel Hill
M.S., University of North Carolina-Greensboro

Patricia A. Winberg, Nursing
MCC-Penn Valley
R.N., Research Medical Center
B.S.N., Avila College
M.S.N., University of Kansas Medical School of Nursing

Cheryl Winter, Mathematics
MCC-Blue River
Chair, Business Technology, Mathematics and Public Safety
A.A., Metropolitan Community College
B.A., Avila College
M.A., Central Missouri State University

Thomas M. Wirtz, Counselor
MCC-Longview
B.S., Missouri State University
M.A., University of Missouri

Benjamin Wolfe, Geology/Geography
MCC-Blue River
Chair, Natural Sciences
B.S., University of Nebraska–Lincoln
M.S., University of Alaska–Fairbanks

William S. Worley, History
MCC-Blue River
B.A., Kansas State University
M.A., Colgate Rochester Divinity School
Ph.D., University of Kansas

Thomas Daniel Wright, Speech & Drama
MCC-Maple Woods
B.A., Arkansas State University
M.A., Arkansas State University

Janet K. Wyatt, Mathematics
MCC-Longview
Chair, Math and Engineering
B.S., University of Arkansas
M.A., University of Arkansas

Dempsey A. Yeary, Computer Science/Information Systems
MCC-Maple Woods
B.S., Devry Institute of Technology

William Young, History
MCC-Maple Woods
Chair, Social Sciences/Business
B.A., Iowa State University
M.A., Iowa State University

Stephanie Zerkel-Humbert, English
MCC-Maple Woods
B.S.E., University of Arkansas At Little Rock
M.A., University of Arkansas At Little Rock

Emeriti*

Although several retired faculty members and administrators served in more than one capacity during their years with the institution, they are listed here according to the function and the unit to which they were assigned at the time of their retirement.

Joseph H. Anway (1973-1998), Business
MCC-Longview
A.A., Graceland College
B.S., Central Missouri State University
M.A., Central Missouri State University
Spec. In Bus. Adm., Central Missouri State University

Bruce Appel (1989-2006), Outreach Counselor
MCC-Longview
M.A., University of Missouri–Kansas City
Ed.S., University of Missouri–Kansas City

Rita K. Austin (1969-1986), Foreign Language
MCC-Longview
A.B., New York State College For Teachers
A.M., University of Kansas

Harold E. Baggerly (1964-1995), Engineering
MCC-Maple Valley
B.S., University of Kansas
M.S., University of Kansas

Melanie A. Bailey (1973-2005), Director, Educational Opportunity Center
MCC-Penn Valley
B.S., In Ed., Southwest Missouri State University
B.S.N., Avila College
M.S.N., Kansas University

Nancy J. Banks (1990-2000), Nursing
MCC-Penn Valley
A.B., Wheaton College
A.M., Northwestern University

Edward Beasley (1968-1993), History
MCC-Penn Valley
B.A., Lincoln University
M.A., Emporia State University
Ph.D., University of Missouri–Kansas City

Pamela Beers (1994-2004), Practical Nursing
MCC-Penn Valley–Pioneer Campus
Diploma, Providence Hospital School of Nursing
B.S., St. Mary College

James Q. Beisel (1973-2004), Business
MCC-Longview
B.S., Kansas State University, Agriculture
B.S., Kansas State University, Business Administration
M.B.A., University of Kansas

Michael E. Benson (1972-1997), Criminal Justice
MCC-Penn Valley
A.A., Kansas City, Kansas Community College
B.S., Central Missouri State University
M.A., University of Missouri – Kansas City
M.S.E., Central Missouri State University

*
Milton Benz (1974-1990), Business
MCC-Penn Valley
B.S., University of North Dakota At Grand Forks
M.B.A., Central Missouri State University
Lewis E. Berg (1957-1986), Mathematics
MCC-Maple Woods
A.B., De Pauw University
M.A., Syracuse University
Patricia A. Berge Langsford (1971-2004), Office Systems
MCC-Maple Woods
A.B., University of Kentucky
M.A., University of Missouri–Kansas City
Dale R. Biagi (1965-1998), Geology & Geography
MCC-Longview
A.A., Kaskaskia College
B.S., Illinois State University
M.S., Illinois State University
Jack Bitzenburg (1986-2004), President
MCC-Business & Technology
B.S., Central Missouri State University
M.S., Central Missouri State University
Sarah F. Bivins (1972-2001), Human Sciences
MCC-Penn Valley
B.S., Tuskegee Institute
M.S., University of Wisconsin
Aldine Blankenship (1951-1979), Office Systems
MCC-Penn Valley
A.A., Northeast Junior College
A.B., University of Northern Colorado
M.A., University of Northern Colorado
Sheryl L. Blasco (1966-1994), Data Processing
MCC-Penn Valley
B.S., Emporia State University
M.P.A., California State University
Ann E. Boehm (1983-1989), Psychology
MCC-Penn Valley
B.A., College of St. Catherine
M.Ed., St. Louis University
M.A., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City
Eleanor Smith Bowie (1971-2002), Director of Title II Project
MCC-Penn Valley
B.A., St. Augustine’s College
M.A., North Carolina Central University
Stephen Brainard (1970-1998), President
MCC-Maple Woods
B.S., State University of New York
M.S., Syracuse University
Ph.D., University of Missouri–Columbia
Loree D. Breed (1970-1986), English
MCC-Longview
B.A., Avila College
M.A., University of Missouri–Kansas City
M.P.H., University of Kansas
Ronald L. Brink (1969-1998), Speech and Theater
MCC-Maple Woods
Chair, Communications
B.A., Missouri Valley College
M.A., University of Denver
Ph.D., University of Missouri–Kansas City
Beverly J. Brown (1988-2008), Associate Vice Chancellor and Assistant to the Chancellor
Administrative Center
B.S., Birmingham–Southern College
M.A., University of Alabama
Ed. D., University of Missouri–Columbia
Joan Nance Brown (1964-1994), Mathematics
MCC-Longview
B.S., Harding College
M.A., University of Kansas
Suzanne Brown (1984–1994), Health Information Technology
MCC-Penn Valley
B.S., Texas Woman’s University
M.S., Texas Woman’s University
Robert S. Buchanran (1971-1993), English
MCC-Maple Woods
A.B., University of Missouri–Columbia
M.A., University of Missouri–Columbia
George A. Bunch (1956-1989), Social Science
MCC-Penn Valley
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M.S., University of Kansas
Walter M. Burks (1970-1981), Social Science
MCC-Maple Woods
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Ph.D., University of Missouri–Kansas City
Wilma J. Burnett (1973-1997), Office Systems
MCC-Penn Valley
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M.S., Central Missouri State University
Aaron C. Butler (1974-1982), Business
MCC-Maple Woods
A.B., Pittsburg State University
M.B.A., Harvard University
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MCC-Penn Valley
Nursing Diploma, St. Margaret Hospital
B.S.N., Avila College
M.S.N., University of Missouri-Kansas City
Ph.D., University of Missouri-Kansas City
Jeremiah Cameron (1963-1989), English
MCC-Penn Valley
A.B., University of Indiana
A.M., University of Chicago
Ph.D., Michigan State University
Patrick R. Capranica (1965-1995), Social Science
MCC-Longview
B.S., Pittsburg State University
M.S., Pittsburg State University
Kenneth M. Carter (1975-1992), Automotive Technology, Heavy Equipment
MCC-Longview
A.A.S., MCC-Longview
Cydia A. Case (1971-2002), Counselor
MCC-Blue River
B.A., Eastern Kentucky University
M.Ed., Xavier University
Ph.D., University of Missouri–Kansas City
Vernon L. Case (1967-1993), Data Processing
MCC-Penn Valley
B.A., William Jewell College
M.B.A., University of Missouri–Kansas City
Gregory A. Christy (1981-1992), Drafting
MCC-Longview
B.S., Central Missouri State University
M.S., Central Missouri State University
Lynda W. Clark (1989-2005), Business
MCC-Maple Woods
B.S., Central State University, Oklahoma
M.Ed., Central State University, Oklahoma
Ph.D., University of Oklahoma
Susan W. Clark (1985-2004), Reading
MCC-Longview
B.S.Ed., University of Delaware
M.Ed., University of Delaware
Ph.D., University of Missouri–Kansas City
John P. Coleman (1969-1988), Art
MCC-Longview
B.F.A., Kansas City Art Institute
M.F.A., Kansas City Art Institute
Frank Dean Cone (1993-2003), Education
MCC-Maple Woods
B.S.Ed., Missouri Valley College
M.Ed.Spec., Central Missouri State University
Ed.D., University of Missouri-Columbia
Omar G. Conrad (1965-1995), Geology
MCC-Maple Woods
B.S., University of Kansas
M.S., University of Kansas
M.A., Dallas Theological Seminary
Harvey J. Cooke (1966-1995), Business
MCC-Penn Valley
Chair, Business
B.S., Emporia State University
M.S., Emporia State University
William Patrick Coyne (1970-2000), Automotive Technology
MCC-Longview
B.S., Pittsburg State University
M.S., Pittsburg State University
Linda F. Crabtree (1983-2005), District Director, Professional Development and Instructional Support Administrative Center
B.S., University of Missouri–Kansas City
M.S., Central Missouri State University
Ed.D., University of Missouri–Columbia
Betty L. Craft (1975-2000), Office Systems
MCC-Longview
B.B.A., Washburn University of Topeka
William David Crim (1964-1991), Mathematics
MCC-Penn Valley
B.S.E.E., University of Missouri–Columbia
M.S., New Mexico Highlands University
M.S.E.E., University Missouri–Columbia
Bruce D. Culley (1971-2008), Business
MCC-Maple Woods
B.S., University of Kansas
M.S., University of Kansas
Darlene Cumminse-Hill (1972-1995), Nursing
MCC-Penn Valley
R.N., General Hospital and Medical Center
B.S.N., University of Kansas
M.A., University of Missouri–Kansas City
M.S.N., University of Missouri–Kansas City
Desmond U. Daniels (1969-1998), Music, Physical Fitness
MCC-Maple Woods
B.S., University of Kansas
M.E., University of Kansas
B.A., Wichita State University
M.A., University of Colorado
Donald H. Day (1974-1986), Electronics
MCC-Maple Woods
B.S.E.E., Fidell Engineering College
Thomas E. Dewey (1969-2000), Counselor
MCC-Penn Valley
B.S., Pittsburg State University
M.S., Pittsburg State University
Richard Diklich (1972-2002), Automotive Technology
MCC-Longview
B.S., Pittsburg State University
M.A., William Jewell College
M.B.A., University of Missouri–Kansas City
Ph.D., University of Kansas
M. Albert Dimmit Sr. (1990-2000), History
MCC-Penn Valley
B.S., Kansas State University
M.A., Kansas University
Ph.D., Kansas University
Marilyn Donatello (1982-2006), Dean of Student Services
MCC-Maple Woods
B.S., University of Tennessee–Chattanooga
M.A., University of South Florida
Donald S. Doucette (1994-2008), Vice Chancellor, Education and Technology
Administrative Center
B.A., Cornell University
M.A., Arizona State University
Ph.D., Arizona State University
Lawrence Downs (1969-1986), Architecture
MCC-Longview
B.Arch., Washington University
M.A., University of Missouri–Kansas City
M.S., University of Missouri–Rolla
MCC-Maple Woods
A.B., William Jewell College
M.S., University of Missouri–Rolla
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<td>Services and Risk Management</td>
<td>M.A., New York University</td>
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<td>Charles E. Dube (1994-2009),</td>
<td>Associate Dean</td>
<td>M.C.C.-Blue River</td>
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<td>Martha J. Eagle (1989-2004),</td>
<td>Mathematics</td>
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<td>W. Andrew Geoghegan Jr. (1973-2003), Psychology</td>
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<td>Criminal Justice</td>
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<td>Louis E. Gillham (1965-1993), Counselor</td>
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<td>Carole R. Gilmore (1990-2008), Foreign Language</td>
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<td>Florence W. Goldman (1976-1986), Reading</td>
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<td>Marvin Golden (1962-1999), Mathematics</td>
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<td>Charles M. Gosselin (1970-1998), Associate Dean</td>
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<td>Ronald E. Greathouse (1969-2000), Vice Chancellor,</td>
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<td>Cheryl S. Grosser (1989-2005), English</td>
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<td>M.C.C.-Blue River, Chair, Humanities</td>
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<td>Radhey Gupta (1974-2003), Mathematics</td>
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<td>Martha Haehl (1987-2008),</td>
<td>Mathematics</td>
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<td>Richard L. Har (1973-2000),</td>
<td>Sociology</td>
<td>M.C.C.-Longview</td>
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<td>Dorothy Hamilton (1973-1986),</td>
<td>Nursing</td>
<td>M.C.C.-Longview</td>
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<td>Cecil N. Hammond (1959-1996), District Director,</td>
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<td>Paul Harding (1969-2005), Heating/Air Conditioning</td>
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<td>Juanaan Hill (1992-2008), Applied Language</td>
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<td>Julia Hill (1975-1992), Recruitment Coordinator</td>
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</table>
Thomas J. Hillenbrand (1988-2002), English
MCC-Longview
A.B., Loyola University of Chicago
M.A., Loyola University of Chicago

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M.Phil., University of Kansas
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Ph.D., University of Arizona

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M.S., University of Arizona
Ph.D., University of Missouri–Kansas City

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B.A., State University College of New York, Buffalo
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M.A., Webster University

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B.S., University of Wisconsin–Madison
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Ed.S., University of Wisconsin–Stout
Ph.D., Texas A & M University

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B.A., Junior College of Kansas City
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Ph.D., University of Kansas

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M.S., Kansas State University

Herbert F. Kramer (1956-1991), Mathematics
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A.A., MCC-Penn Valley
B.A., Baker University
M.S., Central Missouri State University

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A.B., University of Kansas
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R.N., Tuskegee Institute
B.S.N., Avila College
M.A., University of Missouri–Kansas City

Sandra L. Landy (1990-2008), Biology
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Ph.D., University of Missouri–Columbia

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MCC-Longview
B.A., Clarke College, Iowa
M.A., Bradley University, Illinois

Russel G. Lee (1954-1983), Mathematics
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B.S., University of Missouri–Columbia
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B.S., Central Missouri State University
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Aldo W. Leker (1971-1997), President
MCC-Longview
B.S., Southwest Missouri State University
M.B.A., University of Missouri–Kansas City

Mark Lidman (1987-2009), English
MCC-Maple Woods
B.A., University of Virginia
M.A., Purdue University
Ph.D., University of Missouri–Columbia

Charles Smith Lewkowsky (1973-2004), Mathematics
MCC-Maple Woods
A.B., William Jewell College
M.S., Kansas State University

Orynt O. Lockard (1966-1989), Drafting and Design, Engineering Technology
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B.S.Ed., Central Missouri State University
M.A., George Peabody College For Teachers
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B.S., Central Missouri State University
M.S., University of Kansas

Wanda F. Lord (1962-1985), Office Systems
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B.S., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

Patricia A. Lorenz (1971-2000), Biology
MCC-Penn Valley
Chair, Life Sciences
A.A.S., MCC-Penn Valley
B.S., St. Louis University
Ph.D., University of Kansas

L. Doone Loughery (1972-1991), Office Systems and Careers
MCC-Maple Woods
B.S., Northeast Missouri State University
M.A.Bus.Ed., Northeast Missouri State University

Forrest G. Lowe (1959-1993), Physics
MCC-Longview
B.S., Northwest Missouri State University
M.S., Texas Christian University
Ed.D., Nova University

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Administrative Center
B.S., Pittsburg State University

Mary B. Jones (1966-1984), Biology
MCC-Longview
B.A., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

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MCC-Longview
B.S., University of Missouri–Columbia
M.S., University of Missouri–Columbia

Joann Krekel (1973-1994), Media Specialist
MCC-Penn Valley
A.A., MCC-Penn Valley
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M.S., Central Missouri State University
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MCC-Penn Valley
B.S., MCC-Penn Valley
B.N., University of Missouri–Kansas City
M.S.N., Avila College
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D.V.M., University of Missouri–Kansas City

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Administrative Center
B.S., Northern Illinois University
M.S., Northern Illinois University
Ed.D., Northern Illinois University

MCC-Penn Valley
A.A., Junior College of Kansas City
B.A., University of Missouri–Kansas City
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M.A., Drake University
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B.S., Purdue University
M.A., Ball State University

Michele McGeeney (1994-2008), Reading
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B.A., University of Missouri–Kansas City
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M.A., University of Missouri–Kansas City

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B.S., University of Houston
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B.A., Antioch College
M.A., University of Pittsburgh

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B.S., Pittsburg State University
M.S., Central Michigan University

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Chair, Humanities
B.A., Junior College of Kansas City
B.A., University of Kansas
M.A., University of Kansas
Ph.D., University of Kansas

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MCC-Longview
A.B., University of Cincinnati
M.Ed., Xavier University
M.A., Xavier University

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Diploma, Devry Institute of Technology
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B.A., University of Kansas
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B.S., Alabama State University
M.S., University of Nebraska–Omaha

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B.A., University of Missouri–Columbia
M.A., University of Missouri–Columbia

Stewart E. Nelson (1963-1999), History
MCC-Mapple Woods
A.B., Park College
M.A., University of Kansas

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B.S.N., University of Kansas
M.S.N., University of Missouri–Kansas City

Leon P. Ogilvie (1970-2000), Social Science
MCC-Mapple Woods
Chair, Social Science
A.A., Junior College of Kansas City
B.S., Central Missouri State University
M.A., University of Missouri–Kansas City

Ph.D., University of Missouri–Kansas City

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MCC-Blue River
B.S., Mollov College
M.A., Hofstra University
M.A., University of Missouri–Kansas City

Rebecca M. Owens (1974-2002), Fashion and Human Sciences
MCC-Penn Valley
Chair, Business and Human Sciences
B.S., Northwest Missouri State University
M.Ed., University of Missouri–Columbia

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B.A., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

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B.S., Kansas State University
M.B.A., Rockhurst College

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B.A.N., University of Illinois–Springfield

Thomas S. Pennington (1990-2005), Computer Science/Information Systems
MCC-Longview
Chair, Business
B.S., University of Missouri–Columbia
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Lee Roy Pitts (1972-1997), Biology
MCC-Penn Valley
B.S., Pittsburg State University
M.S., Pittsburg State University

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B.A., Avila College
M.A., University of Kansas

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A.G.E., Flint Junior College
B.S., University of Michigan
B.S.E.E., University of Missouri–Columbia
M.P.H., University of Michigan

Judith A. Pratt (1982-2006), Counselor
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B.S., Southeast Missouri State University
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Norman C. Preston (1973-1983), Mechanical Technology
MCC-Penn Valley
B.S., Northwest Missouri State University
M.S., University of Arkansas

A. Rae Price (1966-1992), English
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B.S., Northwestern University
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Carol S. Price (1969-1992), Criminal Justice
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B.S., University of Missouri–Columbia
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B.S., University of Missouri–Kansas City
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John Ream (1987-2009), Assoc. Dean, Student Development
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B.S., Southern Nazarene University
M.Div., Nazarene Theological Seminary
M.A., University of Missouri–Kansas City
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B.S., Central Methodist College
M.S., Central Missouri State University

Eugene Schieber (1990-2003), Dean of Technical Education
MCC-Maple Woods/MCC-Business & Technology
B.S., Northwest Missouri State
M.A., Northwest Missouri State University
Ed.S., University of Missouri–Kansas City

Beverly J. Schwaab (1980-1989), Librarian
MCC-Longview
A.A., Junior College of Kansas City
B.A., Baker University
M.S., Central Missouri State University

Jean Bartz Scurlock (1957-1986), Chemistry
MCC-Longview
A.B., University of Kansas
A.M., Smith College

Corrine E. Shaw (1994-2003), Practical Nursing
MCC-Penn Valley
A.D.N., Kansas City Community College
B.S.N., MidAmerica Nazarene College

M. Catherine Sheely (1990-2007), English
MCC-Penn Valley
B.A., Aquinas College, Michigan
M.A.A., Baker University

Leah Shelton (2000-2010), Access Counselor
MCC-Blue River
B.A., William Jewell
M.A., University of Missouri–Kansas City

Larry E. Shenwood (1971-1996), Mathematics
MCC-Penn Valley
B.S., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

Charles E. Shields (1967-1995), District Director, Purchasing & Auxiliary Services
Administrative Center
A.A., North Central Missouri College
B.S., University of Missouri–Columbia

James A. Shimmel (1980-2006), Manufacturing Technology
MCC-Business & Technology
B.S., Finlay Engineering College

Thomas H. Sicking (1968-1994), English, Journalism
MCC-Penn Valley
B.A., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City
Ed.D., Nova University

Dorothy L. Simmons (1981-1991), Nursing
MCC-Penn Valley
R.N., General Hospital and Medical Center
B.S.N., Avila College

Sue M. Sinton (1973-1992), Nursing
MCC-Penn Valley
R.N., St. Joseph Hospital School of Nursing
B.A., University of Missouri–Kansas City
M.A., University of Chicago

Robert A. Slater (1969-1998), English
MCC-Maple Woods
B.S., Northeast Missouri State University
M.F.A., University of Iowa

Robert J. Smith (1993-2010), Counselor, Educational Opportunity Center
MCC-Penn Valley
M.A., University of Missouri–Kansas City

Shirley Fieth Smith (1968-1991), Office Systems
MCC-Longview
B.S., Central Missouri State University
M.A., Central Missouri State University

Theda Y. Sorenson (1987-1994), Counseling
MCC-Longview
A.A., Hutchinson Community College
B.A., Sterling College
M.A., Fort Hays State University

Helen Y. Speed (1974-2007), Child Growth and Development
MCC-Penn Valley
B.S., University of Arkansas At Pine Bluff
M.A., University of Missouri–Kansas City

Phyllis P. Standley (1971-1996), District Director, Instructional Services & Professional Development
Administrative Center
B.S., Northwest Missouri State University
M.S., Emporia State University
Ph.D., University of Missouri–Columbia

Evelyn R. Staats (1969-1996), Librarian
MCC-Longview
B.S., University of Missouri–Columbia
M.A., University of Missouri–Columbia

Sally Steinback (1964-1986), Political Science
MCC-Penn Valley
B.A., Beloit College
M.P.A., Syracuse University
J.D., University of Missouri–Kansas City

Bill Still (1974-1998), Machine Tool Technology
MCC-Maple Woods/MCC-Business & Technology
B.S., Central Missouri State University

John G. Stockmeyer (1961-2005), History
MCC-Maple Woods
B.S., Kansas State University
M.S., Kansas State University

Mary M. Stuttivant (1992-2005), Access Resource Educator
MCC-Longview
MCC-Penn Valley
B.S., Missouri Western State College

Suzanna Swager (1985-1997), Basic Skills
MCC-Blue River
B.A., Southwest Baptist College
M.S., Central Missouri State University

Nancy M. Taylor (1983-1993), Business and Office Reentry
MCC-Longview
A.A., MCC-Longview
B.S., Avila College
M.Ed., Central Missouri State University

G. Dale Thomas (1987-2001), Dean of Instruction
MCC-Blue River
B.S.Ed., Central Missouri State University
M.S., Emporia State University
D.A., Idaho State University

Claude W. Thomson (1971-1995), Management
MCC-Longview
B.S., Central Missouri State University
M.S., Central Missouri State University

Nancy Thomson (1990-2004), Education
MCC-Penn Valley
Chair, Child Growth and Development
B.A., Barat College, Illinois
M.A., College of Holy Names, California
Ph.D., University of Kansas

Paul Thomson Jr. (1971-1999), President
MCC-Blue River
B.S., Missouri Valley College
M.S., Southern Illinois University
Ph.D., Southern Illinois University

George E. Thornton (1970-1997), Automotive Technology
MCC-Longview
A.A.S., MCC-Longview
B.S.E., Central Missouri State University
M.S., Central Missouri State University

Alana Timora (1982-2005), Counselor
MCC-Maple Woods
B.S., University of Southern Colorado
M.A., University of Missouri–Kansas City

James Tjaden (1988-2008), Travel and Tourism
MCC-Maple Woods
Chair, Math, Science and Computing
B.A., Macalester College
M.A., University of Iowa
Ed.S., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

Helen M. Turner (1969-1993), Art
MCC-Maple Woods
B.A., University of Arkansas

Allan H. Tunis, Vice Chancellor (1999-2009), Administrative Services
Administrative Center
B.S., Wayne State University
M.S., Wayne State University
Ed.S., University of Missouri–Kansas City

Charles Van Middlesworth (1993-2007), Research, Evaluation, and Assessment
MCC-Administrative Center
B.A., Northwestern State College
M.A., Eastern New Mexico
Ed.D., University of Kansas
Dora Walsh (1994-1999), Practical Nursing
MCC-Penn Valley
R.N., Hammersmith, England
S.C.M., Midwifery, London, England
B.S.N., Graceland College

Helen G. Weaver (1960-1984), Psychology
MCC-Penn Valley
B.A., University of Missouri–Columbia
M.S., University of Pennsylvania

James K. Weaver (1984-2000), Business
MCC-Longview
A.B., Drury College
M.B.A., Drury College

Karen E. West (1995-2005), Associate Dean
MCC-Penn Valley
A.A., El Camino College
B.A., California State University
M.A., Pacific School of Religion
Ed.D., University of Missouri–Columbia

MCC-Maple Woods
A.A.S., Oklahoma State University
B.S., Oklahoma State University
M.S., Pittsburg State University

Beverly D. Whitaker (1983-1994), Learning Center/Reading
MCC-Maple Woods
B.R.E., Northern Baptist Theological Seminary
B.S., Sioux Falls College
M.A., University of Missouri–Kansas City

Levora B. Whitmore (1971-1995), Nursing
MCC-Penn Valley
Chair, Nursing
B.S.N., University of Kansas
M.A., University of Missouri–Kansas City

James P. Whitworth (1965-1991), Counseling
MCC-Maple Woods
B.S., Missouri Valley College
M.S., Central Missouri State University

Arthur N. Wilkins (1956-1990), District Director Academic Affairs & Research Administrative Center
A.A., Junior College of Kansas City
A.M., University of Chicago
Ph.D., Washington University

Jeanné C. Willerth (1985-2004), Computer Science/Information Systems
MCC-Longview
B.A., Wayne State College
M.S., University of Missouri–Columbia
M.S.D., University of Kansas

F. Ula Williams (1993-2005), Sign Language Interpreting
MCC-Maple Woods
B.S., Emporia State University
M.S., University of Kansas

Malcolm T. Wilson (1983-2006), President
MCC-Blue River
B.A., Kentucky State University
M.A., Murray State University

Dorothy M. Wright (1955-1995), Office Systems
MCC-Penn Valley
A.A., MCC-Penn Valley
B.S., Central Missouri State University
M.A., University of Iowa
Ed.D., Nova University

Christine A. Yannitelli (1972-2004), Counselor
MCC-Maple Woods
B.A., Michigan State University
M.Ed., University of Missouri–Columbia
M.A., University of Missouri–Kansas City

Virginia D. Yates (1968-1984), Reading
MCC-Penn Valley
B.S., Pittsburg State University
M.A., University of Missouri–Kansas City
Glossary of Academic Terms

ACADEMIC ADVISING. Counselors and advisors assist students in selecting programs of study and courses to meet their program requirements.

ACADEMIC YEAR. This includes the summer session of classes that begins in June and ends in July, the first or fall semester that begins in August and ends in December and the second or spring semester that begins in January and ends in May.

ACCREDITATION. An educational institution or program must maintain certain standards that qualify its graduates for admission to higher institutions or to professional practice. The Metropolitan Community College District is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. Various programs in the District are accredited by specialized accrediting agencies.

ADVANCED STANDING. MCC may grant credit hours to students who have completed acceptable courses at another college or university. These credit hours may be applied toward a degree program.

AFFILIATE AGREEMENTS. Metropolitan Community College (MCC) has established affiliate agreements with Johnson County Community College and Kansas City Kansas Community College (referred to as Affiliate Colleges) in career fields not currently offered by MCC. These agreements allow MCC students who are in-district and Missouri residents to enroll in selected career programs offered at these institutions and pay MCC's tuition rates.

ARTICULATION AGREEMENTS. These are formal agreements that allow students to smoothly transfer course credits from one school to another, including from high school to college and from college to college. A complete list of these agreements is available in each MCC counseling center or online. Please work with your counselor/advisor to determine degree plans.

ASSOCIATE IN APPLIED SCIENCE. The Associate in Applied Science degree prepares students for various career and technical programs.

ASSOCIATE IN ARTS. MCC's Associate in Arts degree generally provides the first two years of college work a student might complete at a four-year college or university. The program includes 42 hours of general education courses, as well as enough electives to reach the required 62 credit hours.

ASSOCIATE IN ARTS TEACHING. The Associate in Arts Teaching (AAT) degree prepares students to transfer to a four-year college or university offering education degrees in childhood, elementary, middle, and secondary education.

ASSOCIATE IN COMPUTER SCIENCE. The Associate in Computer Science (ACS) degree is a program that prepares students to transfer to a four-year college or university. It should not be confused with the Associate in Applied Science degree in Computer Science and Information Systems that prepares students for immediate employment.

ASSOCIATE IN ENGINEERING. The Associate in Engineering degree is a program that prepares students to transfer to a four-year college or university offering a Bachelor of Science degree in Engineering or Surveying and Mapping.

ASSOCIATE IN SCIENCE. The Associate in Science degree program prepares students to transfer to a four-year college or university to major in either biology or chemistry.

AUDITING A COURSE. This means enrolling in a course for no credit and no letter grade. ("AU" appears on grade reports.) Students who audit courses must pay the regular fee, but they are not expected to complete assignments or take tests. Class attendance is optional. Ordinarily students will not be permitted to audit the laboratory section of a course or classes that are primarily spent in the laboratory.

BACHELOR'S DEGREE. This is the title awarded by a college or university to a student who completes a course of study that typically lasts at least four years and requires at least 124 credit hours.

BOARD POLICY. The Board of Trustees of the Metropolitan Community College District establish principles that direct the operation of the District in certain subject areas. (See sections on District Regulation.)

BUSINESS & LEARNING SOLUTIONS. MCC Business & Learning Solutions serves businesses and community organizations by offering education, contract training, consulting services, and innovative business solutions. In addition to the programs and services offered across the district, each campus provides a variety of continuing education programs. Additionally, each campus provides community programming.

CAREER AND TECHNICAL DEGREE PROGRAM. This is a series of required and elective courses that prepare a student for immediate employment or job advancement. After completing these courses, the student earns an Associate in Applied Science degree.

CAREER AND TECHNICAL EDUCATION. These training programs provide students with meaningful, in-demand job skills and help them achieve economic independence.

CAREER AND TECHNICAL PROGRAMS. MCC offers nearly 70 programs that prepare students for a wide variety of occupations. You have the option of earning an associate in applied science degree or certificate or completing individual courses to build specific job-related skills.

CATALOG NUMBER. Each course offered by MCC is identified by four letters and three numbers. For example, PSYC 140 is Psychology 140 General Psychology.

CERTIFICATE PROGRAM. Students enroll in an integrated series of courses to study a specific occupation. A one-year, full-time program usually includes 30 to 40 credit hours of classes and results in the awarding of a diploma known as a certificate of proficiency. However, some certificate programs include only 12 to 20 credit hours and result in the awarding of a certificate of completion.

COLLOQUIA. While under the guidance of an instructor, a student or group of students study a topic or problem in a specific academic area.

COMMENCEMENT. An annual ceremony that recognizes the previous year's candidates for graduation.

CONFERENCE HOURS. These are announced times set aside by each college instructor for meeting with students, either by appointment or on a drop-in basis.

CONTACT HOUR. This is a 50-minute period of educational, course-related activity, whether it's held in a classroom, laboratory, playing field, studio or other setting.

CONTINUING EDUCATION. These are both credit and noncredit courses, seminars, workshops and other educational activities offered by MCC that traditionally target adults.

CONTINUING EDUCATION UNIT (CEU). Typically, a CEU is awarded for each 10 contact hours of noncredit continuing education course work. This nationally recognized measure of educational achievement is recorded by the National Registry of Continuing Education, which makes transcripts available to students completing these courses.

COREQUISITE. A course requirement that is taken at the same time with another course.

COUNSELING. This professional service helps students get a better understanding of their personal potential as well as their problems by using modern psychological principles.
COURSE. An instructor leads a planned series of educational experiences focused on a particular subject. These may take the form of lectures, discussions, recitations, laboratory exercises and studio activities.

COURSE DESCRIPTION. These are written statements explaining the subject matter to be covered during a particular course.

CREDIT. The college recognizes that a student has fulfilled a requirement leading to a degree or certificate.

CREDIT BY CERTIFICATION. This is credit awarded to a student for knowledge obtained from an accepted noncollege experience. These certification recommendations are governed by national education groups such as the American Council on Education and Armed Forces Guidelines.

CREDIT COURSE. This course is part of a program leading to a degree or certificate. Students who successfully complete it receive a stated number of credits.

CREDIT HOUR. This is the standard measuring unit for college work that leads to a degree or certificate. A credit hour represents 750 minutes of lecture time or at least 1,500 minutes of laboratory activity or perhaps a longer time period for other kinds of educational experiences.

CREDIT BY EXAMINATION. In some cases, students may receive credit by scoring well on an examination that measures their knowledge of a particular subject without taking a college course. The exam may be a standardized test prepared by a national organization or one created and given by a college instructor. Students will pay a fee for taking the latter test.

CURRICULUM. A sequence of related courses.

DEGREE. This is a title given to a student by a college or university after successful completion of a prescribed course of study. Community colleges traditionally award the associate's degree at the end of a program requiring a minimum of 62 credit hours, while four-year schools award the bachelor's degree for programs requiring at least 124 credit hours. Master's and doctor's degrees are awarded for study beyond the level of bachelor's degree.

DEVELOPMENTAL COURSE. A basic skills course numbered below 100 in the college catalog which carries college credit but does not count toward requirements for graduation.

DIRECTORY INFORMATION. According to federal law, the college may for a valid reason release without the student's consent what it calls directory information: the student's name, address, telephone listing, electronic mail address, photograph, date and place of birth, major field of study, dates of attendance, grade level, enrollment status (e.g., full-time or part-time), participation in officially recognized activities and sports, weight and height of members of athletic teams, grades, honors and awards received, and the most recent educational agency or institution attended. According to Public Law 93-380, the Family Educational Rights and Privacy Act of 1974, directory information is the only data that a college is permitted to release without a student's written consent. At the request of a student, the college will withhold directory information as well.

DISCIPLINE. This is a subject or field of study in which courses are taught, such as art, automotive technology, engineering, English or nursing.

DISTANCE EDUCATION. An alternative option to classroom. Students attend courses using either local cable television or via the Internet instead of coming to a campus location. For more information visit the Distance Education web site at http://distance.mcckc.edu.

DISTRICT RESIDENT. This is a person who lives within the boundaries of the Metropolitan Community College District, which includes the following Missouri school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee's Summit, North Kansas City, Park Hill and Raytown.

DUAL CREDIT. High school students enrolled in college-level courses receive both high school and college credit for completing these courses.

EDUCATIONAL PLAN. An educational plan is all coursework that, in the professional judgment of MCC's academic advisors and counselors, contributes to, enhances, or facilitates the pursuit of a student's academic or career goals. Students are strongly encouraged to meet with academic advisors or counselors during pursuit of their educational plan to help ensure its timely completion, and to determine that degree requirements are fulfilled.

ELECTIVE. This is a course that is not specifically required for a degree or certificate program; however, it is counted toward the total credit hours needed for graduation.

FACULTY. The teachers, counselors and librarians comprise the faculty of a college.

FEDERAL WORK-STUDY PROGRAM. This is a federal financial-aid program that allows enrolled students who need financial assistance to earn income by working on campus or for an approved off-campus agency.

FINANCIAL AID. This can be a grant, loan or scholarship that helps a student pay tuition or other educational costs. Financial aid may come from governmental, institutional or private sources.

FULL-TIME STUDENT. This is a student who is taking at least 12 credit hours during the fall or spring semester or at least six credit hours during the summer term.

GED. General Educational Development (high school equivalency).

GENERAL EDUCATION. A common core of courses required of all students that provides for the acquisition of core skills and knowledge necessary in a literate citizenry.

GRADE POINT AVERAGE (GPA). This is a mathematical way of evaluating a student's academic performance by assigning a number value (or scholarship point) to each letter grade. To determine GPA, multiply the number of credit hours for each course by the number of scholarship points assigned to that grade. Add together the scholarship points from all classes and then divide that figure by the total number of credit hours attempted. The following chart shows how many scholarship points to assign to each letter grade.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Scholarship Points Per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>W</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>0</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
</tr>
<tr>
<td>P</td>
<td>0</td>
</tr>
<tr>
<td>Au</td>
<td>0</td>
</tr>
</tbody>
</table>

For example, during one semester if a student made the following grades in the following courses, the GPA would be 2.7.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Grade</th>
<th>Scholarship Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>5</td>
<td>A</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>HIST 120</td>
<td>3</td>
<td>B</td>
</tr>
<tr>
<td>MATH 120</td>
<td>3</td>
<td>D</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

38 divided by 14 = 2.7
GRADUATION REQUIREMENTS. A student must satisfactorily complete the required courses in a particular field of study in order to receive a degree or certificate.

GRANT. These are funds given to a student to help pay tuition or other educational costs. A grant does not reflect academic achievement, rather it is given for athletic accomplishments, contribution to the college, or because of financial need.

HOME SCHOOLING. Some students receive the equivalent of an elementary and secondary school education in their homes.

HONORS. This is the formal recognition of superior academic achievement.

HUMAN DIVERSITY COURSES. A designated Human Diversity course exposes students to content intended to help them learn about behavior generated and reflected by the ideals, values and beliefs of diverse groups of people. Students will examine the sources of emotions, community, commonality and conflict associated with diversity and will gain cognitive awareness of their own perspectives as they relate to other groups and to other societies in the world. These courses will allow students to develop a deeper awareness and a greater understanding of issues related to race, ethnicity, gender, religion, sexual orientation, and political ideology within their own society or other societies.

HYBRID. Courses in which some portion of classroom instruction is replaced with online activities. These courses require classroom attendance on campus.

INTERCOLLEGIATE ACTIVITIES. Individual MCC students or teams of students compete against other colleges. For instance, Longview participates in baseball, volleyball, and cross country; Maple Woods in baseball and softball; and Penn Valley in basketball.

INTERDISCIPLINARY COURSE. This is a course that covers material from two or more subjects or fields of study.

INTERNATIONAL RESIDENT. A foreign national who is in the United States on an approved student visa status.

INTRAMURAL ACTIVITIES. These are organized activities, such as sports, in which students attending the same college compete against one another.

INTERNSHIP. A student participates in on-the-job training on-site at a cooperating firm or organization. This experience is arranged and overseen by a college instructor.

KC REACHE. MCC belongs to KC REACHE, an alliance of Kansas City area colleges and universities. KC REACHE provides awareness of distance learning degree programs and student services tailored for distance students. KC REACHE reciprocal agreements exist for library, career, and testing services. Visit www.kcreache.org to find out how you can take advantage of these, and other privileges.

LABORATORY HOURS. This is time set aside to do practical applications of theories presented in class.

LEARNING ASSISTANCE CENTER. Each of the colleges provides a center to help students succeed in their courses. This includes offering services such as diagnostic testing, tutoring and basic skills instruction in areas such as language, math and reading.

LEARNING COMMUNITIES. MCC linked or coordinated general education courses are called Learning Communities and are taught by a team of faculty members. The integration of disciplines within a Community helps focus your education, build motivation, and give added meaning to your college experience. What’s more students are able to study and interact with a small group of peers. The Community will include lecture, small group work, and integrated reading and writing assignments. Note: A student may not withdraw from any course within a learning community.

LEARNING ENHANCEMENTS. Learning Enhancement courses are proven ways to make your education more effective. There are three kinds of these courses: Writing Intensive, Learning Communities, and Human Diversity. These courses are also degree requirements for the Associate in Arts degree, Associate in Arts Teaching degree, and the Associate in Computer Science. A student must successfully complete a Writing Intensive course and either a Learning Community or a designated Human Diversity course.

LECTURE HOURS. Instructors orally present their course material and then discuss it with students.

MAJOR. This is the primary field of study—such as English, history or math—for a student pursuing a four-year degree.

MCC. This is the accepted acronym for the Metropolitan Community College District, which includes the following school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee’s Summit, North Kansas City, Park Hill and Raytown.

METROLINK. This is the web-based system that allows you to access your personal and academic information and perform a variety of other transactions over the Internet.

MINOR. This is a secondary field of study—such as English, history or math—for a student pursuing a four-year degree.

NONDISTRICT MISSOURI RESIDENT. This is a person who lives in Missouri but not within the boundaries of the Metropolitan Community College District, which includes the following school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee’s Summit, North Kansas City, Park Hill and Raytown.

ONLINE COURSES. Online courses are accessible through the Internet using MCC’s Blackboard learning system. Students will perform most, or all, of their course activities using a range of online tools, though some instructors do require a limited number of on-campus visits for testing or laboratory assignments.

OUT-OF-STATE RESIDENT. This is a person whose permanent resident is not in the state of Missouri.

PLACEMENT TEST. New students take this exam to determine what level of courses—in subjects such as reading, English and math—they should enroll in.

PORTAL. The launch page for all of your MCC Web-based applications, which includes Blackboard, Metrolink and a variety of other programs. This system requires users to enter only one user ID and password for all of their MCC related Web applications.

PRACTICUM. This is a course that covers practical applications of theories already studied.

PREREQUISITE. This is a course that must be completed with a minimum grade of C (or higher if indicated) before a student can begin a subsequent course. Prerequisites are indicated in the course description. All students must meet the prerequisite of any course in which they wish to enroll. In some cases, prerequisites are the previous course(s) in a sequence. In other cases, they may be a demonstration of a prerequisite skill. Students who believe that they have met prerequisites by their academic work at a college or university must provide evidence of meeting the prerequisite prior to enrolling in the course.

PROGRAM OF STUDY. This is a series of required and elective courses that lead to a degree or certificate.

READING CENTER. This center provides courses, a walk-in lab, work analysis and individual help for reading comprehension, rate and vocabulary. Appointments with professional staff members for reading and study skills improvement are also available. Contact each campus for information about individual evaluations and diagnostic services.

REGULAR STUDENT EMPLOYMENT. Allows students enrolled at MCC to work on campus. Positions are available on an as needed basis according to the hiring department.
RESIDENT STATUS. To determine tuition payments, students are grouped according to where their permanent residences are located. This procedure is established by the Missouri Coordinating Board for Higher Education.

REGISTRATION. During this process students select courses, choose sections by day and hour, enroll in classes and pay tuition.

SATISFACTORY ACADEMIC PROGRESS. Students must maintain a certain grade point average and progress toward degree or certificate completion in order to continue enrollment. All Federal financial aid recipients and some other scholarship recipients must meet specific standards for satisfactory academic progress. Students are advised to become familiar with the requirements of their scholarships and to seek assistance from the campus financial aid office or to refer to the Financial Aid Handbook at www.mcckc.edu.

SCHOLARSHIP. In recognition of academic achievement, students receive money to help them pay tuition or other costs of education.

SCHOLARSHIP POINTS. These are values assigned to letter grades for the purpose of computing a student’s grade point average. (See Grade Point Average.)

SECTION. This is an individual class that meets at a particular time and is led by a specific instructor.

SEMESTER. This is a 16-week division of the academic year. The first or fall semester begins in August and ends in December, while the second or spring semester begins in January and ends in May.

SEMINAR. Although an instructor leads this class, students are deeply involved through discussion and research.

SERVICE LEARNING. Program which allows students to earn academic credit in selected courses in exchange for meaningful and productive community service.

STANDARD OF STUDENT CONDUCT. This is a code of behavior required of students enrolled at MCC. See page 16.

STUDENT LOAD. This is the number of courses or credit hours a student enrolls in during a semester or term. Although a full load is 12 hours, a student who wants to complete a 62-hour degree in four semesters must register for 15 to 16 hours per term. To enroll in more than 18 hours, a student must get special permission.

STUDIO HOURS. A student enrolled in courses such as art or music spends time practicing the theories taught in classes.

TERM. This is how the academic year is divided. There are three terms: two 16-week semesters in the fall and spring and one eight-week summer session.

TRANSCRIPT. This is a copy of a student’s academic record listing courses taken, grades earned, and honors and degrees received. A student can request that copies bearing the District’s seal be sent to educational institutions and other agencies. Transcripts given to students usually lack the official seal.

TRANSFER DEGREE PROGRAM. This is a series of required and elective courses that prepare students to continue their studies at a four-year college or university. Before transferring, students earn either an Associate in Arts or an Associate in Applied Science degree.

TUITION. This is the fee charged students for attending a college.

UNDERGRADUATE. This student is enrolled in a community college or in the first four years of a university program. In contrast, a graduate student has completed a bachelor’s degree.

WORKSHOP. A relatively small group of people take part in a brief, intensive educational program that emphasizes problem-solving.

WORK-STUDY PROGRAM. This is a federal financial-aid program that allows students who need financial assistance to earn income by working on campus or for an approved off-campus agency. Whenever possible, students’ work assignments are related to what they’re studying.
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