



ACADEMIC CATALOG

2020-2021

METROPOLITAN COMMUNITY COLLEGE
YOUR COLLEGE.
MCC **FUTURE.**

Blue River | Business & Technology | Longview | Maple Woods | Penn Valley | Online



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2020-2021
ACADEMIC CATALOG
Volume III

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Letter from the Chancellor

Welcome to Metropolitan Community College (MCC)! Whether you are just out of high school, coming to us from a four-year school or retooling your career with new skills, MCC is here to help you achieve your educational goals.

If you are planning to earn an Associate Degree, MCC has more than 75 degree programs from which to choose. If you want to earn a professional certificate, we offer 50 career certificate programs. You should also know that MCC has agreements with many other colleges and universities — assuring that your MCC credits will seemingly transfer toward a four-year degree. Whatever your objective, we want to help you accomplish it.

I encourage you to take advantage of all we have to offer at MCC, including these student services:

- Academic advisors who can help you identify the best plan to achieve your goals
- Counselors to help you navigate challenges that can emerge
- Faculty who will be a resource to you inside and outside the classroom
- Instructional support such as one-on-one tutoring and supplemental instruction to enhance your success
- Financial Aid staff who will assist in navigating the many options available to help pay for college
- Campus Life & Leadership programming that provides opportunities for you to get involved, get connected and find a support network on campus. Student Ambassadors, clubs, Skills USA, the Phi Theta Kappa honor society, and men's and women's sports are just a few of the many student activities awaiting you at MCC.
- Disability Support Services, which promotes an environment free from barriers for students with disabilities
- Career Services, which will help you align your career path with your educational plan

MCC, the oldest and largest public institution of higher learning in Kansas City, Missouri, is one college with five campuses conveniently located throughout the metropolitan area. Taking classes near home, near work or online has never been easier.

We're excited to have you as a member of the Metropolitan Community College community. As MCC's chancellor, I pledge that we will be a high-performing institution that is learning-centered, affordable and aligned around student success.

MCC is on the MOVE²!

Sincerely,



Dr. Kimberly Beatty
Chancellor, Metropolitan Community College

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Longview



Dr. Larry Rideaux,
President, MCC-Maple
Woods



Dr. Tyjaun Lee,
President, MCC-Penn
Valley and Maple
Woods



Sue Gochis, Vice Chancellor of
Instruction and Chief Academic
Officer

Metropolitan Community College Catalog 2020-2021

Published at the beginning of the academic year, the catalog contains the necessary information for you to plan your degree and career at Metropolitan Community College.

This is the governing catalog for new students entering Metropolitan Community College in the 2020-21 academic year and for any Metropolitan Community College student returning in the 2020-21 academic year whose governing catalog has expired. Metropolitan Community College reserves the right to make changes in the regulations and offerings announced in this catalog as circumstances require. Information about these changes is available from members of the counseling and advising staff at any of the five campuses.

Metropolitan Community College is accredited by the Higher Learning Commission (hlcommission.org), a regional accreditation agency recognized by the U.S. Department of Education.

Contact the Higher Learning Commission at 230 South LaSalle Street,
Suite 7-500, Chicago, Illinois 60604-1411. Phone: 800.621.7440 / 312.263.0456.
Fax: 312.263.7462. info@hlcommission.org

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Academic Calendar

Fall Semester	2020
New full-time faculty orientation	August 13 and 14
New adjunct faculty orientation	Saturday, August 15
Campus In-Service	Monday, August 17 (8:30-12:00)
Faculty Association/Division Meetings	Monday, August 17 (12:00-4:30)
First date for day and evening classes	Tuesday, August 18
First date for Saturday classes	Saturday, August 22
Labor Day holiday, no classes	Monday, September 7
On-schedule state aid day	Monday, September 14
Midterm	Friday, October 9
Second 8-week classes begin	Monday, October 12
District In-Service	Tuesday, October 13
Last date to withdraw without assessment	Friday, November 13
Thanksgiving holiday, no classes (Offices open Nov 25)	November 25-November 28
Classes resume	Monday, November 30
Last date for day and evening classes	Monday, December 7
Last date for Saturday classes	Saturday, December 12
Final exams, day and evening	December 8,9,10, 11 12, 14
Grading day	Tuesday, December 15
Grades due noon	Wednesday, December 16
Holiday break, offices closed	December 21- January 1

Spring Semester	2021
Faculty Professional Development Day/Convocation	Friday, January 8
New adjunct faculty orientation	Saturday, January 9
First date for classes, day and evening	Monday, January 11
First date for Saturday class	Saturday, January 16
Martin Luther King Jr. holiday, no classes	Monday, January 18
On-schedule state aid date	Friday, February 5
Midterm	Friday, March 5
Spring break	March 15-19
Classes resume	Monday, March 22
Last date to withdraw without assessment	Monday, April 12
Last date for classes, day and evening	Monday, May 3
Last date for Saturday classes	Saturday, May 8
Final exams, day and evening	May 4, 5, 6, 7, 8, 10
Grading day	Tuesday, May 11
Grades due noon	Wednesday, May 12
Commencement	Thursday, May 13

Summer Semester	2021
First date for classes, day and evening	Monday, June 7
Independence Day holiday, no classes	Monday, July 5
Last date to withdraw without assessment	Thursday, July 15
Last date for classes, day and evening	Thursday, July 29
Grades due noon	Monday, August 2

All Roads Lead to MCC



No matter where you live in the greater Kansas City metropolitan area, you're just minutes away from one of the five Metropolitan Community College campuses. There's MCC-Blue River in Eastern Jackson County; MCC-Business & Technology near I-435 and Front Street; MCC-Longview to the south; MCC-Maple Woods in the Northland and MCC-Maple Woods/St. Joseph; and MCC-Penn Valley in midtown. MCC also offers a robust online program, whether you just want to take a class or two online or complete an associate in arts degree.

MCC INFORMATION CENTER
(816) 604-1000

ADMINISTRATIVE CENTER
Fax (816) 759-1158
3200 Broadway
Kansas City, Missouri 64111-2429

MCC-BLUE RIVER
Fax (816) 220-6511
20301 East 78 Highway
Independence, Missouri 64057-2052

MCC-BUSINESS & TECHNOLOGY
Fax (816) 482-5256
1775 Universal Avenue
Kansas City, Missouri 64120-2429

MCC-LONGVIEW
Fax (816) 672-2439
500 SW Longview Road
Lee's Summit, Missouri 64081-2105

MCC-MAPLE WOODS
Fax (816) 437-3300
2601 NE Barry Road
Kansas City, Missouri 64156-1299

MCC-MAPLE WOODS/ST. JOSEPH
Fax (816) 437-3300
3434 Faraon Street
St. Joseph, Missouri 64506-5100

MCC-PENN VALLEY
Fax (816) 759-4161
3201 Southwest Trafficway
Kansas City, Missouri 64111-2764

**MCC-PENN VALLEY
HEALTH SCIENCE INSTITUTE**
Fax (816) 759-4706
3444 Broadway
Kansas City, Missouri 64111-276

MCC ONLINE
mccck.edu/online



**METROPOLITAN
COMMUNITY COLLEGE**
ONLINE

MCC Mission

Preparing students, serving communities, creating opportunities.

Our Vision

Metropolitan Community College will be a high-performing institution that is learning-centered, affordable, and aligned around student success.

MCC's Five-Year Strategic Plan

Strategic Theme: Student Success

Strategic Goal: Metropolitan Community College will make data-informed decisions that maximize student success and support excellence in innovation, teaching, learning, and student-centered support services for all learners at every stage of their lives.

Strategic Objectives:

- a. Move from a more generalized student success approach to adopting a personalized/individualized approach to student success
- b. Implement pathways designed to promote student retention, progress, and completion
- c. Create credit and non-credit programs that align with industries in the Kansas City region
- d. Close the achievement gap for underrepresented students through the intentional use of data and metrics to create robust support mechanisms and programs for students
- e. Identify and remove institutional barriers to student completion
- f. Identify strategies to increase job placement and transfer opportunities for students
- g. Support the ongoing learning and growth of faculty and staff through professional development
- h. Create alternative structures and policies to support efforts to improve teaching and learning

Strategic Theme: Equity, Diversity, and Inclusion

Strategic Goal: Metropolitan Community College recognizes our obligation to work toward equity and inclusion and to embody the values of access and excellence. We provide fair treatment, access, opportunity, and advancement for all.

Strategic Objectives:

- a. Create and foster an environment that is respectful of diverse opinions and perspectives
- b. Increase equity in student success throughout the student life cycle using targeted approaches to bridge achievement gaps for underrepresented student populations
- c. Recruit and retain employees to better reflect the diversity and emerging trends of the Kansas City metropolitan area
- d. Continue to develop an institutional infrastructure to promote diversity, inclusion, and equity for students, employees, and community

Strategic Theme: Resource Development and Alignment

Strategic Goal: Metropolitan Community College will increase our ability to sustain and meet current and future institutional priorities while maintaining our accountability to our stakeholders by ensuring sound financial practices through aligning budget and resources with the Strategic Plan.

Strategic Objectives:

- a. Create a strategic, fiscally responsible finance plan to support data-informed innovation and decision making
- b. Increase revenue through alternative resource opportunities
- c. Build talent and engage employees with a focus on collaboration, application of knowledge and skills, and developing high-performance teams
- d. Develop and expand enrollment opportunities in new markets and underserved communities

Strategic Theme: Culture and Environment

Strategic Goal: Metropolitan Community College is committed to providing an atmosphere that promotes opportunities to learn in a complex, inclusive environment by valuing differences and fostering the civility and respect of faculty, staff, and students, and investing in our culture and environment to enhance the educational value that will contribute to the institution's success.

Strategic Objectives:

- a. Define, assess, and evaluate our culture and environment within the structure of MCC
- b. Promote effective communication and dissemination of information in our systems, functions, and decision-making processes at all levels of the institution
- c. Foster collaboration, mutual support, and professionalism at all levels to ensure a collegial work environment
- d. Develop an atmosphere of inclusion, civility, and respect at all levels and functions within MCC

Strategic Theme: Structure and Processes

Strategic Goal: Metropolitan Community College will increase operational efficiency by improving internal structures and processes so that our college functions more smoothly to maximize student and employee success.

Strategic Objectives:

- a. Ensure that operational processes support the strategic priorities identified in this plan
- b. Align campus, department, and committee operating plans with college priorities
- c. Provide ongoing training on processes, systems, and professional development for MCC employees
Maximize use of technology to support our students and employees

Our History

Opening Doors of Opportunity Since 1915

Metropolitan Community College is the oldest and largest public institution of higher learning in Kansas City, Mo. Founded downtown in 1915 as the Kansas City Polytechnic Institute, the new post-secondary school became known as the Junior College of Kansas City in 1919. It was one of the first two-year colleges in the country to award an associate degree. The college moved to a former junior high school at 38th and McGee streets in 1942.

The Kansas City Board of Education was the college's governing body until 1964. That year, seven suburban school districts — Belton, Center, Grandview, Hickman Mills, Lee's Summit, North Kansas City and Raytown — joined forces with the Kansas City district to create the Metropolitan Junior College District. A Board of Trustees was elected by citizens in the newly formed college district.

As the metropolitan area grew and spread out, so did MCC, opening the Longview, Maple Woods and Penn Valley campuses starting in 1969. In the 1980s and '90s, the Blue Springs, Park Hill, Independence and Fort Osage school districts joined the MCC district. Blue River was named MCC's fourth campus in 1997; Business & Technology became the fifth in 2002.

In 2005, the institution that had been calling itself Metropolitan Community Colleges to reflect the five campus locations dropped the "s" to become Metropolitan Community College — one college with five campuses. The first unified, all-campus commencement was held in May 2012 at Municipal Auditorium downtown.

In the spring of 2017, the College announced plans to consolidate memberships in the National Junior College Athletic Association (NJCAA) from four campus memberships to one college-wide membership. This change, effective with the 2018-19 school year, meant students at any campus could play for any MCC sports team regardless of that sport's home campus. In 2017-18, the college community selected "Wolves" as the mascot for MCC sports teams and the institution as a whole.

Today, MCC offers 125 associate degree and certificate programs. The College serves about 30,000 students annually through credit and noncredit courses and business services.

Our campuses

MCC's five campuses — comprising 47 major buildings on 550 acres — are sprinkled throughout the Missouri side of Greater Kansas City.

MCC-Blue River in Independence, so named because it's in the heart of "Blue River country," includes the Public Safety Institute, which houses police and fire academies. Each spring the campus holds All for the Children, a resource fair offering fun activities (including a 5K run) and child abuse prevention education for parents and kids. MCC-Blue River is also home to the Metropolitan Chorale of Kansas City. Blue River is home of MCC's men's and women's soccer teams.

MCC-Business & Technology near I-435 and Front Street is home to a variety of technical and career programs. Campus features include the prototype lab (with 3-D printers and a \$50,000 FARO scanner), the Fab Lab (with all kinds of equipment and tools), an electrical line yard, an HVAC lab, a machine shop (with 20 mill and lathe machines) and labs dedicated to welding, Cisco and industrial technology. MCC-Business & Technology hosts the KC FIRST Robotics Competition each year.

MCC-Longview in Lee's Summit overlooks Longview Lake and is on land donated by the family of lumber baron R.A. Long. The campus includes a nationally known automotive technology program and the Longview Cultural Arts Center. Thousands attend MCC-Longview's Flights of Fancy kite festival each spring. The community education program includes College for Kids each summer. Longview is the home of MCC's men's and women's cross country, women's volleyball teams, and women's golf.

MCC-Maple Woods in Kansas City's Northland gets its name from a nearby stand of sugar maple trees. The campus boasts an outstanding veterinary technology program. Maple Woods' Storytelling Celebration attracts thousands each fall to locations throughout the KC area. Its community education program includes motorcycle training and College for Kids. The Northland Human Services Center on campus houses social service agencies as well as the Maple Woods fitness center. Maple Woods is the home of MCC's baseball and softball teams.

MCC-Penn Valley, near Penn Valley Park in midtown Kansas City, is made up largely of connected buildings. The campus includes the Francis Institute for Child and Youth Development, the Carter Center for Visual Arts and Imaging Technology, the Brooks Institute (named for KC justice advocate Alvin Brooks) and the Veterans Upward Bound program. A few blocks south of the main campus is the Health Science Institute, a state-of-the-art facility that houses more than a dozen health-care programs and the Virtual Hospital. Penn Valley is the home of MCC's men's and women's basketball teams.

MCC Foundation

Mission: The MCC Foundation is dedicated to providing access to quality education and career opportunities.

Vision: The MCC Foundation will be recognized as the premier educational foundation in the region, cultivating people's desire to learn and giving them the opportunity to be successful.

Four Strategic Themes and Goals

Strategic Theme 1: Resource Development/Advancement

Goal: The MCC Foundation will increase revenue that supports student success.

Strategic Theme 2: Workforce Development/Industry Partnerships

Goal: The MCC Foundation will grow industry partnerships that foster real work opportunities for students to be "work ready".

Strategic Theme 3: Alumni Engagement

Goal: Facilitate authentic and mutually beneficial relationships with current alumni through identifying their needs, celebrating their successes and mentoring, etc.

Strategic Theme 4: Infrastructure/Systems

Goal: The MCC Foundation will integrate data management, communications, and donation systems that are user-friendly, donor-centered, complete and accurate to ensure optimal data health of donor, prospect and alumni records.

The Metropolitan Community College Foundation (MCC Foundation) is a non-profit organization that raises and receives private support for the Metropolitan Community College. Through the generosity of individuals, businesses and organizations in our community, the MCC Foundation provides stewardship for at least 175 scholarships, endowments and student support programs that enable our students to achieve the goal of a college education regardless of their financial means. www.mcckc.edu/scholarships.

Gifts to the MCC Foundation also support new construction and expansion of existing facilities such as libraries, classrooms, as well as providing the newest technology to keep pace with our rapidly changing world.

In addition, the MCC Foundation sponsors alumni and donor recognition events, and leads fundraising campaigns.

Giving to MCC

Contributions to the MCC Foundation help our students achieve the dream of an education and empower them to become successful members of our community and the world. If you would like to make a gift to the Metropolitan Community College Foundation, please call 816.604.1195, visit our website at www.mcckc.edu/foundation or make a check payable to MCC Foundation and mail to 3200 Broadway, Kansas City, MO 64111.

All gifts are administered in compliance with IRS regulations. Because the Foundation is a non-profit organization, most contributions are tax deductible as a charitable gift.

Scholarships

MCC has many scholarship opportunities available for students. MCC offers institutional grants, scholarships and over 155 scholarships and endowments. General eligibility requirements for scholarships can be found on our website at <https://www.mcckc.edu/financialaid/types/scholarships/>.

Check out scholarships you may qualify for and apply online at www.mcckc.edu/scholarshipsearch. Complete your scholarship application early and be sure your application is complete. Many scholarship applications require additional documentation to complete the process such as essays or recommendation letters. Your application is not considered complete without all required documents. Applications with missing documentation will not be reviewed by scholarship committees. Be sure to check your myMCCKC Student Center "TO DO" list to ensure all required documentation is complete and submitted.

You may apply for as many scholarships as you like, and you may be selected for more than one MCC Foundation scholarship.

Scholarship applications can be completed at any time throughout the year, but we encourage you to apply and complete your application and myMCCKC Student Center "TO DO" list by April 1st for priority consideration for the upcoming fall semester.

Admission Information

Eligibility

Students who want to enroll in Metropolitan Community College have several avenues that lead to admission: a high school diploma, a high school equivalency test (HiSet)/GED 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 HiSet/GED may be admitted as special students.

Catalog

The catalog is in effect for the term a student is admitted to the college and is assigned as the student's "catalog of record." Students will follow the program requirements specified in their catalog of record to progress toward graduation. Students who later change to a new major or change from non-degree-seeking status to a declared major will follow the catalog in effect at the time of the change. Students who are continuously enrolled at MCC will maintain their catalog of record. Students who miss four consecutive full semesters (excluding summer) will follow the catalog in effect at the time of re-entry.

Students may select a more current catalog as their catalog of record and would then follow the program requirements specified in that catalog. Students may not combine program requirements from multiple catalogs. It is highly recommended that students speak to an advisor for further information.

First Year Seminar (COLL 100)

COLL 100 is a one credit hour course designed to help students adjust to the MCC community, develop a better understanding of the learning process, and acquire essential academic survival skills. The course should be completed during students' first enrolled semester. Starting in Fall 2012, any first-time student at MCC with fewer than 12 credit hours completed after high school with at least a 2.0 GPA will take the class, except students

- who are visiting students from another institution
or
- who have already successfully completed an orientation class at another institution

Some academic programs have a discipline specific course that may replace COLL 100. These specific courses are listed in the degree plans.

ESL students who test below a 77 on the reading portion of the ESL Compass test will not take the class until they have successfully progressed to intermediate-level ESL classes.

College Admission

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

1. Complete the online MCC Application for Admission at www.mcckc.edu/apply. Once MCC processes your application you are admitted to the college. Some MCC academic programs have special requirements.
2. Request that the appropriate transcripts be sent to

The MCC Student Data Center
3200 Broadway
Kansas City, MO, 64111

Once received, transcripts will be processed and evaluated.

- a) First-time college students should ask the high school they last attended to send a transcript to the above address.
- b) Students who have taken the HiSet/ GED test given by the Missouri State Department of Elementary and Secondary Education should have their scores sent to the above address.
- c) Students who are transferring from another college or university should submit a transcript from each school attended to above address.
- d) Students who earned high school dual credit from other institutions must request official transcripts be sent to MCC.
- e) Home-school students must provide transcript documentation as required by Missouri State Statute 167.031.2 (2) (a), R.S. MO.
- f) Students who are enrolled at a college or university other than MCC may take MCC courses as a visiting student.
- g) If you have already earned a degree, you are not required to see an advisor or 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, official transcripts must be submitted, and it is also important to consult with an advisor to ensure your enrollment includes all the necessary courses.

Students seeking admission to MCC should follow the Enrollment Checklist steps and referred deadlines found at <http://mcckc.edu/apply-now/> or <http://mcckc.edu/programs/transfer/>.

Admission of High School Students

High school students who want to enroll in MCC college-level coursework may be dually enrolled. College level courses can be applied to meet high school graduation requirements with high school/home school approval.

Students may enroll with the assistance of an MCC Campus official after completing the online application for admission at <http://mcckc.edu/apply-now/>.

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. High school students must talk to their high school counselor regarding eligibility requirements before enrolling. More information about dual credit and dual enrollment can be found at <http://www.mcckc.edu/high-school-info/>.

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

Admission to KCKCC Programs

Metropolitan Community College (MCC) has established affiliate agreements with Kansas City Kansas Community College (referred to below as Affiliate College) in career fields not currently offered by MCC 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.
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 tuition rate assessed by the Affiliate 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

At MCC:

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 Enrollment Center office. This form is available at <https://mcckc.edu/pdf/AffiliateStudentAgreement.pdf>
3. If you have questions, please contact the Student Services Office at any MCC campus.

At Affiliate College:

1. 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.
2. See the appropriate program advisor at the Affiliate College and register for degree-specific classes. See class schedule for registration information.
3. Pay tuition and fees at the Affiliate College. 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.

For more information about enrollment requirements, program curriculum and class scheduling, call (816) 604-1000.

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 4
 - Summer Semester (June-July) May 15

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

Course Placement

To help students succeed, MCC students will need to have their skills evaluation in reading, writing, and mathematics. Course placement is 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 high school equivalency certificate.
3. Returning or transfer students taking six or more credit hours who have not successfully completed a college-level English and math course with a grade of C or better. Students will be required to complete the Reading placement if they have not completed at least 12 credit hours with at least a 2.0 GPA or completed ENGL 101 equivalent or higher with a grade of C or better.
4. All students not previously placed who plan to enroll in reading, English, or math classes.

Course Placement may be completed by a number of methods depending on the subject area. Students may take the placement exam, submit ACT scores, and/or 7 semester high school transcripts. Some students may need to complete the placement exam, even if they submit ACT scores and their high school transcript.

Additional Notes:

- Visiting students who have approval for enrollment from their home college will not be required to complete course placement.
- It is recommended that all non-native speakers of English contact the ESL Department for further guidance on placement.
- Students with disabilities who need testing accommodations must contact the DSS Office before scheduling their placement tests.

Based on course placement, all students will be placed in the appropriate reading, English, and math classes. Students with below college-level placement 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.

The first placement test is free; the cost to re-test is \$25. For details contact your campus testing center or www.mcckc.edu/testing.

Resident Classification

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

Definitions:

<i>Domicile</i>	A residence established with the intent of making that residence a permanent home for an indefinite period.
<i>Residency or Resident Status</i>	That status achieved after proving a residency has been established.
<i>Adult Student</i>	A student who is twenty-one years or older.
<i>Unemancipated Minor Student</i>	A student younger than twenty-one years and who is under the care, custody, or support of a parent or legal guardian.
<i>Emancipated Minor Student</i>	A student younger than twenty-one years but who is not under the care, custody or support of a parent or legal guardian. 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.
<i>District</i>	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.
<i>In-District Resident</i>	A person whose residence status is in the district.
<i>Out of District Missouri Resident</i>	A person whose residence status is in Missouri, but not in the district.
<i>Out of State Resident (Non-Resident)</i>	A person who lives in the United States, but not in the state of Missouri. An international student who is in the United States on student visa status. Students outside the state of Missouri taking online coursework should refer to the SARA policy regarding enrollment. www.mhec.org/sara

Resident Status

<i>Adult Student</i>	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 an out-of-district Missouri resident at the next enrollment.
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<i>Unemancipated Minor Student</i>	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.
<i>Emancipated Minor Students</i>	The domicile of emancipated minor students will be determined as if they were adults.
<i>Non-Immigrant</i>	Individuals born in the U.S. on a Visa, Non- Immigrant, or Undocumented status.
<i>Immigrant</i>	Permanent Resident-Pending Permanent Residents, Permanent Residents (also known as green card or alien registration card holder), and those in the U.S. on Asylum or Refugee status.
<i>Naturalized Citizen</i>	Those who have completed the U.S. naturalization process.

Effective for courses or semesters beginning after March 1st, 2019, the following individuals shall be charged the in-state rate, or otherwise considered a resident, for tuition purposes:

- A participant using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty Program), chapter 31 (Vocational Rehabilitation and Employment), or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge from a period of active duty service of 90 days or more.
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge from a period of active duty service of 90 days or more.
- A spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of the Service member's death in the line of duty following a period of active duty service of 90 days or more.

Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three-year period following discharge or death described above and must be using educational benefits under chapter 30, chapter 31, or chapter 33, of title 38, United States Code.

Determining 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.

1. Resident classification shall be consistent with Administrative Rule 6 CSR 10-3.010 of the Missouri Coordinating Board for Higher Education.
2. The student shall be responsible for providing accurate residency information.
3. The record of a student who has falsely provided residency information to avoid financial obligation to the district shall not be certified to any agency until the obligation is satisfied.

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. OR
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 documentation must be submitted as evidence.

Please visit <http://web.mcckc.edu/asp/infoex/prp/files/705010BP.pdf>

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 can contact campus Student Services offices to request a change of residency.

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 student services office for refund information.

MCC will limit academic residency to twenty-five percent or less of the degree requirement for all degrees for active-duty service members and their adult family members (spouse and college-age children). In addition, there are no "final year" or "final semester" residency requirements for active-duty service members and their family members. Academic residency can be completed at any time while active-duty service members and their family members are enrolled. Reservist and National Guardsmen on active- duty are covered in the same manner.

For more information, call the MCC VA Certifying Official at MCC at (816) 604-1561.

Financial 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.

Financial Responsibility

As a student at MCC, you become financially obligated and responsible for paying all college charges. If your financial aid award, scholarship or payment from an external source becomes unavailable or is insufficient to pay charges, you are ultimately responsible for the balance. Failure to attend classes does not relieve you of the responsibility of paying your balance.

To have charges removed or reduced, you must officially drop the classes within the designated refund period. Any outstanding charges will result in a financial hold on your account. Financial holds will require that you pay your outstanding balance in order to re-enroll, receive a diploma and/or transcript. MCC will begin immediate collection efforts that may include placing your account with the Missouri income tax intercept program and/or an outside collection agency. You will be responsible for all collection costs assessed by the outside collection agency with credit bureau reporting.

For Chapter 31 and Chapter 33 Recipients

Metropolitan Community College will not impose any penalty (including the assessment of late fees), the denial of access to classes, libraries or other institutional facilities, or require a recipient to borrow additional funds to cover the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement of the payment by the U.S. Department of Veterans Affairs. This does not apply to any balance owed by the student to the college that goes beyond the amount of the tuition and fee payment from VA.

Lab and Studio Fees

For some courses or programs — such as biology, chemistry, fine arts, and nursing — students may have to pay a laboratory or studio fee for each contact hour. Contact hours are those hours that students must spend in a lab or studio each week. They are not the same as credit hours.

Distance Education Fees

Students enrolled in online coursework will be charged a per credit hour distance education 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.

For example, students must pay for unreturned library books. If payment is not made, a hold will be put on the students account and 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

Metropolitan Community College offers a payment plan to provide students the option of paying tuition and fees in installments over the course of the term. Students can sign up for the payment plan any time prior to the first installment due date by paying only a non-refundable fee and by identifying a preferred payment method for the automatic payments—either a payment card or bank account. Students who sign up for the plan after the first installment due date are required to pay the sign-up fee plus the first installment amount. See

www.mcckc.edu/pay/paymentoptions.aspx#paymentplan.

Students may also authorize another person (parent, relative, employer/ company contact, etc.) to make a payment or set up a payment for them online. The payment plan divides the total balance owed by the student into equal installments and schedules the appropriate number of automatic payments, depending on the plan option chosen. The system recalculates payment plans daily to account for changes in enrollment (added or dropped classes), financial aid adjustments, or payments from the last 24 hours.

Any student whose plan was updated that day receives an email notification of the new plan amounts. On each installment due date, payments are automatically processed against the payer-designated payment method (card or bank account). Students are assessed a late fee if their automatic payment fails and their installment remains unpaid. Payment plans are available for the fall, spring, and summer terms. The number of plan installment options will vary by term.

Delinquent Accounts

Students who become delinquent on their accounts will receive e-bills to their MCC student email accounts, paper statements, letters and calls informing them that they must pay their debt by a certain date or they will be turned over to outside collections. Transcripts, diplomas and/or enrollment are immediately restricted until the balance is paid in full. Budget friendly past due plans are available online for most balances over \$90 through the payment center, however, payment must be made in full to receive transcripts, diplomas or to enroll in a subsequent semester. Contact Delinquent Account Services for more information at (816) 604-1500.

Referral to collections includes reporting the balance to the State of MO income tax intercept program and/or an outside collection agency. Students are responsible for all collections costs incurred at the collection agency and are subject to credit reporting.

Returned Checks

Electronic checks (ACH) and paper checks returned to MCC by the bank will require immediate payment of the returned check and fee. Failure to pay may result in classes being dropped or referral to the outside collection agency for the full amount of the student account balance. If referred to the agency, the student is responsible for collection costs of up to 25% of the balance. Students will be restricted from enrollment and receipt of transcripts. A notification of the returned check will be sent to the students MCCKC student email account.

Types of Returns:

- Insufficient Funds – this type of return is submitted a second time to the bank. If returned a second time, the check amount will be posted to the student account and assessed a \$25 returned check fee. No checks will be accepted as payment on the student’s account for one year after the return is paid.
- Stop Payment, Refer to Maker, Closed Account, Frozen Funds, and Unauthorized Entry – these types of returns are not submitted to the bank a second time. The check amount will be posted to the student account and assessed a \$25 returned check fee. No checks will be accepted as payment on the student’s account for one year after the return is paid.
- Invalid Account and Account Not Found – these types of returns are not submitted to the bank a second time. The return amount will be posted to the student account with no additional fees.

District Residents 65 and Older

Any Missouri resident who is 65 or older may attend classes on a space-available basis without paying tuition, restrictions do apply. Some classes require a lab or studio fee which are the responsibility of the student to pay.

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 each term on the Refund Schedule at <http://mcckc.edu/pay/refunds.aspx>. All refunds will first be applied to any debt the student owes to MCC.

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

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, by private citizens and civic organizations. See www.mcckc.edu/financialaid/steps/

Information is available about student aid programs, their eligibility requirements, how to apply and the responsibilities recipients must meet. Visit the MCC website (www.mcckc.edu/financialaid) any of the campus financial aid offices, or call the MCC Information Center at (816) 604-1000.

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.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 the federal aid programs. www.mcckc.edu/financialaid/faqs/

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.
W	Withdrawal from class. This grade is given to a student who has either withdrawn from class during the first 75% of the term (except during the 100% refund period where there is no official withdrawal noted on the transcript) or who has been doing satisfactory work and was withdrawn during the last 25% 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.
I	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 elect to audit a course rather than receive a grade. The decision to audit must be made at the time of enrollment.

*Note: MCC requires a grade of "C or higher" for most pre-requisite courses taken.

Grade Reports

Final grade reports can be accessed online at myMCCKC.

Audit

A student may elect to audit a course rather than receive a grade. The decision to audit must be made at the time of enrollment. 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.

Grading Policy

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

Grade	Scholarship Points Per Credit Hour
A	4
B	3
C	2
D	1
F	0
W (withdrawal)	0
S (satisfactory)	0
U (unsatisfactory)	0
P (passing)	0
Au (audit)	0

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

The best way to improve your MCC GPA, for graduation purposes, is to retake an MCC class for which you received a "D" or an "F". The grade remains on your transcript, but the last one you earn is the one counted in your GPA and the last class earned is the one that counts toward graduation. To improve your overall GPA, you may also retake a class that was transferred from another institution, as long as the course is evaluated as an exact match. There may be limits on the number of times you may repeat the same class.

Final Exams

Final exams are given in all MCC classes, and students must take them. 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 grants, scholarships, loans and/or aid.

Access MCC's SAP Policy online at www.mcckc.edu/SAP

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, school officials with a legitimate educational interest may access a student's academic record without the consent of the student. This includes but is not limited to faculty members and 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

At any point prior to graduation, a student may elect Academic Renewal for grades earned at MCC during semesters of the student's choice completed at least five years prior to the date of the request and after completing fifteen credit hours at MCC with a cumulative Grade Point Average (GPA) of 2.0. Once elected, Academic Renewal applies to all MCC courses, whether passed or failed, taken during the semester chosen by the student for renewal. Academic Renewal does not erase the student's academic record or remove a student's transcript from MCC records. The grades received are removed from the student's GPA with an appropriate notation on the transcript indicating the election of renewal. Credit hours included in Academic Renewal cannot be used to meet any requirements of graduation, prerequisites for courses or certification. Once approved, Academic Renewal is irrevocable. Students are expected to consult an Academic Advisor prior to election of Academic Renewal.

Academic Renewal does not apply when determining Satisfactory Academic Progress for Federal financial aid purposes – all coursework is included in the calculation.

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, www.mcckc.edu/codeofconduct.

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 and employers. For more information, <https://mcckc.edu/transcripts/>

Credit by Certification

Credit for non-college 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 (Transfer Credit)

Transcripts from all previously attended colleges and universities must be submitted to the Student Data Center at 3200 Broadway, Kansas City, Missouri 64111. Any foreign transcripts must be translated and evaluated by an outside service, such as Educational Credential Evaluators, Inc. (www.ece.org).

MCC accepts credit in transfer from regionally accredited institutions of recognized standing, both public and private. Transfer work will not be evaluated and posted until MCC has received official transcripts directly from the transferring school or in a sealed envelope. All courses taken at other colleges and universities become part of the student's permanent record. However, only courses equivalent to those in the student's MCC program will be applied toward an MCC degree or certificate. While the MCC GPA is used for an MCC degree or certificate, the transfer GPA will appear on the MCC transcript as a transfer GPA and included in the combined GPA.

Note: Transfer work may impact financial aid eligibility.

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 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. Failure to begin attendance in a course could result in your financial aid being adjusted or reduced.

Dropping a Course

Students may drop a class through their myMCCKC student center or by visiting with an advisor. Dropping a class after the 100% refund period will result in a grade of "W" on the transcript. During the last 25% of a class, students will receive a grade for their academic progress. Student who stop attending class during this time period could fall below satisfactory academic standards and therefore receive a failing grade.

To get a full refund, you need to make the drop decision early. Refunds are based on the date you officially drop a class, as in this schedule. Talk with an advisor before you drop.

Dropping courses could affect your health insurance, financial aid, scholarships or A+ eligibility. Contact the Enrollment Center to learn more about dropping a course.

Withdrawal from College

To withdraw from all classes before the end of the semester, students can go to their myMCCKC student center. However, be aware this could affect health insurance, child support, financial aid, scholarships or A+ eligibility. If you receive federal or state financial aid, you may be asked to repay funds.

If you have questions about the impact of withdrawing from all classes, meet with an Academic and/or Financial Aid advisor.

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 60 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 60 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.

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 go to the appropriate department manager. If the issue cannot be resolved, then the student should see the dean of student services.

Student Services

Academic Advising

Academic advisors are available to assist students with selecting classes and developing schedules each semester or term as needed. Advisors help students access MCC programs and services. Transfer requirements vary so it is important to meet with an advisor or counselor early on to make sure you are enrolling in classes that will transfer. 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 student services offices on each campus have four-year institutional resources and our website has lists of articulation agreements at www.mcckc.edu/transfers.

Application for Graduation

You must apply to graduate or receive a certificate. Just follow the simple online steps below. If you are a candidate for graduation, you may participate in commencement. If you have questions, contact your advisor.

Apply Online before these deadlines:

November 15 for Fall (December) Graduation

April 15* for Spring (May) Graduation

July 15* for Summer (July) Graduation

*To assure your name is included in the spring commencement program, spring and summer graduates need to apply before March 15.

Apply Online:

1. Log onto MyMCCCKC.
2. Click on Student Center Home.
3. In the Academics section, find the drop-down box labeled "Other Academics" and select "Apply for Graduation".
4. Follow the instructions.

After your degree or certificate application is received:

1. A graduation advisor completes an official evaluation to confirm requirements are being satisfied. You will receive a confirmation in the mail or via your student email account.
2. At the end of each semester, the graduation advisor reviews your application and certifies completion of requirements.
3. Your degree or certificate is recorded on your transcript and a diploma will be mailed to you. Congratulations!

Career Services

Events and resources provided by the Career Services Office increase student potential in the workplace and aid in career advancement. Career Services provides an established network of industry professionals to connect students and alumni with internships or jobs. Whether it's practice interviewing, developing your professional image, updating your resume or obtaining on-campus employment, the Career Services Office at each MCC campus is available for you.

www.mcckc.edu/career-services

Counseling

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

Throughout a student's career at MCC, the college encourages them to meet regularly with their counselors 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 center.

Support Services

Parking

Students park free on MCC campuses, but you need a parking sticker for your car or motorcycle. Get one at a campus police office when you enroll or anytime during the semester.

You could get a fine for not having a sticker or for parking in areas not marked for students. Naturally, you can't park in areas marked for those with disabilities, unless you have one and display the permit.

Textbooks and College Bookstores

Follett Higher Education Group operates a bookstore at each of the district campuses. These stores are operated according to guidelines and policies approved by the Chancellor, Board of Trustees, and Follett Higher Education Group. Book costs are determined by the publishers of each title and Follett uses a contractual standard markup on new textbooks to cover the costs of operating the bookstores. A full-time student should expect to pay \$200 to \$600 per semester for course required materials. During all hours of operation, the bookstores offer a textbook buyback where textbooks being used for the next semester may be purchased from the student for up to 50% of the purchase price. In an effort to control the rapidly rising cost of textbooks, Follett has implemented a textbook rental program using a tiered pricing structure. Students may rent a book, use it for the semester, and return it in resalable condition to any of the campus bookstores before the posted deadline. Check with each store or online at mccckshop.com to see which classes have rental textbooks available.

For more information regarding Follett bookstores and their policies, go to www.mccckshop.com.

College Libraries

MCC campus libraries provide resources and services to assist students with their research needs:

- Online databases for access to credible academic sources that may be accessed on or off-campus
- Books, video, audio, periodicals in print and digital formats for research and leisure purposes; materials can also be obtained through MOBIUS, a consortium of primarily academic libraries
- Professional librarians who provide research assistance in person or through virtual reference services and who provide classroom instruction to develop information literacy
- Comfortable spaces for individual and group study or research with computers

More information is available at the MCC Library website <http://www.mccck.edu/library>.

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. Students learn how to access their email as part of the new student enrollment and new student orientation process. Student email is available to students via their MYMCCCK student portal. A copy of the student e-mail policy is available at <https://mccck.edu/tech-support/techlineemail.aspx>.

On Campus Wireless Internet Access

All MCC Campuses offer access to students and guests. Students must complete a one-time set-up process on their wireless device to access their student Wi-Fi service through their student user ID and password. Guests on campus need to contact Network Services department to gain one-day temporary access to the campus Wi-Fi services.

Disability Services

Through an interactive process, our Disability Support Services (DSS) offices work with students with documented disabilities to determine what support services are necessary for each student. This process is student-initiated and a student with a disability requesting assistance must identify him or herself to the College. Accommodation requests may be communicated to the DSS office at any time. However, early notification is helpful as some accommodations can take several weeks to arrange. To initiate the interactive process and receive support services, contact a DSS office.

MCC-Blue River	(816) 604-6569
MCC-Business & Technology	(816) 604-6569
MCC-Longview	(816) 604-2254
MCC-Maple Woods	(816) 604-3162
MCC-Penn Valley	(816) 604-4293

For relay calls, dial 711.

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

Learning Centers/ Success Centers

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

Other services include listening and note-taking, reducing test anxiety, test-taking strategies and research paper pointers. All services are provided free to currently enrolled students.

Reading labs 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
MCC-Penn Valley	(816) 604-4292
MCC-Business and Technology	(816) 604-5232

www.mcckc.edu/tutoring

Project Success

Project Success is a (TRIO) Student Support Services (S.S.S.) Program funded by the U.S. Department of Education. It gives a select number of MCC - Penn Valley students the academic support, counseling, transfer assistance, and cultural enrichment they may need in order to complete a college degree - all without cost to any of the Project Success participants.

- Project Success (TRIO) S.S.S. helps low income, first generation, and disabled students who are seeking bachelor's degrees.
- Members of the program are active in their campus community through other organizations like Phi Theta Kappa and Student Ambassadors and hold leadership positions within these clubs and organizations.
- The majority of the program's members transfer to local colleges and universities where they obtain their bachelor's degrees.
- Project Success members go on to live rewarding lives in various professions including, but not limited to, nursing, business, education, and social work.

www.mcckc.edu/project-success/

Campus Life and Leadership

Campus Life and Leadership complements the academic experience and works to develop a sense of community on campus. The office provides opportunities for students to participate in clubs and organizations, as well as leadership development, social and educational events throughout the year. For specific clubs and organizations, opportunities for involvement, or how to start a club or organization or volunteer, contact the Campus Life and Leadership office on your campus or visit <http://www.mcckc.edu/clubs-orgs>.

Athletics

MCC offers intercollegiate athletic teams through the National Junior College Athletic Association (NJCAA). MCC- Blue River is the home of men's and women's soccer; MCC-Longview: women's volleyball, men's and women's cross-country and men's and women's golf; MCC-Maple Woods: baseball and softball; and MCC-Penn Valley: men's and women's basketball. For more information go to: www.mcckc.edu/athletics.

Fitness Centers and Intramurals

Students have access to fitness facilities located on three of the MCC campuses for a small fee each semester. All feature a variety of cardio equipment, machine and free weights, fitness and aerobic classes, and shower and locker rooms. In addition, MCC offers students a variety of opportunities to participate in intramurals and recreational sports at all of the campuses.

For more information:

MCC-Maple Woods Fitness Center	(816) 604-3555 or mcckc.edu/fitness-centers/maple-woods
MCC-Penn Valley Fitness Center	(816) 604-4222 or mcckc.edu/fitness-centers/penn-valley
Longview Community Center	(816) 969-1520 or cityofls.net/parks/facilities/longview-community-center
MCC Intramurals	(816) 604-2410 or mcckc/intramurals

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.; and Rockhurst University, Kansas City, Mo. Contact the Student Development 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/HiSet 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 or advisor call (816) 604-4400.

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.

Student Participation in Assessment of Academic Achievement

MCC is committed to increasing student learning by continuous improvement of its curriculum, instruction, support services, and other institutional practices. The basis for improvement efforts are the results of MCC's program to assess student academic achievement. Assessing student learning is the responsibility of faculty with the goal of improving student outcomes in the classroom in accordance with MCC's general education outcomes.

Assessment is the sustained process of gathering, interpreting, and acting upon information to improve student learning. Students will be asked during their academic careers at MCC to participate in various assessments of student learning that will include state or national tests and direct or indirect methods of assessment. Students are expected to participate in these assessments as a responsibility of their enrollment in Metropolitan Community College.

Statement of Ethical Conduct and Assessment

During the development of MCC's Plan for Assessing Student Academic Achievement, faculty wanted an assurance that the assessment program would focus on those issues associated with teaching, learning and curriculum revision. It was important for all constituent groups to know that assessment efforts and analysis and reporting of data generated by these efforts are conducted in ways that preserve high professional and ethical standards and that promote the best interests of students. The following is MCC's ethical statement:

Metropolitan Community College recognizes that the activities associated with assessment must be conducted in an ethical and professional manner. Information, data, and assessment activities designed to present an aggregate picture of MCC shall in no way be used to evaluate individual students or faculty. Also, students, faculty, and staff associated with assessment activities or projects will be treated in a manner that follows accepted practices for dealing with human subjects. The MCC assessment initiatives are designed and conducted so as to improve teaching and learning as well as overall institutional improvement.

General Information

Equal Opportunity

Metropolitan Community College is committed to providing an educational climate that is conducive to the personal and professional development of each individual. MCC does not discriminate and prohibits discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity, gender expression, national origin, age, genetic information, disability status, protected veteran status or any other characteristic protected by law in employment or the rights, privileges, programs, and activities generally accorded or made available to students at the school, administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other school administered programs.

To ensure compliance with Title IX and other federal and state civil rights laws, the College District has developed policies and procedures that prohibit discrimination in all of its forms.

Notice of Non-Discrimination

Metropolitan Community College prohibits discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity, age, ancestry, national origin, or disability in admissions; educational programs, services, or activities; and employment. Metropolitan Community College complies with all federal and state laws and MCC policy regarding nondiscrimination and affirmative action, including Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964 and the state of Missouri Human Rights Act Chapter 213 RSMO.

Metropolitan Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. The college also prohibits retaliation based upon reporting of such violations.

MCC is an equal-opportunity employer.

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 U.S. Department of Justice 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) and the U.S. Department of Justice are 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.

The Age Discrimination Act of 1975 protects people from discrimination based on age 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 the ADA of 1975.

The 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.

The Civil Rights Act of 1991 provides monetary damages in cases of intentional employment discrimination. The U.S. Equal Employment Opportunity Commission is the law enforcement agency charged with enforcing the CRA of 1991.

The 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.

The 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.

The 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.

All inquiries concerning MCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

Chief Human Resources Officer

3200 Broadway, Kansas City, Missouri 64111-2429;
Telephone (816) 604-1588

MCC-Blue River and Business and Technology

Jon Burke, Dean of Student Development
20301 E. 78 Highway, Independence, Missouri 64057-2053;
Telephone (816) 604-6620

MCC-Business and Technology

1775 Universal Avenue, Kansas City, Missouri 64120-1318;
Telephone (816) 604-6620

MCC-Longview

Diana McElroy, Dean of Student Development
500 SW Longview Road, Lee's Summit, Missouri 64081-2015;
Telephone (816) 604-2326

MCC-Maple Woods

Terrell Tigner, Dean of Student Development
2601 NE Barry Road, Kansas City, Missouri 64156-1299;
Telephone (816) 604-3175

MCC-Penn Valley

Dean of Student Development
3201 Southwest Trafficway, Kansas City, Missouri 64111-2764;
Telephone (816) 604-4114

Inquiries may also be addressed to the:**Director, Office for Civil Rights**

U.S. Department of Education
One Petticoat Lane
1010 Walnut St., Suite 320
Kansas City, MO 64106
Telephone (816) 268-0550

Tobacco-Free

Metropolitan Community College is committed to providing a safe and healthy environment for all students, employees, contractors, and visitors. As a result of this commitment, the use, advertising, or sponsorship of tobacco and tobacco substitute products, excluding cessation products, on all campus premises, leased property, and college-owned vehicles is prohibited, with no exceptions. This policy applies to all students, employees, tenants, subtenants, contractors, and visitors. For additional information on Tobacco-Free MCC go to www.mcckc.edu/tobaccofree

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.mcckc.edu/our-students/rights-responsibilities/right.aspx. For a printed copy, please call (816) 604-1436 or stop by the campus public safety offices.

Student Consumer Information

The Higher Education Opportunity Act of 2008 (HEOA) requires that post-secondary institutions participating in federal student aid programs make a variety of disclosures to students. Additional required student consumer information can be found on the MCC website at www.mcckc.edu/StudentConsumerInfo.

You may request information from the MCC Information Center at (816) 604-1000.

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 a Disability Support Services (DSS) Office that provides support services for students with documented disabilities. Arrangements can be made for aids and adjustments to help ensure equitable access to programs and services. The campus Disability Support Services 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

Disability Support Services Coordinator,
20301 E. 78 Highway,
Independence, Missouri, 64057-2023;
Telephone: (816) 604-6569

MCC-Business & Technology

Disability Support Services Coordinator,
1775 Universal Avenue
Kansas City, Missouri 64120-2429
Telephone: (816) 604-6569

MCC-Longview

Disability Support Services Coordinator,
500 SW Longview Road,
Lee's Summit, Missouri, 64081-2015;
Telephone: (816) 604-2254

MCC-Maple Woods

Disability Support Services Coordinator,
2601 NE Barry Road,
Kansas City, Missouri, 64156-1200
Telephone: (816) 604-3162

MCC-Penn Valley

Disability Support Services Coordinator,
3201 Southwest Trafficway,
Kansas City, Missouri, 64111-2764:
Telephone: (816) 604-4293

For relay calls dial 711.

Student Rights under the Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records.

Your student rights are:

1. The right to inspect and review the student's education records within 45 days of the day the College receives a request for access. Students should submit to the Dean of Students or the Office of the Registrar/Enrollment Manager ("College Official") a written request that identifies the record(s) they wish to inspect. The College Official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the College Official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or in violation of the student's right to privacy. Students desiring an amendment to their education record should write the College Official responsible for maintaining the record, clearly identify the part of the record they want changed, and specify why it is inaccurate, misleading, or in violation of the student's privacy.
3. The right to a hearing regarding the request for an amendment of the student's education records. If the College decides not to amend the record as requested by the student, the College must notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
4. The right to prevent the College's disclosure of the student's personally identifiable information from the student's education records in most circumstances. The College must obtain the written consent of a student before disclosing that student's personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. Where required, a student's consent must specify the records to be disclosed, the purpose of the disclosure, and the party or class of parties to whom disclosure may be made. FERPA contains the following exceptions and others, allowing a College to disclose a student's personally identifiable information:
 - a. Disclosure to school officials with legitimate educational interests is permitted without a student's written consent. A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted institutional services or functions that the College would otherwise use employees to perform (such as an attorney, auditor, or collection agent); 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 responsibility. A school official must be under the direct control of the institution with respect to the use and maintenance of information from education records.
 - b. In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid.

- c. To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, subject to the requirements of FERPA. The disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding.
 - d. Disclosures to parents are permitted in three situations. First, disclosure of a student's personally identifiable information to parents is permitted absent a student's written consent in the event of a health or safety emergency. The College may disclose education records in an emergency if the College determines that there is an articulable and significant threat to the health or safety of the student or other individuals. Second, disclosure of a student's personally identifiable information is permitted to parents of the student if the student is a dependent pursuant to Section 152 of the Internal Revenue Code of 1986 and notice is given to the student that a parent has requested such information. Third, disclosure of a student's personally identifiable information to parents is permitted without the student's written consent if the student is under 21 and has violated a law or College rule or policy governing alcohol or controlled substance consumption.
5. The right to opt out of the disclosure of directory information. Pursuant to FERPA, the College has classified certain personally identifiable information as directory information. Metropolitan Community College defines directory information as the student's name, address, telephone number, e-mail address, photos, date of birth, place of birth, grade level, major field of study, dates of attendance, full time/part time status, degrees, honors, and awards received, participation in officially recognized activities and sports, weight and height of members of athletic teams, and the most recent previous educational institution attended by the student. Students who wish to restrict the release of directory information must submit the appropriate form to the Office of the Registrar/Enrollment Manager during the first week of each academic term. This form can be found on the College's website, at the Dean of Students' Office or at the Office of the Registrar/ Enrollment Manager. Upon receipt of such request the Office of the Registrar/Enrollment Manager will designate that the student's directory information is confidential and not to be released outside the College except to individuals, institutions, agencies and organizations authorized in the Act. The College will honor all requests to withhold any of the categories of directory information listed above but cannot assume any responsibility to contact the student for subsequent permission to release information. Nondisclosure will be enforced until the information is subsequently released by the student. A student may not, however, opt-out of disclosure of the student's name, institutional e-mail address, or electronic identifier in the student's classroom. Regardless of the effect on the student, the College assumes no liability for honoring the request of the student to restrict the disclosure of directory information.
 6. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Metropolitan Community College to comply with the requirements of FERPA.

The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-5920

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.

Workforce and Economic Development

Overview

Metropolitan Community College is a regional leader in preparing Kansas City's workforce with career and technical education. Today's industrial workplace is undergoing rapid change, and MCC is constantly innovating to meet the resulting needs. We offer many ways to get the education that works for you, whether you are looking for industry credentials, new skills to advance your career or continuing education credits related to licensure or professional development.

Our programs and services are designed to provide short-term educational opportunities for high demand workforce occupations, as well as connecting with certificate and degree programs that provide pathways into careers in key industry sectors, including:

- Healthcare
- Transportation & Logistics
- OSHA Training Institute
- Information Technology
- Public Safety
- Technical Skills
- Industrial and Engineering Technology

These programs' industry business partners help review curriculum to ensure that students will be "job ready" by the time they earn their credentials.

Our goal is to provide a well-prepared workforce by partnering with employers, community organizations, government agencies, and educational institutions to offer career education to a broad spectrum of students. We want to constantly improve the "pipeline" of clear and accessible pathways to help students connect with careers and further education. We believe that education is ideally ongoing, even when students are in the workforce. We offer new skills to face new challenges.

Our holistic approach focuses on helping businesses run better, and helping individuals become better employees.

Teams

Apprenticeships

Metropolitan Community College has created a modern apprenticeship program designed to meet the needs of your changing industry. MCC can improve your current labor force, train new employees, or help identify an untapped labor pool. With customized on-the-job training and accredited coursework, your employees will be equipped with the right skills necessary for your most demanding positions. MCC Apprenticeship has services whether you are looking to start a new registered apprenticeship, or are a business or union looking to enhance your apprenticeship program.

Associate Degrees for Completed Apprenticeships

Do you have a state or federally approved apprenticeship certificate? If you do, MCC-Business & Technology can help you fulfill the credit hours necessary to obtain an Associate in Applied Science in Industrial Technology. The combination of broad-based skills and a degree are an indispensable career asset. A degree enhances your resume, brings more prestige, and gives you an edge for a promotion. You also can take your Associate's degree credits, transfer and earn a Bachelor's degree in technology management at University of Central Missouri, DeVry University, or Missouri Western State University. Your apprenticeship might be worth 30 to 42 credit hours if it is one of the fields listed below. To learn more, please contact student services.

Career Programs

MCC offers many career and technical education programs across its campuses, and those programs are coordinated at a district level. We are developing today's workforce for tomorrow, and we also focus on secondary education and career centers so our partnerships with institutions provide clear pathways from high school into industry or four-year institutions.

Continuing Education

MCC Community Education programs promote lifelong learning through community education, short-term workforce training, and professional development courses. Our programs meet students where they are and provide the opportunity for personal enrichment, workforce readiness, and career advancement. These wide-ranging programs support police, fire fighters, and emergency medical technicians, as well as preparing students to work in healthcare, manufacturing, and transportation. Non-credit classes on campus or online make further learning accessible for people in communities we serve. Our Great Plains OSHA Education Center coordinates OSHA training in four states.

Corporate College

MCC can provide a variety of services for companies who want to offer professional development to their employees. Sessions can be on-site or off-site, for large groups or small groups, with standard instructional programs or customized training to meet the company's specific need. Whether a company is assessing a skill gap or providing basic training to fulfill requirements in HR related subjects, Corporate College can arrange for the Corporate Trainers, curriculum, and evaluation.

Economic Development

MCC partners with local industry to assist them in accessing state workforce training funds. Our expertise and experience with government and industry partners is a key contribution to the process. In the last few years, MCC has worked with about 40 companies to access over \$10 million in state funds from the Missouri Works Customized Training program and Missouri Works New Jobs Training and Job Retention Training program.

Focus on Pathways

All of the teams in the Workforce and Economic Development department work together to connect industry, government, community partners, secondary education partners, four-year institutions, and students. We can help connect you to the next step in your life-long learning.

- **Serving the Community.**
 - *Community Education.* Provide positive experiences with MCC, education for personal enrichment, and fundamentals like digital literacy.

- **Workforce Preparation.**
 - *Continuing Education* grants access to non-credit education leading to industry recognized credentials, opening the way for careers paying a living wage. These short-term programs are ideal for students who are unemployed and looking for a new career, or students entering the workforce for the first time.
 - *Career Programs* gives high school juniors and seniors the chance to get college credit and industry recognized credentials as well as a high school diploma when they graduate.

- **Upgrading the Workforce.**

- *Corporate College* connects companies who have groups of employees to educate with Corporate Trainers for short term training on-site or at MCC locations. Services include gap analysis, required HR training, management and mentoring seminars, and more.
- *Economic Development* can help companies access government funding to help pay for upskilling and educating their workforce.
- *Apprenticeships* can work with companies who manage their own apprenticeship programs, helping coordinate with MCC. Or, MCC can sponsor the program, handling details and reporting on behalf of a company so they can focus on their apprentices.
- *Continuing Education* connects students with continuing education units that many licensed professionals need to keep their credentials current.
- *Career Programs* offers credit classes for degrees to expand the range of skills employees can use in their upward-bound careers as they diversify their technical expertise or expand into management and finance education.

To find out more, please contact us. We can help you find a pathway into education that is right for you.

Contact Information

wed@mccck.edu

816-604-6300

Transfer Degree Programs

Degrees

Metropolitan Community College awards 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 important for students to meet with an advisor or counselor early to make sure they're enrolling in classes that will transfer. Students are also encouraged to select the four-year college or university where they'll complete their bachelor's degree as well as their major of study.

To Report a Problem with the Transfer Policy

Missouri's Coordinating Board for Higher Education has approved a Credit Transfer Policy that stipulates guidelines for student transfer and articulation among Missouri public colleges and universities. All public institutions have agreed to abide by the principles contained within the policy. Any transfer student who believes there has been unfair treatment involving acceptance of college credits may contact the college's articulation officer. A transfer student may invoke the transfer appeals process to challenge an institutional decision on the acceptance of credit(s) from regionally accredited colleges or universities.

To report problems and appeal decisions, please contact the college's articulation officer at the address and phone number below:

Vice Chancellor of Instruction and Academic Officer
Metropolitan Community College
3200 Broadway
Kansas City, MO 64111
816-604-1107

Scholarship

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

Application for graduation

Prospective MCC graduates must submit an application for graduation through their myMCCCKC student portal before they are eligible to graduate and participate in the MCC commencement ceremony. Once the application for graduation is submitted, students will receive an official evaluation to determine degree completion status. Please visit www.mcckc.edu/graduation for more information.

Award Requirements

Students must complete the requirements with a 2.0 minimum MCC grade point average on a four-point grade scale to be eligible for award of a degree or certificate. Some degrees may require a higher-grade point average.

Students must meet one or more of the following requirements:

1. Complete 25% or more of the required credits at MCC and be enrolled anytime during the academic year of qualification for graduation.
2. Complete 56 or more credits at MCC
3. Students pursuing occupational degree or certificate programs must complete a minimum of 25% of the required occupational credits at MCC.

New Graduation Requirement for all degrees:

“A new Missouri Law (SB807) requires all public colleges and universities to administer a civics exam to students as a requirement for graduation. The law will apply to the incoming class of first-time in college, degree seeking students for the beginning of fall 2019 and all students entering afterward. The law indicates a student must score at least 70% on the exam before they can receive a degree.”

Exceptions

Students participating in reverse transfer agreements, Active-duty military, their dependents, and Reservists and National Guard on active-duty are not required to be enrolled in the year of qualification for graduation (Board Policy 6.25080).

Total Credits

Only courses numbered 100 level or higher can be applied toward the degree. Each MCC graduate must successfully complete at least 60 credit hours, although some degrees require more. (See specific requirements on the following pages.)

Students earning any of the six associate degrees offered by MCC must take several general education courses. For the Associate in Arts degree, at least 60 credits are required -- 42 credit hours in the Common Core and the remaining credit hours in degree requirements.

The Associate in Science also requires an area of specialization in Biology, Chemistry, or Pre-Professional Studies – Health Emphasis. 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.

Students who plan to earn a bachelor’s degree in certain fields, such as education or nursing, are required to take 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.

Missouri Higher Education Core Curriculum and MOTR Courses

OVERVIEW

The Missouri Higher Education Core Transfer Curriculum is a recommended lower-division core curriculum of at least forty-two semester credit hours. All public colleges and universities have adopted the Core Transfer Curriculum, which is commonly known as CORE 42.

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge, and facilitate the transfer of those credits among Missouri's public institutions of higher education.

CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education.

For more information, click on <https://dhe.mo.gov/>.



CORE 42 Transfer Guidelines

Types of Transfer

1. Students who complete the Associate of Arts degree at a Missouri community college and transfers to a Missouri public university shall have completed all lower-division general education requirements at the receiving institution. Students shall receive full credit for all MOTR courses transferred, including any prerequisites or requirements in the major. The receiving institution cannot require the student take any additional lower-division general education courses. The student may, however, have to take additional lower-division courses to fulfill program or institutional requirements.
2. Students who complete the CORE 42 at any public institution shall be considered as having completed all lower-division general education requirements at a receiving institution. Students shall receive full credit for all MOTR courses transferred, including any prerequisites or requirements in the major. The receiving institution cannot require the student take any additional lower-division general education courses. The student may, however, have to take additional lower-division courses to fulfill program or institutional requirements.
3. Students who do not complete either the Associate of Arts or the CORE 42 shall receive credit at a receiving institution for each MOTR course completed at a sending institution. Students shall receive full credit for all MOTR courses transferred, including any prerequisites or requirements in the major. After receiving credit for MOTR courses, the student shall complete the CORE 42 at the receiving institution.

MOTR #	MOTR Name of Course	MCC	MCC Name of Course
Social & Behavioral Sciences & Civics			
9 credit hours including at least one American History course			
Social & Behavioral Sciences			
MOTR ANTH 101	General Anthropology	ANTH 100	General Anthropology
MOTR ANTH 201	Cultural Anthropology	ANTH 110	Cultural Anthropology
MOTR CRJS 101	Introduction to Criminal Justice	CRJU 101	Introduction to Criminal Justice
MOTR ECON 100	Introduction to Economics	ECON 110	Introduction to Economics
MOTR ECON 101	Introduction to Macroeconomics	ECON 210	Macroeconomics
MOTR ECON 102	Introduction to Microeconomics	ECON 211	Microeconomics
MOTR GEOG 101	World Regional Geography	GEOG 105	World Geography
MOTR GEOG 101	World Regional Geography	GEOG 113	Cultural/Human Geography
MOTR PSYC 100	General Psychology	PSYC 140	General Psychology
MOTR PSYC 200	Human Lifespan Development	PSYC 243	Human Lifespan Development
MOTR SBSC 100	Introduction to Mass Communications	COMM 112	Introduction to Mass Communication
MOTR SBSC 101	Introduction to Intercultural Communication	COMM 233	Intercultural Communication
MOTR SOCI 101	General Sociology	SOCI 160	Sociology
MOTR SOCI 201	Social Problems	SOCI 163	Contemporary Social Issues
MOTR URBN 202	Introduction to Urban Studies	SOCI 161	Urban Sociology
Civics (American Institutions)			
MOTR HIST 101	American History I	HIST 120	United States History to 1865
MOTR HIST 102	American History II	HIST 121	United States History since 1865
MOTR POSC 101	American Government	POLS 136	Introduction to American National Politics
MOTR POSC 201	International Relations	POLS 234	Intro to International Relations
Written Communications and Oral Communications			
9 credit hours (6 Written Communication & 3 Oral Communication)			
Oral Communication			
MOTR COMM 100	Introduction to Communications	COMM 102	Fundamentals of Human Communication
MOTR COMM 110	Fundamentals of Public Speaking	COMM 100	Fundamentals of Speech
MOTR COMM 120	Interpersonal Communication	COMM 223	Interpersonal Communication
MOTR COMM 125	Small Group Communication	COMM 204	Small Group Communication
MOTR COMM 220	Argumentation and Debate	COMM 110	Argumentation and Debate
Written Communication			
MOTR ENGL 100	Composition I	ENGL 101	Composition & Reading I
MOTR ENGL 110	Technical Writing	ENGL 215	Technical Writing
MOTR ENGL 200	Composition II	ENGL 102	Composition & Reading II
Mathematics			
3 credit hours			
MOTR MATH 110	Statistical Reasoning	MATH 115	Statistics
MOTR MATH 120	Mathematical Reasoning & Modeling	MATH 119	Mathematical Reasoning & Modeling
MOTR MATH 130	Pre-Calculus Algebra	MATH 120	College Algebra
MOTR MATH 150	Pre-Calculus	MATH 150	Pre-Calculus

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MOTR #	MOTR Name of Course	MCC	MCC Name of Course
Humanities & Fine Arts			
9 credit hours minimum from at least two disciplines			
Humanities			
MOTR FILM 100	Introduction to Film Studies	COMM 128	Introduction to Film
MOTR LITR 100	Introduction to Literature	ENGL 218	Introduction to Literature
MOTR LITR 100D	Introduction to Literature – Poetry/Drama	ENGL 216	Introduction to Drama and Poetry
MOTR LITR 100F	Introduction to Literature – Fiction	ENGL 214	Introduction to Fiction
MOTR LITR 101A	American Literature I	ENGL 222	American Literature to 1860
MOTR LITR 101B	American Literature II	ENGL 223	American Literature 1860-Present
MOTR LITR 102A	British Literature I	ENGL 220	British Literature to 1750
MOTR LITR 102B	British Literature II	ENGL 221	British Literature 1750-Present
MOTR LITR 105AA	Multicultural Literature – African American	ENGL 260	African American Literature
MOTR LITR 105L	Multicultural Literature – Latino/Latina	ENGL 264	U.S. Latino and Latina Literature
MOTR LITR 105NA	Multicultural Literature – Native American	ENGL 267	North American Indian Literature
MOTR LITR 106	Women's Literature	ENGL 268	Women's Literature
MOTR LITR 106	Women's Lives and Autobiography	ENGL 262	Women's Lives and Autobiography
MOTR LITR 200A	World Literature I	ENGL 254	World Literature I
MOTR LITR 200M	World Literature II	ENGL 255	World Literature II
MOTR LITR 201	Mythology	ENGL 240	Mythology
MOTR PHIL 100	Introduction to Philosophy	PHIL 100	Introduction to Philosophy
MOTR PHIL 101	Introduction to Logic	PHIL 148	Critical Thinking
MOTR PHIL 101	Introduction to Logic	PHIL 200	Logic
MOTR PHIL 102	Introduction to Ethics	PHIL 203	Ethics
MOTR WCIV 101	Western Civilization I	HIST 133	Foundations of Western Civilization
MOTR WCIV 102	Western Civilization II	HIST 134	Modern Western Civilization
Humanities Appreciation			
MOTR ARTS 100	Art Appreciation	ART 108	Survey of Art
MOTR ARTS 101	Art History I	ART 150	History of Art I
MOTR ARTS 102	Art History II	ART 151	History of Art II
MOTR LANG 101	French I	FREN 101	Elementary French I
MOTR LANG 102	French II	FREN 102	Elementary French II
MOTR LANG 103	Spanish I	SPAN 101	Elementary Spanish I
MOTR LANG 104	Spanish II	SPAN 102	Elementary Spanish II
MOTR LANG 105	Arabic I	ARAB 101	Elementary Modern Arabic I
MOTR LANG 106	Arabic II	ARAB 102	Elementary Modern Arabic II
MOTR LANG 105	Chinese I	CHIN 101	Elementary Chinese I
MOTR LANG 106	Chinese II	CHIN 102	Elementary Chinese II
MOTR LANG 105	German I	GERM 101	Elementary German I
MOTR LANG 106	German II	GERM 102	Elementary German II
MOTR MUSC 100	Music Appreciation	MUSI 108	Music Appreciation
MOTR MUSC 100J	Music Appreciation – Jazz	MUSI 116	Evolution of Jazz
MOTR MUSC 101	Music Fundamentals	MUSI 107	Fundamentals of Music
MOTR MUSC 102	World Music	MUSI 160	Music of the World's Cultures
MOTR PERF 100	Acting I	THEA 120	Acting I
MOTR PERF 102B	Music Performance – Band	MUSI 103	Concert Band I
MOTR PERF 102B	Music Performance – Band	MUSI 134	Jazz Band I
MOTR PERF 102C	Music Performance – Choir	MUSI 101	Choir I
MOTR PERF 102O	Music Performance – Orchestra	MUSI 105	Orchestra I
MOTR PERF 105C	Studio Art-Ceramics	ART 170	Ceramics I
MOTR PERF 105D	Introduction to Drawing	ART 110	Drawing I
MOTR PERF 105GA	Studio Art-Graphic Arts	GDES 110	Computers in Design I
MOTR PERF 105P	Studio Art-Painting	ART 220	Painting I
MOTR PERF 105S	Studio Art-Sculpture	ART 230	Sculpture I
MOTR PERF 106	Creative Writing	ENGL 201	Creative Writing
MOTR PERF 106D	Creative Writing – Dramatic Script	ENGL 209	Creative Writing – Screenwriting
MOTR RELG 100	World Religion	PHIL 101	Philosophy of Religion
MOTR THEA 100A	Theatre Appreciation	THEA 106	Theatre Appreciation
MOTR THEA 100B	Children's Theatre	THEA 116	Children's Theater

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MOTR #	MOTR Name of Course	MCC	MCC Name of Course
Natural Sciences			
7 credit hours minimum including one course with a lab component			
Lab Courses			
MOTR ASTR 100L	Astronomy with Lab	PHYS 106L	General Astronomy with Lab
MOTR BIOL 100L	Essentials in Human Biology with Lab (non-majors)	BIOL 101	General Biology
MOTR BIOL 100L	Essentials in Human Biology with Lab (non-majors)	BIOL 118	Introduction to Biology
MOTR BIOL 100LB	Essentials in Human Biology with Lab (non-majors)	BIOL 104	General Botany
MOTR BIOL 100LEV	Essentials in Human Biology with Lab (non-majors)	BIOL 102	Environmental Science
MOTR BIOL 100LZ	Essentials in Human Biology with Lab (non-majors)	BIOL 106	General Zoology
MOTR BIOL 150L	Biology with Lab	BIOL 123	General Biology for Majors
MOTR CHEM 100L	Essentials in Chemistry with Lab	CHEM 101	Survey of Chemistry
MOTR CHEM 100L	Essentials in Chemistry with Lab	CHEM 107	Preparatory General Chemistry
MOTR CHEM 100LHP	Essentials in Chemistry with Lab	CHEM 105	Introductory Chemistry for Health Sciences
MOTR CHEM 150L	Chemistry I with Lab	CHEM 111	General College Chemistry I
MOTR GEOG 100	Physical Geography	GEOG 104	Principles of Physical Geography
MOTR GEOL 100L	Essentials in Geology with Lab	GEOL 101	Physical Geology
MOTR GEOL 100L	Essentials in Geology with Lab	GEOL 103	Environmental Geology
MOTR LIFS 100LA	Essentials in Human Biology with Lab	BIOL 110	Human Anatomy
MOTR LIFS 150LP	Human Biology with Lab	BIOL 210	Human Physiology
MOTR PHYS 100L	Essentials in Physics with Lab	PHYS 101L	Introductory Physics with Lab
MOTR PHYS 110L	Essentials in Physical Sciences with Lab (non-majors)	PHYS 104L	Foundations of Physical Science with Lab
MOTR PHYS 110LAS	Essentials in Physical Science with Lab	GEOG 110	Introduction to Meteorology
MOTR PHYS 110LEV	Essentials in Physical Sciences with Lab	GEOL 180	Energy & the Environment
MOTR PHYS 110LO	Essentials in Physical Sciences with Lab	GEOL 110	Oceanography
MOTR PHYS 150L	Basic Physics with Lab	PHYS 130	General Physics
MOTR PHYS 150L	Basics Physics with Lab	PHYS 112	Technical Physics
MOTR PHYS 200L	Physics with Lab	PHYS 220	Engineering Physics I
Non-Lab Courses			
MOTR ASTR 100	Astronomy	PHYS 106	General Astronomy
MOTR LIFS 100N	Essentials in Human Biology	BIOL 132	Human Nutrition
MOTR PHYS 100	Essentials in Physics	PHYS 101	Introductory Physics
MOTR PHYS 110	Essentials in Physical Sciences (non-majors)	PHYS 104	Foundations of Physical Science

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The Associate in Arts Degree

Purpose Statement: The Metropolitan Community College Associate in Arts degree provides a well-rounded educational foundation that prepares students to select appropriate majors/career paths, helps them transfer and successfully complete baccalaureate degrees.

Note that the credits listed under Core 42 and MCC indicate the minimum number of credits needed to fulfill the respective requirement.

Associate in Arts Degree

100000 Updated 2/2019, Edited May 2019 (Fall 2019)

General Education Requirements	Course Credits	Core 42	MCC	Prerequisites
Social and Behavioral Sciences: (9 credit hours including one Civics/American Institutions course)		9	9	
ANTH 100 General Anthropology	3			
ANTH 110 Cultural Anthropology*	3			
ECON 110 Introduction to Economics	3			
ECON 210 Macroeconomics	3			MATH 85 w C or higher or placement
ECON 211 Microeconomics	3			MATH 85 w C or higher or placement
GEOG 105 World Geography*	3			
GEOG 113 Cultural/Human Geography*	3			
POLS 234 Introduction to International Relations*	3			
PSYC 140 General Psychology	3			
PSYC 243 Human Lifespan Development	4			PSYC 140
SOCI 160 Introduction to Sociology	3			
<i>Civics/American Institutions</i>			3	
HIST 120 United States History to 1865	3			
HIST 121 United States History since 1865	3			
POLS 136 Introduction to U.S. National Politics	3			
Oral Communications: (3 credit hours)		3	3	
COMM 100 Fundamentals of Speech	3			ENGL 90, S or placement score
COMM 102 Fundamentals of Human Communication	3			ENGL 90, S or placement score
Written Communications: (6 credit hours)		6	6	
ENGL 101 Composition and Reading I	3			ENGL 90, S or placement score
ENGL 102 Composition and Reading II	3			ENGL 101
Natural Sciences: (7 credit hours minimum with two courses from two different disciplines, including at least one course with a lab.)		7	7	
<i>Lab Courses:</i>				
BIOL 101 General Biology	5			
BIOL 102 Environmental Science	5			
BIOL 104 General Botany	5			
BIOL 106 General Zoology	5			
BIOL 110 Human Anatomy	5			
BIOL 118 Introduction to Biology	5			
BIOL 123 General Biology for Majors I	4			
BIOL 210 Human Physiology	5			BIOL 110 and CHEM 105
CHEM 101 Survey of Chemistry	5			
CHEM 105 Introductory Chemistry for Health Science	5			
CHEM 107 Preparatory General Chemistry	5			MATH 95 w C or higher or appropriate placement or 1 unit high school algebra
CHEM 111 General College Chemistry I	5			CHEM 107 or high school chemistry and MATH 120
GEOG 104 Principles of Physical Geography	5			
GEOG 110 Meteorology	4			
GEOL 101 Physical Geology	5			
GEOL 103 Environmental Geology	5			
GEOL 110 Oceanography	4			
GEOL 180 Energy and the Environment	5			
PHYS 101L Introductory Physics with Lab	5			MATH 31, S or placement
PHYS 104L Foundations of Physical Science with Lab	5			MATH 31, S or placement
PHYS 106L General Astronomy with Lab	5			MATH 31, S or placement
PHYS 130 General Physics I	5			MATH 130
PHYS 220 Engineering Physics I	5			MATH 180, co-requisite MATH 190

Continued on next page...

Associate in Arts Degree (Continued)

General Education Requirements	Course Credits	Core 42	MCC	Prerequisites
Natural Sciences (Continued):		7	7	
<i>Non-Lab Courses:</i>				
BIOL 132 Human Nutrition	3			
PHYS 101 Introductory Physics	4			MATH 31 w S or placement
PHYS 104 Foundations of Physical Science	4			MATH 31 w S or placement
PHYS 106 General Astronomy	4			MATH 31 w S or placement
Mathematical Sciences: (3 credit hours minimum)		3	3	
MATH 115 Statistics	3			MATH 85 or 95, C or placement
MATH 119 Mathematical Reasoning and Modeling	3			MATH 85 or 95, C or placement
MATH 120 College Algebra	3			MATH 95, C or placement
MATH 150 PreCalculus (or any MATH course for which MATH 115, 119, or 120 is a prerequisite)	3-5			MATH 95, C or placement
Humanities and Fine Arts: (9 credit hours minimum and at least 3 credit hours from each sub-category)		9	9	
<i>Western Civilization</i>				
HIST 133 Foundations of Western Civilization	3		3	
HIST 134 Modern Western Civilization	3			
<i>Humanities</i>				
ENGL 201 Creative Writing I	3		3	
ENGL 209 Creative Writing: Screenwriting	3			
ENGL 214 Introduction to Fiction	3			
ENGL 216 Introduction to Drama and Poetry	3			
ENGL 218 Introduction to Literature	3			
ENGL 220 British Literature to 1750*	3			
ENGL 221 British Literature 1750 – Present*	3			
ENGL 222 American Literature to 1860	3			
ENGL 223 American Literature 1860 - Present	3			
ENGL 254 World Literature I*	3			
ENGL 255 World Literature II*	3			
ENGL 260 African American Literature*	3			
ENGL 262 Women's Lives and Autobiography*	3			
ENGL 264 U.S. Latino and Latina Literature*	3			
ENGL 267 North American Indian Literature*	3			
ENGL 268 Women's Literature*	3			
PHIL 100 Introduction to Philosophy	3			
PHIL 101 Philosophy of Religion	3			
PHIL 148 Critical Thinking	3			
PHIL 200 Logic	3			
PHIL 203 Ethics	3			
<i>Humanities Appreciation</i>				
ARAB 101 Elementary Modern Arabic I	4		3	
ARAB 102 Elementary Modern Arabic II	4			ARAB 101
ART 108 Survey of Art*	3			
ART 150 History of Art I	3			
ART 151 History of Art II	3			
CHIN 101 Elementary Chinese I	3			
CHIN 102 Elementary Chinese II	4			
FREN 101 Elementary French I	5			
FREN 102 Elementary French II	5			FREN 101
GERM 101 Elementary German	5			
GERM 102 German II	5			GERM 101
MUSI 107 Fundamentals of Music	3			
MUSI 108 Music Appreciation	3			
MUSI 116 Evolution of Jazz*	3			
MUSI 160 Music of the World's Cultures*	3			

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Associate in Arts Degree (Continued)

General Education Requirements	Course Credits	Core 42	MCC	Prerequisites
Humanities and Fine Arts (Continued):			9	
<i>Humanities Appreciation (Continued)</i>				
SPAN 101 Elementary Spanish I	5			
SPAN 102 Elementary Spanish II	5			SPAN 101 or 111 or placement
THEA 106 Theater Appreciation	3			ENGL 90, S or placement score
<i>Humanities Appreciation (Continued)</i> <i>Choose only one from this group</i>				
ART 110 Drawing I	3			
MUSI 101 Choir I	1			
MUSI 103 Concert Band I	1			
MUSI 105 Orchestra I	1			
MUSI 134 Jazz Band I	1			
Global Diversity:	3		3	
Required Global Diversity Course: Courses marked with an asterisk (*) are global diversity courses. Choose one of the indicated courses above to fulfill the Global Diversity.	3			
Additional General Education Electives		Up to 2 hours	Up to 2 hours	
If needed students may select any additional course(s) listed above or taken from the list of MOTR courses to complete the 42 credits required for General Education.				
Total General Education Credit hours	42	42	42	
General Degree Requirements				
COLL 100 First Year Seminar	1			
Computer Science Requirement (Choose one of the following): CSIS 115 Computer Concepts and Applications (or test out) or CSIS 116, 123, 128, 129, 143, 151, 161, 162, 170, 172, 174, 175, 178, 182, 250; EDUC 280	3			
Additional Electives for the degree: A student may take any 100 level or higher MCC course(s) to satisfy the elective requirements for the AA. Courses may only be used to fulfill one requirement. Non MOTR courses are not guaranteed to transfer, and some may require prerequisite work. Students should consult with academic advisors both at MCC and any planned transfer institutions. Recommended electives are lists of suggested courses designed to help students gain expertise in a specific area of study while pursuing the AA. These courses are not guaranteed to transfer, and some may require prerequisite work. Students should consult with academic advisors both at MCC and any planned transfer institutions.	14			
Total Credit Hours Required	60			

*Represents MCC courses that meet MCC's Global Diversity Requirement

The Associate in Arts Teaching Degree

The Associates in Arts in 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 MoGEA, and earn a minimum 2.75 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

100001 Edited 3/2020 (Fall 2017)

General Education Requirements	Credits	Semester Taken	Prerequisites	
COLL 100 First Year Seminar	1			
American Institutions: (2 courses, one must be HIST)				
HIST 120, 121, POLS 136	6			
Communications:				
ENGL 101	3		ENGL 90 with a minimum grade of S or appropriate placement score	
ENGL 102	3		ENGL 101	
COMM 100 or COMM 102	3		ENGL 90 with a minimum grade of S or appropriate placement score	
Mathematics:				
MATH 119: Mathematical Reasoning and Modeling or higher	3-5		MATH 95 with a grade of C or higher or appropriate placement	
Humanities: (3 courses, 3 areas of study, 1 course must be Lit. or Phil.)				
Art History or ART 108	9		See Courses section of this catalog for individual course prerequisites.	
HUMN				
Literature				
MUSI 108				
PHIL				
THEA 106				
HIST/HUMN 133 or 134				
Natural Sciences: (2 courses, 1 Biological and 1 Physical)				
BIOL (Must include laboratory)	4-6		See Courses section of this catalog for individual course prerequisites.	
CHEM, GEOG, GEOL, or PHYS (Must include laboratory)	3-5			
Social Sciences: (PSYC 140 plus one other area of study)				
PSYC 140 General Psychology	3		See Courses section of this catalog for individual course prerequisites.	
PSYC 240 Child Psychology or PSYC 243 Human Lifespan Development or PSYC 245 Adolescent Psychology or GEOG 105 World Geography or ECON 210 Macroeconomics	3-4			
Total General Education Courses	40-47			
Education				
EDUC 200 Foundations of Education in a Diverse Society	3			ENGL 101
EDUC 201 Teaching Profession with Field Experience	3		ENGL 101	
EDUC 270 Educational Psychology	3		ENGL 101, PSYC 140	
EDUC 280 Educational Technology	3		ENGL 101	
Electives: (courses must be numbered 100 or higher)				
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 MoGEA exam.*	8			
<ul style="list-style-type: none"> ECE and Elem Majors should choose between EDUC 212, 215, 235, or 285 Middle and High School majors should choose between EDUC 235, 285, and specific content courses. Choices of general education courses in these areas are limited based on requirements of the intended transfer institution. Seek advising prior to selection. 				
Total Credit Hours Required	61-68			
<ul style="list-style-type: none"> All courses must be at least 100 level or higher Students must achieve a minimum GPA of 2.75 Students must achieve minimum scores on each section of the MoGEA We recognize that four-year transfer institutions may have additional requirements including higher GPA, higher MoGEA scores*, or additional courses that could be taken at the community college level. Courses can only be used once to meet degree requirements 				

The GPA for education coursework (EDUC courses) required for completion of the AAT program is 3.0.

The Associate in Computer Science Degree

The Associate in Computer Science degree is a pre-professional curriculum designed to inspire students for transfer to a four-year college or university that offers a BS or BA degree in Computer Science. In contrast, various Associate in Applied Science degrees in Computer Science prepare students for immediate employment in more specialized, practical fields.

The required and elective Computer Science, Math, and Science courses in this degree are typical of requirements for the first two years of a four-year program that follows guidelines established by the Association for Computing Machinery (ACM). These ACM-style degree programs provide the theoretical foundation and programming experience that forms the basis of academic Computer Science.

Academic four-year Computer Science degrees address essential skills future software developers need for computer programming, network design, and database management. Individual degree requirements vary at each four-year college or university. Students should check with the transfer school or speak to an advisor or counselor to ensure selection of the right classes for transfer credit. By design, the ACS degree electives are sufficiently flexible to accommodate a wide range of transfer options.

Degree Requirements

The Associate in Computer Science degree requires completion of the requirements for all degrees listed under Degree Graduation requirements, plus specific course requirements described below

A.C.S. Computer Science

100103 Revised 3/2020 (Fall 2018)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
Communications:				
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 ENGL 215	Composition and Reading II or Technical Writing	3		ENGL 101
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
American Institutions: (Choose one of the following)				
HIST 120 HIST 121 POLS 136	United States History to 1865 United States History Since 1865 Introduction to U.S. National Politics	3		
Sciences: (1 course with lab)				
BIOL 101 BIOL 104 BIOL 106 BIOL 110 CHEM 111 PHYS 130 PHYS 220	General Biology General Botany General Zoology Human Anatomy General College Chemistry I General Physics I Engineering Physics	5		CHEM 107 or high school chemistry & MATH 120 (CHEM 111) MATH 130 (PHYS 130) MATH 190 (PHYS 220)
Western Civilization: (Choose one of the following)				
HIST 133 HIST 134	Foundations of Western Civilization Modern Western Civilization	3		
Social Sciences: (Choose one of the following)				
ANTH 100 ANTH 110 ECON 210 ECON 211 PSYC 140 SOCI 160	General Anthropology Cultural Anthropology Macroeconomics Microeconomics General Psychology Sociology	3		MATH 85 with a grade of C or higher or appropriate placement (ECON 210 or 211)
Humanities: (Choose one of the following)				
ENGL 218 ENGL 220 ENGL 221 ENGL 222 ENGL 223 ENGL 268 PHIL 100 PHIL 200 PHIL 203	Introduction to Literature British Literature to 1750 British Literature 1750 - Present American Literature to 1860 American Literature 1860 - Present Women's Literature Introduction to Philosophy Logic Ethics	3		
Humanities Appreciation				
ARAB 101; ART 108, ART 150, ART 151; CHIN 101; All French; All German; All Spanish; MUSI 108, MUSI 160; THEA 106; SIGN 101, SIGN 102		3		(mcckc.edu/progs/degrees/aa/Appreciation.asp)
Total General Education Credit Hours		29		

The Associate in Computer Science Degree (cont)

A.C.S. Computer Science (cont)

Program Requirements		Credits	Prerequisites
CSIS 123	Programming Fundamentals	3	MATH 31 with S or appropriate placement score
CSIS 223 CSIS 222	Object Oriented Programming or Object Oriented Programming with Java	3	CSIS 123 and MATH 95 (S or appropriate placement) MATH 104 or higher and CSIS 123
MATH 180	Analytic Geometry and Calculus I	5	MATH 130 or 150
Program Electives			
Choose from the below list of courses. At least 6 hours must have a CSIS designator. Consult with an advisor to determine the best options for transfer.			
CSIS 143 CSIS 152 CSIS 221 CSIS 228 CSIS 250 CSIS 265 CSIS 271 MATH 141 MATH 241 MATH 115 MATH 150 MATH 190 MATH 210 PHYS 220 PHYS 221	Database Design and Management Linux Operating System Introduction to Computer Architecture Advanced Web Development Assembly Language Programming .NET Web Programming with C# Data Structures and Algorithm Analysis Discrete Structures for Computer Science I Discrete Structures for Computer Science II Statistics Precalculus Analytic Geometry and Calculus II Analytic Geometry and Calculus III Engineering Physics I Engineering Physics II	21	CSIS 115 with a C or higher CSIS 110 CSIS 123 and MATH 120 or 150 CSIS 128 CSIS 123 with a C or higher CSIS 223 CSIS 223 and MATH 141 MATH 120 or MATH 150 CSIS 223 or MATH 141 MATH 85/95 with a grade of C or higher or appropriate placement (MATH 115) MATH 95 with a grade of C or higher or appropriate placement (MATH 150) MATH 180 MATH 190 MATH 190 MATH 210 and PHYS 220
Total Credit Hours Required		62	

The Associate in Engineering Degree

Associate in Engineering.....74 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.

Associate in Engineering

100201 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
Communications (Choose two of the following):			
ENGL 101 Composition and Reading I	6		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II			ENGL 101
ENGL 215 Technical Writing			ENGL 101
COMM 100 Fundamentals of Speech			ENGL 90 with S or appropriate placement score
History and Social Sciences (Choose one of the following):			
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
Mathematics (Take all four):			
MATH 180 Analytic Geometry and Calculus I	5		MATH 130 or 150
MATH 190 Analytic Geometry and Calculus II	5		MATH 180
MATH 210 Analytic Geometry and Calculus III	5		MATH 190
MATH 230 Differential Equations	3		MATH 190
Science (Take all three):			
CHEM 111 General College Chemistry I	5		MATH 120 (or appropriate placement test score) or two units of high school algebra and CHEM 107 or high school chemistry
PHYS 220 Engineering Physics I	5		Enrollment in or completion of MATH 190
PHYS 221 Engineering Physics II	5		PHYS 220 and enrollment in or completion of MATH 210
Required Engineering (take both):			
ENGR 101 Intro to the Profession	1		
ENGR 229 Statics	3		MATH 190 and PHYS 220 (ENGR 229)
Additional elective classes: (Twenty eight hours from the approved list)	28		
One (at most) additional Communications from above list,	3		
One (at most) additional History or Science Course with a different designator from the first course. Select from the following: HIST 120, HIST 121, ECON 210, ECON 211, POLS 136	3		
One (at most) Humanities course from the following: ART 100, ART 103, ART 108, ART 138, ART 150, ART 151; ECED 217; EDUC 215; ENGL 202, ENGL 214, ENGL 216, ENGL 240, ENGL 254, ENGL 262, ENGL 268; HIST 133, HIST 134, HIST 145; HUMN 133, HUMN 134, HUMN 145; MUSI 108, MUSI 160; PHIL 100; THEA 106, THEA 114	3		

(Continued on next page)

Associate in Engineering (cont)

Additional electives classes:		Credits	Semester Taken	Prerequisites
CHEM 112	General Chemistry II	5		CHEM 111
CHEM 221	Organic Chemistry I	5		CHEM 112
CHEM 222	Organic Chemistry II	5		CHEM 221
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101 or concurrent enrollment
CIMM 103	Basic Mill Operation	1		CIMM 101 or concurrent enrollment
CSIS 123	Programming Fundamentals	3		MATH 31 with S or higher or placement score
CSIS 223	Object-Oriented Programming	3		CSIS 123 and MATH 95 with a grade of C or higher or appropriate placement
CSIS 271	Data Structures and Algorithm Analysis	3		MATH 141, CSIS 223
ENGR 113	Engr. Design and Microcomputer Applications	3		MATH 95 with a grade of C or higher or appropriate placement
ENGR 204	Programming for Engineers and Scientists	3		MATH 180
ENGR 215	Engineering Statistics and Computation	3		MATH 190
ENGR 223	Thermodynamics and Heat Transfer	4		MATH 190, PHYS 220
ENGR 230	Dynamics	3		ENGR 229
ENGR 233	Circuit Analysis I	4		PHYS 221 or concurrent enrollment
ENGR 234	Circuit Analysis Lab	1		Corequisite ENGR 233 If you withdraw from ENGR 233, you must withdraw from ENGR 234
ENGR 240	Mechanics of Materials	3		ENGR 229
ETEC 130	Digital Electronics	4		Completion or concurrent enrollment in ETEC 110 or INTE 110
ETEC 152	Engineering Graphics and CADD I	5		MATH 95 with C or appropriate placement score
ETEC 271	Parametric Modeling, Solidworks	3		ETEC 152 or concurrent enrollment
GEOL 101	Introduction to Geology	5		
MATH 141	Discrete Structures for Computer Science I	3		MATH 120 or MATH 150
SRVY 135	Elementary Surveying	3		MATH 130 or 150 with a minimum grade of C or appropriate placement score
WELD 100	Introduction to Welding/Cutting Processes	1		
Total Credit Hours Required		74		

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, the general education requirements listed below, and the specialized education requirements for either Biology, Chemistry, or Pre-Professional Studies.

A.S. Biology

100301 Revised 3/2020 (Spring 2015)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II	3		ENGL 101
<i>Two of the following:</i>			
HIST 120 United States History to 1865	6		
HIST 121 United States History Since 1865			
POLS 136 Introduction to U.S. National Politics			
COMM 100 Fundamentals of Speech	3		ENGL 90 or appropriate placement test score
Humanities Elective	3		
Specific Program Requirements			
BIOL 104 General Botany and BIOL 106 General Zoology or BIOL 123 General Biology for Majors I and BIOL 124 General Biology for Majors II	8-10		BIOL 123 (BIOL 124)
BIOL Elective: At least 3 hours must be 200 or above.	3-5		See Courses section of this catalog for individual course prerequisites.
CHEM 111 General College Chemistry I	5		CHEM 107 or high school chemistry and MATH 120
CHEM 112 General College Chemistry II	5		CHEM 111
CHEM 221 Organic Chemistry I and CHEM 222 Organic Chemistry II or PHYS 130 General Physics I and PHYS 131 General Physics II	10		CHEM 112 (CHEM 221) CHEM 221 (CHEM 222) MATH 130 (PHYS 130) PHYS 130 (PHYS 131)
MATH 115 Statistics and MATH 120 College Algebra or MATH 180 Analytic Geometry and Calculus I	5-6		MATH 85/95 with a grade of C or higher or appropriate placement (MATH 115) MATH 95 with a grade of C or higher or appropriate placement (MATH 120) MATH 130 or 150 (MATH 180)
Electives as needed to reach 60	3-6		See Courses section of this catalog for individual course prerequisites.
Total Credit Hours Required	60-65		

The Associate in Science Degree

A.S. Chemistry

100302 Revised 4/2018 (Fall 2018)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II	3		ENGL 101
Choose one of the following: HIST 120 United States History to 1865 HIST 121 United States History Since 1865 POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 or appropriate placement test score
Choose any one guaranteed transfer course (any MOTR courses)	3-5		
Specific Program Requirements			
CHEM 111 General College Chemistry I	5		CHEM 107 or high school chemistry and MATH 120
CHEM 112 General College Chemistry II	5		CHEM 111
CHEM 221 Organic Chemistry I	5		CHEM 112
CHEM 222 Organic Chemistry II	5		CHEM 221
MATH 180 Analytic Geometry & Calculus I	5		MATH 130 or 150
MATH 190 Analytic Geometry & Calculus II	5		MATH 180
MATH 210 Analytic Geometry & Calculus III	5		MATH 190
PHYS 220 Engineering Physics I	5		Enrollment in or completion of MATH 190
PHYS 221 Engineering Physics II	5		PHYS 220 and enrollment in or completion of MATH 210
Total Credit Hours Required	61-63		

The Associate in Science Degree

The Associate in Science – Preprofessional Studies – Health Emphasis degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in fields including, but not limited to, Nursing, Dietetics, Radiologic Technology, Health Science, and Dental Hygiene. Additionally, upon completion of this degree, students will have completed many of the prerequisites for graduate programs such as Master of Occupational Therapy and Doctor of Physical Therapy.

A.S. Preprofessional Studies – Health Emphasis

204250 Approved 3/2020 (Fall 2018)

COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102	Composition and Reading II	3		ENGL 101
COMM 100	Fundamentals of Speech	3		ENGL 90 or appropriate placement test score
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to U.S. National Politics			
PSYC 140	General Psychology	3		
SOCI 160	Sociology	3		
PHIL 100	Introduction to Philosophy or	3		
PHIL 203	Ethics			
MATH 115	Statistics	3		MATH 85/95 with a grade of C or higher or appropriate placement
MATH 120	College Algebra	3		MATH 95 with a grade of C or higher or appropriate placement
CHEM 105	Introductory Chemistry for Health Sciences or	5		CHEM 107 or high school chemistry and MATH 120 (CHEM 111)
CHEM 111	General Chemistry			
BIOL 110	Human Anatomy	5		
BIOL 210	Human Physiology	5		BIOL 110 and CHEM 105.
Additional elective courses (Twenty hours from approved list)*		20		
Total General Credit Hours		63-64		
Additional elective courses (approved list):				
BIOL 101	General Biology	5		
BIOL 132	Human Nutrition	3		
BIOL 150	Medical Terminology or	2-3		
HIM 100	Medical Terminology			
BIOL 208	Microbiology	5		CHEM 105 or higher plus one of the following courses: HLSC 108, BIOL 101, BIOL 104, BIOL 106, BIOL 109, BIOL 110, BIOL 123, BIOL 124
PHYS 130	General Physics I	5		MATH 130
PHYS 131	General Physics 2	5		PHYS 130
PSYC 243	Human Lifespan Development	4		PSYC 140
AT MOST one course numbered 100 or above from any of the following designators: ANTH, BIOL, CHEM, ECED, EHSS, EMS, HIM, HLSC, OTHA, PNUR, PSYC, PTHA, RATE, RNUR, SOCI, SOWK, SURT				
AT MOST one course numbered 100 or above from any of the following designators: ARAB, ART, CHIN, COMM, DANC, EDUC, ENGL, FREN, GERM, HIST, HUMN, MUSI, PHIL, POLS, SIGN, SPAN, THEA				

General Education

General Education Certificate

306700 Revised 2/2019 (Fall 2019)

General Education Requirements	Minimum Credits	Core 42	MCC	Prerequisites
COLL 100 First Year Seminar	1			
Social and Behavioral Sciences: (9 credit hours including one Civics/American Institutions course)		9	9	
ANTH 100 General Anthropology	3			
ANTH 110 Cultural Anthropology*	3			
ECON 110 Introduction to Economics	3			
ECON 210 Macroeconomics	3			MATH 85 w C or higher or placement
ECON 211 Microeconomics	3			MATH 85 w C or higher or placement
GEOG 105 World Geography*	3			
GEOG 113 Cultural/Human Geography*	3			
POLS 234 Introduction to International Relations*	3			
PSYC 140 General Psychology	3			
PSYC 243 Human Lifespan Development	4			PSYC 140
SOCI 160 Introduction to Sociology	3			
<i>Civics/American Institutions</i>			3	
HIST 120 United States History to 1865	3			
HIST 121 United States History since 1865	3			
POLS 136 Introduction to U.S. National Politics	3			
Oral Communications: (3 credit hours)		3	3	
COMM 100 Fundamentals of Speech	3			ENGL 90, S or placement score
COMM 102 Fundamentals of Human Communication	3			ENGL 90, S or placement score
Written Communications: (6 credit hours)		6	6	
ENGL 101 Composition and Reading I	3			ENGL 90, S or placement score
ENGL 102 Composition and Reading II	3			ENGL 101
Natural Sciences: (7 credit hours minimum with two courses from two different disciplines, including at least one course with a lab)		7	7	
<i>Lab Courses:</i>				
BIOL 101 General Biology	5			
BIOL 102 Environmental Science	5			
BIOL 104 General Botany	5			
BIOL 106 General Zoology	5			
BIOL 110 Human Anatomy	5			
BIOL 118 Introduction to Biology	5			
BIOL 123 General Biology for Majors I	4			
BIOL 210 Human Physiology	5			BIOL 110 and CHEM 105
CHEM 101 Survey of Chemistry	5			
CHEM 105 Introductory Chemistry for Health Science	5			
CHEM 107 Preparatory General Chemistry	5			MATH 95 w C or higher or appropriate placement or 1 unit high school algebra
CHEM 111 General College Chemistry I	5			CHEM 107 or high school chemistry and MATH 120
GEOG 104 Principles of Physical Geography	5			
GEOG 110 Meteorology	4			
GEOL 101 Physical Geology	5			
GEOL 102 Historical Geology	4			
GEOL 103 Environmental Geology	5			
GEOL 110 Oceanography	4			
GEOL 180 Energy and the Environment	5			
PHYS 101L Introductory Physics with Lab	5			MATH 31, S or placement
PHYS 104L Foundations of Physical Science with Lab	5			MATH 31, S or placement
PHYS 106L General Astronomy with Lab	5			MATH 31, S or placement
PHYS 130 General Physics I	5			MATH 130
PHYS 220 Engineering Physics I	5			MATH 180, co-requisite MATH 190

Continued on next page...

General Education Certificate (Continued)

General Education Requirements	Minimum Credits	Core 42	MCC	Prerequisites
Natural Sciences (Continued):		7	7	
<i>Non-Lab Courses:</i>				
BIOL 132 Human Nutrition	3			
PHYS 101 Introductory Physics	4			MATH 31 w S or placement
PHYS 104 Foundations of Physical Science	4			MATH 31 w S or placement
PHYS 106 General Astronomy	4			MATH 31 w S or placement
Mathematical Sciences: (3 credit hours minimum)		3	3	
MATH 115 Statistics	3			MATH 85 or 95, C or placement
MATH 119 Mathematical Reasoning and Modeling	3			MATH 85 or 95, C or placement
MATH 120 College Algebra	3			MATH 95, C or placement
MATH 150 PreCalculus (or any MATH course for which MATH 115, 119, or 120 is a prerequisite)	3-5			MATH 95, C or placement
Humanities and Fine Arts: (9 credit hours minimum and at least 3 credit hours from each sub-category)		9	9	
<i>Western Civilization</i>				
HIST 133 Foundations of Western Civilization	3		3	
HIST 134 Modern Western Civilization	3			
<i>Humanities</i>				
ENGL 201 Creative Writing I	3		3	
ENGL 209 Creative Writing: Screenwriting	3			
ENGL 214 Introduction to Fiction	3			
ENGL 216 Introduction to Drama and Poetry	3			
ENGL 218 Introduction to Literature	3			
ENGL 220 British Literature to 1750*	3			
ENGL 221 British Literature 1750 – Present*	3			
ENGL 222 American Literature to 1860	3			
ENGL 223 American Literature 1860 - Present	3			
ENGL 254 World Literature I*	3			
ENGL 255 World Literature II*	3			
ENGL 260 African American Literature*	3			
ENGL 262 Women's Lives and Autobiography*	3			
ENGL 264 U.S. Latino and Latina Literature*	3			
ENGL 267 North American Indian Literature*	3			
ENGL 268 Women's Literature*	3			
PHIL 100 Introduction to Philosophy	3			
PHIL 101 Philosophy of Religion	3			
PHIL 148 Critical Thinking	3			
PHIL 200 Logic	3			
PHIL 203 Ethics	3			
<i>Humanities Appreciation</i>				
ARAB 101 Elementary Modern Arabic I	4		3	
ARAB 102 Elementary Modern Arabic II	4			ARAB 101
ART 108 Survey of Art*	3			
ART 150 History of Art I	3			
ART 151 History of Art II	3			
CHIN 101 Elementary Chinese I	3			
CHIN 102 Elementary Chinese II	4			
FREN 101 Elementary French I	5			
FREN 102 Elementary French II	5			FREN 101
GERM 101 Elementary German	5			
GERM 102 German II	5			GERM 101
MUSI 107 Fundamentals of Music	3			
MUSI 108 Music Appreciation	3			
MUSI 116 Evolution of Jazz*	3			
MUSI 160 Music of the World's Cultures*	3			
SPAN 101 Elementary Spanish I	5			
SPAN 102 Elementary Spanish II	5			SPAN 101 or 111 or placement
THEA 106 Theater Appreciation	3			ENGL 90, S or placement score

Continued on next page...

General Education Requirements	Course Credits	Core 42	MCC	Prerequisites
<i>Humanities Appreciation (Continued)</i> <i>Choose only one from this group</i>				
ART 110 Drawing I	3			
MUSI 101 Choir I	1			
MUSI 103 Concert Band I	1			
MUSI 105 Orchestra I	1			
MUSI 134 Jazz Band I	1			
Global Diversity:	3		3	
Required Global Diversity Course: Courses marked with an asterisk (*) are global diversity courses. Choose one of the indicated courses above to fulfill the Global Diversity.	3			
Additional General Education Electives		Up to 2 hours	Up to 2 hours	
If needed students may select any additional course(s) listed above or taken from the list of MOTR courses to complete the 42 credits required for General Education.				
Total General Education Credit Hours	42	42	42	
Total Credit Hours			43	

Career & Technical Degrees & Certificates

Certificates

In addition to two-year associate degrees, Metropolitan Community College awards certificates to students who complete certain short-term career and technical programs. Some of the same certificates can only be completed at certain campuses.

Associate in Applied Science Degree

MCC also awards Associate in Applied Science degrees. Some of the degrees can only be completed at certain 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. Students pursuing occupational degree or certificate programs must complete a minimum of 25% of the required occupational credits at MCC.
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 60 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. 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 ENGL 101 or 102 or COMM 100 or 102 AND the 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
COMM 100 Fundamentals of Speech or	
COMM 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 136 Introduction to U.S. National Politics.....	3
Any course(s) numbered 100 or above from the following disciplines:	
ART, ANTH, COMM, ECON, ENGL, Foreign Language,	
GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI,	
PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA.....	3-6
Any course(s) numbered 100 or above from the following disciplines:	
BIOL, CHEM, GEOG (104 & 110), GEOL, MATH, 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.

Application for graduation

Prospective MCC graduates must submit an application for graduation through their myMCCKC student portal before they are eligible to graduate and participate in the MCC commencement ceremony. Once the application for graduation is submitted, students will receive an official evaluation to determine degree completion status. Please visit www.mcckc.edu/graduation for more information.

“A new Missouri Law (SB807) requires all public colleges and universities to administer a civics exam to students as a requirement for graduation. The law will apply to the incoming class of first-time in college, degree seeking students for the beginning of fall 2019 and all students entering afterward. The law indicates a student must score at least 70% on the exam before they can receive a degree.”

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.

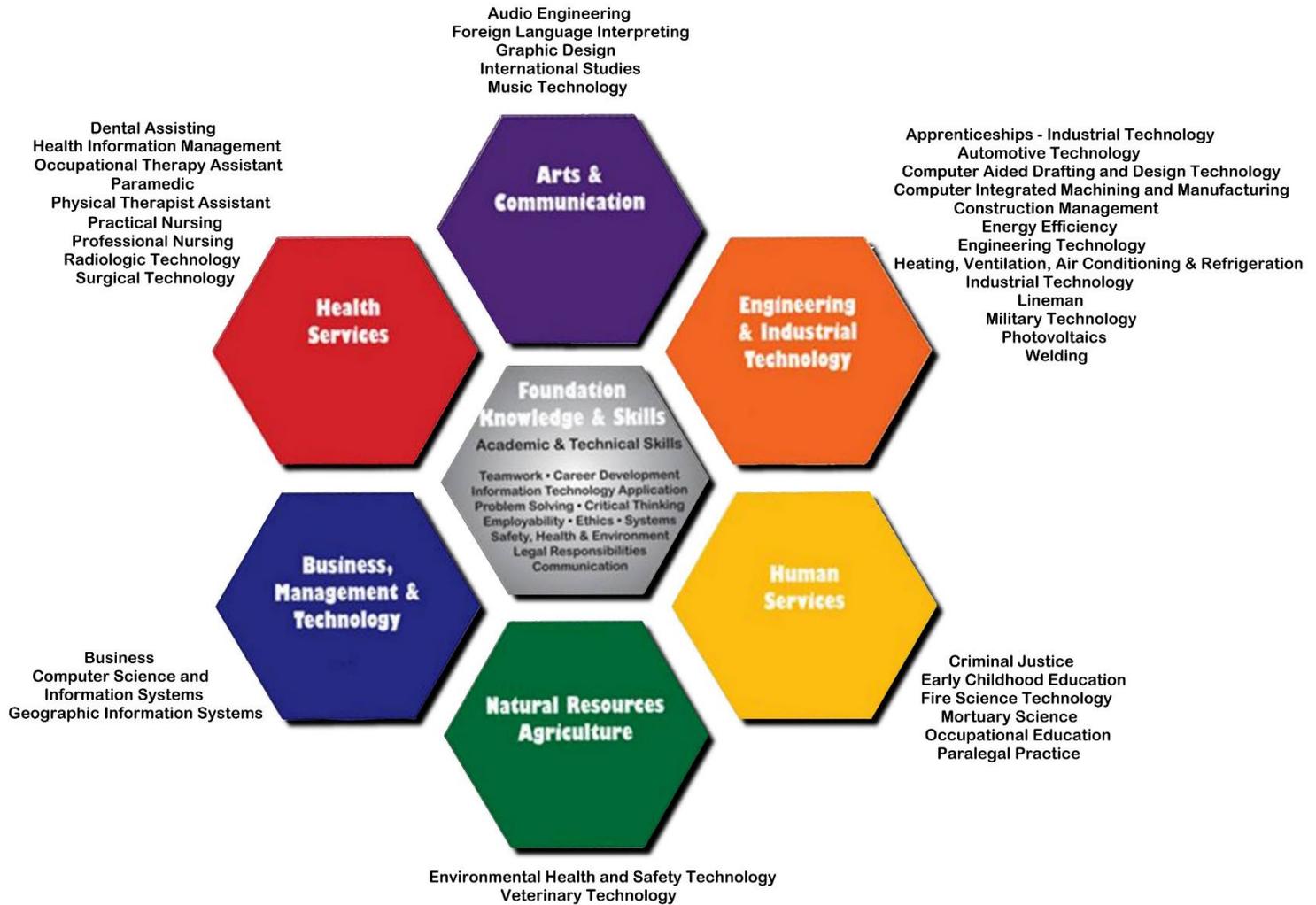
In addition to institutional accreditation, many programs have individual accreditations. Please check program websites for additional information.

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.

Program	Campus	Application Information
Agriculture	MCC-Maple Woods	www.mcckc.edu/agriculture
Fire Academy	MCC-Blue River	www.mcckc.edu/firescience
Ford Automotive Student Service Educational General Motors Automotive Service	MCC-Longview	www.mcckc.edu/automotive
Health Information Technology	MCC-Penn Valley	www.mcckc.edu/healthinfotech
Line Technician	MCC-Business & Technology	www.mcckc.edu/linetech
Occupational Therapy Assistant	MCC-Penn Valley	www.mcckc.edu/occupationaltherapy
Paramedic	MCC-Penn Valley	www.mcckc.edu/emt
Physical Therapist Assistant	MCC-Penn Valley	www.mcckc.edu/physicaltherapy
Police Academy	MCC-Blue River	www.mcckc.edu/policescience
Practical Nursing	MCC-Penn Valley	www.mcckc.edu/programs/practicalnursing/
Professional Nursing	MCC-Penn Valley	www.mcckc.edu/programs/practicalnursing/
Radiologic Technology	MCC-Penn Valley	www.mcckc.edu/radiology
Surgical Technology	MCC-Penn Valley	www.mcckc.edu/programs/surgicaltechnology
Veterinary Technology	MCC-Maple Woods	www.mcckc.edu/vettech

Career Paths



Missouri has identified six Career Paths as a way to help you become aware of and explore careers in a logical and meaningful way. Career Paths are a good starting point for your career exploration.

Arts & Communication

Audio Engineering

*Offered at Kansas City Kansas Community College
Coordinated at MCC*

A.A.S. Audio Engineering 62-65 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.

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.

A.A.S. Audio Engineering

604400 Revised 7/2015 (Fall 2015)

Specific Program Requirements <i>Must be taken at one of the MCC campuses</i>		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 ENGL 215	Composition and Reading II or Technical Writing	3		ENGL 101
COMM 100 COMM 223	Speech or Interpersonal Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score
PSYC 140 SOC 160	General Psychology <i>or</i> Sociology	3		
MATH 120	College Algebra or higher	3		MATH 95 with a grade of C or higher or appropriate placement (MATH 120)
MUSI 108	Music Appreciation	3		
Specific Program Requirements <i>Must be taken at Kansas City Kansas Community College</i>				
AUDIO 108	Electronic Circuit Fundamentals	3		
AUDIO 115	Circuit Analysis 1	3		
AUDIO 110	Music Technology 1	3		
AUDIO 130	Music Business	3		
AUDIO 150	Live Sound Reinforcement 1	1		
AUDIO 151	Live Sound Reinforcement 2	1		
AUDIO 170	Lighting & Staging	3		
AUDIO 230	Multimedia Production	3		
AUDIO 250	Audio Recording 1	3		
AUDIO 255	Audio Engineering Critical Listening	1		
AUDIO 260	Audio Recording 2	3		
AUDIO 270	Audio Recording 3	3		
AUDIO 280	Audio Engineering Portfolio 1	1		
AUDIO 281	Audio Engineering Portfolio 2	1		
AUDIO 210 AUDIO 240 AUDIO 258	Music Technology 2 <i>or</i> Sound Editing & Synthesis <i>or</i> Applied Audio for Media	3		
Music Requirements The following can be taken at MCC or KCKCC:				
AUDIO 101 MUSC 111 AUDIO 103	Audio Engineering Music Skills or Music Theory 1 Audio Engineering Keyboard Skills or Piano Class or Applied Piano	4		
Natural and Physical Science Requirements				
NSAC 130 PHYS 101	Introductory Physics (at KCKCC) or Introductory Physics (at MCC)	3-5		MATH 31 with a grade of S or appropriate placement (PHYS 101)
Total Credit Hours Required		62-65		

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

A.A.S. Automotive Technology

Collision Repair Technology	60-64 Credits
Ford/ASSET	76-80 Credits
General Motors/ASEP	76-80 Credits
Mechanical	66-70 Credits

Automotive Technology programs can lead to an Associate in Applied Science degree, but many students take classes for job enhancement or personal interest. Either way, our automotive classes prepare students for jobs in the automotive industry.

The *Mechanical Option* prepares students to work in dealerships, service centers, or independent repair facilities. 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.

Certificates

Automotive Service, Maintenance and Light Repair	18-20 Credits
Automotive Technology	51 Credits
Collision Repair Technology	45 Credits

A.A.S. Automotive Collision Repair Technology

200203 Revised 3/2020 (Spring 2016)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History since 1865 POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech <i>or</i> COMM 102 Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
GENERAL EDUCATION ELECTIVES: - One course numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA - One course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH,	3-5		
Student must complete an additional course from either of the two areas listed above to bring the total number of general education electives to a minimum of 9 credit hours.	3-5		
Minimum Total General Education Credit Hours	15-19		
Specific Program Requirements at Longview			
AUTO 166 Automotive Electrical Systems	6		
AUTO 170 Automotive Braking Systems	4		
AUTO 172 Automotive Suspension and Steering	4		
AUTO 264 Automotive Air Conditioning	4		AUTO 166
Specific Program Requirements Provided by participating articulation agreement schools			
AUTO 120 MIG and Structural Welding	3		Accepted into the articulation program for Auto Collision Repair
AUTO 125 Structural Analysis and Damage Repair	6		Accepted into the articulation program for Auto Collision Repair
AUTO 130 Non-Structural Analysis and Damage Repair	6		Accepted into the articulation program for Auto Collision Repair
AUTO 135 Plastics and Adhesives	3		Accepted into the articulation program for Auto Collision Repair
AUTO 140 Automotive Painting	4		Accepted into the articulation program for Auto Collision Repair
AUTO 141 Automotive Refinishing	4		Accepted into the articulation program for Auto Collision Repair
Total Credit Hours Required	60-64		
The <i>Collision Repair Technology Option</i> , which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.			

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

A.A.S. Ford/ASSET Emphasis

200202 Revised 3/2020 (Spring 2016)

General Education Requirements		Credits	Semester	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100 COMM 102	Fundamentals of Speech or Fundamentals of Human Communication	3		ENGL 80/90 with a minimum grade of S or appropriate placement score.
GENERAL EDUCATION ELECTIVES: - One course numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA - One course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH, PHYS		3-5		
Student must complete an additional course from either of the two areas listed above to bring the total number of general education electives to a minimum of 9 credit hours.		3-5		
Minimum Total General Education Credit Hours		15-19		
Ford/ASSET				
AUTO 105	Cooperative Work Experience I	1		Be enrolled in the Ford emphasis area, maintain a 2.0 GPA, and be approved by a sponsoring dealer
AUTO 106	Cooperative Work Experience II	1		Be enrolled in the Ford emphasis area, maintain a 2.0 GPA, and be approved by a sponsoring dealer
AUTO 107	Cooperative Work Experience III	1		Be enrolled in the Ford emphasis area, maintain a 2.0 GPA, and be approved by a sponsoring dealer
AUTO 108	Cooperative Work Experience IV	1		Be enrolled in the Ford emphasis area, maintain a 2.0 GPA, and be approved by a sponsoring dealer
AUTO 150	Automotive Engine Repair	6		
AUTO 166	Automotive Electrical Systems	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
AUTO 174	Manual Drivetrain & Axles	4		
AUTO 260	Advanced Diagnosis	6		Be a student in good standing in the Ford ASSET program
AUTO 264	Automotive Air Conditioning	4		AUTO 166
AUTO 272	Automatic Transmissions and Transaxles	6		AUTO 166 and one of the following: AUTO 150, 170, 172, 174, 276, 279, 280
AUTO 276	Automotive Engine Performance	6		AUTO 150 and 166 and concurrent enrollment or completion of AUTO 279
AUTO 279	Automotive Electronic Systems	6		AUTO 166
AUTO 280	Diagnosis and Repair	4		AUTO 150, 166, 170, 172, 174, 264 and 272 and concurrent enrollment or completion of AUTO 276 and 279.
Total Credit Hours Required		76-80		

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

A.A.S. General Motors/ASEP Emphasis

200206 Revised 3/2020 (Spring 2016)

General Education Requirements		Credits	Semester	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100 COMM 102	Fundamentals of Speech or Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
GENERAL EDUCATION ELECTIVES:				
- One course numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
- One course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH, PHYS				
Student must complete an additional course from either of the two areas listed above to bring the total number of general education electives to a minimum of 9 credit hours.		3-5		
Minimum Total General Education Credit Hours		15-19		
GM/ASEP				
AUTO 105	Cooperative Work Experience I	1		Be enrolled in the GM emphasis area, maintain a 2.0 GPA and be approved by sponsoring dealer.
AUTO 106	Cooperative Work Experience II	1		Be enrolled in the GM emphasis area, maintain a 2.0 GPA and be approved by sponsoring dealer.
AUTO 107	Cooperative Work Experience III	1		Be enrolled in the GM emphasis area, maintain a 2.0 GPA and be approved by sponsoring dealer.
AUTO 108	Cooperative Work Experience IV	1		Be enrolled in the GM emphasis area, maintain a 2.0 GPA and be approved by sponsoring dealer.
AUTO 150	Automotive Engine Repair	6		
AUTO 166	Automotive Electrical Systems	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
AUTO 174	Manual Drivetrain & Axles	4		
AUTO 260	Advanced Diagnosis	6		Be a student in good standing in the General Motors ASEP program
AUTO 264	Automotive Air Conditioning	4		AUTO 166
AUTO 272	Automatic Transmissions and Transaxles	6		AUTO 166 and one of the following: AUTO 150, 170, 172, 174, 276, 279, 280
AUTO 276	Automotive Engine Performance	6		AUTO 150 and 166 and concurrent enrollment or completion of AUTO 279
AUTO 279	Automotive Electronic Systems	6		AUTO 166
AUTO 280	Diagnosis and Repair	4		AUTO 150, 166, 170, 172, 174, 264 and 272. Concurrent enrollment or completion of AUTO 276 and 279.
Total Credit Hours Required		76-80		

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

A.A.S. Automotive Technology Mechanical Emphasis

200201 Revised 3/2020 (Spring 2016)

General Education Requirements		Credits	Semester	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100 COMM 102	Fundamentals of Speech or Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
GENERAL EDUCATION ELECTIVES: - One course numbered 100 or above from the following disciplines: ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA - One course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH, PHYS		3-5		
Student must complete an additional course from either of the two areas listed above to bring the total number of general education electives to a minimum of 9 credit hours.		3-5		
Minimum Total General Education Credit Hours		15-17		
Mechanical				
AUTO 150	Automotive Engine Repair	6		
AUTO 166	Automotive Electrical Systems	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
AUTO 174	Manual Drivetrain & Axles	4		
AUTO 264	Automotive Air Conditioning	4		AUTO 166
AUTO 272	Automatic Transmissions and Transaxles	6		AUTO 166 and one of the following: AUTO 150, 170, 172, 174, 276, 279, 280
AUTO 276	Automotive Engine Performance	6		AUTO 150 and 166 and concurrent enrollment or completion of AUTO 279
AUTO 279	Automotive Electronic Systems	6		AUTO 166
AUTO 280	Diagnosis and Repair	4		AUTO 150, 166, 170, 172, 174, 264 and 272. Concurrent enrollment or completion of AUTO 276 and 279.
Total Credit Hours Required		66-70		
The <i>Mechanical Option</i> prepares students to work as a technician in dealerships, service centers, independent garages or service stations.				

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

Automotive Service, Maintenance and Light Repair Certificate

403600 Revised 11/2015 (Spring 2016)

COLL 100	First Year Seminar	1		
Specific Program Requirements				
AUTO 117	Automotive Service, Maintenance, and Light Repair	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
Any other course numbered 100 or above.		3-6		
Total Credit Hours Required		18-20		

Automotive Technology

Automotive Technology Certificate

300300 Revised 11/2015 (Spring 2016)

COLL 100	First Year Seminar	1		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
AUTO 150	Automotive Engine Repair	6		
AUTO 166	Automotive Electrical Systems	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
AUTO 174	Manual Drivetrain and Axles	4		AUTO 166
AUTO 264	Automotive Air Conditioning	4		AUTO 166
AUTO 272	Automatic Transmissions and Transaxles	6		AUTO 166 and one of the following: AUTO 150, 170, 172, 174, 276, 279, 280
AUTO 276	Automotive Engine Performance	6		AUTO 150 and 166 and concurrent enrollment or completion of AUTO 279
AUTO 279	Automotive Electronic Systems	6		AUTO 166
AUTO 280	Diagnosis and Repair	4		AUTO 150, 166, 170, 172, 174, 264 and 272. Concurrent enrollment or completion of AUTO 276 and 279.
Total Credit Hours Required		51		

Industrial & Engineering Technology

Automotive Technology

Offered at MCC-Longview

Collision Repair Technology Certificate

300600 Revised 11/2015 (Spring 2016)

COLL 100	First Year Seminar	1		
<i>Specific Program Requirements Provided by participating articulation agreement schools</i>		Credits	Semester Taken	Prerequisites
AUTO 120	MIG and Structural Welding	3		Accepted into the articulation program for Auto Collision Repair
AUTO 125	Structural Analysis and Damage Repair	6		Accepted into the articulation program for Auto Collision Repair
AUTO 130	Non-Structural Analysis and Damage Repair	6		Accepted into the articulation program for Auto Collision Repair
AUTO 135	Plastics and Adhesives	3		Accepted into the articulation program for Auto Collision Repair
AUTO 140	Automotive Painting	4		Accepted into the articulation program for Auto Collision Repair
AUTO 141	Automotive Refinishing	4		Accepted into the articulation program for Auto Collision Repair
Total Auto Body Credits (from articulated tech schools)		26		
Automotive Courses at Longview				
AUTO 166	Automotive Electrical Systems	6		
AUTO 170	Automotive Braking Systems	4		
AUTO 172	Automotive Suspension and Steering	4		
AUTO 264	Automotive Air Conditioning	4		AUTO 166
Total Credit Hours Required		45		

Industrial and Engineering Technology

Building Maintenance and Construction

Offered at MCC-Business & Technology

The purpose of this program is to prepare students for employment or advanced training in the building maintenance and repair industry. This program focuses on broad, transferable skills, stresses the understanding of all aspects of the building maintenance and repair industry, and demonstrates such elements of the industry as planning, management, finance, technical and production skills, underlying principles of technology, labor issues, community issues, and health, safety, and environmental issues.

A.A.S. Building Maintenance and Construction	60-66 Credits
Building Maintenance and Construction Level I Pre-Apprenticeship Certificate	17 Credits
Building Maintenance and Construction Level II Certificate	21 Credits

A.A.S. Building Maintenance and Construction

201836 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 Technical Writing	3		ENGL 101
SPAN 100 Beginning Occupational Spanish	3		
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
Choose one of the following: MATH 115 Statistics <i>or</i> MATH 119 Mathematical Reasoning and Modeling <i>or</i> MATH 120 College Algebra or higher	3-5		MATH 85/95 with a grade of C or higher or appropriate placement (MATH 115 and 119) MATH 95 with a grade of C or higher or appropriate placement (MATH 120)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (EXCEPT 104 OR 110), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	18-22		
Program Specific Requirements			
BLDM 109 General Construction Principles and Trade Tools	4		MATH 31 can be taken as co-requisite
BLDM 110 Electrical Safety and Principles	3		MATH 31 can be taken as co-requisite
BLDM 119 Carpentry: Sheetrock, Siding and Finishes	4		BLDM 109
BLDM 124 Wiring Methods: Residential and Light Commercial	3		BLDM 110 with a C or higher
BLDM 210 Carpentry: Stairs, Flooring and Roofs	3		BLDM 119
BLDM 220 Building Mechanical Systems	3		BLDM 110 with a C or higher
CSIS 115 Computer Concepts and Applications	3		
EHSS 112 Introduction to Health and Safety for Construction	1		
HVAC 109 Electricity for HVAC/R Technicians	4		
HVAC 111 Principles of Heating, Ventilation and Air Conditioning	3		
HVAC 120 Fundamentals of Refrigeration	4		
INTE 102 Communication for Industry	2		
Electives: CSMG, HVAC, INTE, WELD	4-6		
Total Credit Hours	60-66		

Industrial and Engineering Technology

Building Maintenance and Construction

Offered at MCC-Business & Technology

Building Maintenance & Construction Level 1 Pre-Apprenticeship Certificate 405400 Revised 11/2018 (Fall 2019)

		1		
		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
BLDM 109	General Construction Principles and Trade Tools	4		MATH 31 can be taken as co-requisite
BLDM 110	Electrical Safety and Principles	3		MATH 31 can be taken as co-requisite
BLDM 124	Wiring Methods: Residential and Light Commercial	3		
CSIS 115	Computer Concepts and Applications	3		
EHSS 112	Introduction to Health and Safety for Construction	1		
INTE 102	Communication for Industry	2		
Total Credit Hours		17		

Building Maintenance & Construction Level 2 Certificate 306501 Approved 10/2017 (Fall 2018)

		Credits	Semester Taken	Prerequisites
Building Maintenance and Construction Level I must be completed before Level 2				
BLDM 119	Carpentry: Sheetrock, Siding and Finishes	4		BLDM 109
BLDM 210	Carpentry: Stairs, Flooring and Roofs	3		BLDM 119
BLDM 220	Building Mechanical Systems	3		BLDM 110 with a C or higher
HVAC 109	Electricity for HVAC/R Technicians	4		
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3		
HVAC 120	Fundamentals of Refrigeration	4		
Total Credit Hours		21		

Building Maintenance and Construction

Building Maintenance & Construction Level 2 Certificate 306501 Approved 10/2017 (Fall 2018)

		Credits	Semester Taken	Prerequisites
General Education Requirements				
Building Maintenance and Construction Level I Pre-Apprenticeship		16		
BLDM 119	Carpentry: Sheetrock, Siding and Finishes	4		BLDM 109
BLDM 124	Wiring Methods: Residential and Light Commercial	3		BLDM 110 with a C or higher
BLDM 210	Carpentry: Stairs, Flooring and Roofs	3		BLDM 119
BLDM 220	Building Mechanical Systems	3		BLDM 110 with a C or higher
HVAC 109	Electricity for HVAC/R Technicians	4		
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3		
HVAC 120	Fundamentals of Refrigeration	4		
Total Credit Hours		40		

Business, Management & Technology

Business

Offered at all Campuses

This program offers an Associate in Applied Science degree with emphasis areas in accounting, logistics management, and management. This degree is designed for students seeking employment immediately after graduation.

A.A.S. Business

Accounting	65-67 Credits
Logistics Management	65-67 Credits
Management	65-67 Credits

A.A.S. Business Accounting Emphasis

201306 Revised 9/2019 (Fall 2020)

General Education Requirements	Credits	Semester	Prerequisites
COLL 100 First Year Seminar	1		
ECON 210 Macroeconomics	3		MATH 85 with a grade of C or higher or appropriate placement
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
MATH 115 Statistics or higher	3-5		MATH 85 or 95 with a grade of C or higher or appropriate placement (MATH 115)
PSYC 140 General Psychology <i>or</i> SOC 160 Sociology	3		
COMM 100 Fundamentals of Speech <i>or</i> COMM 102 Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
Specific Program Requirements			
ACCT 100 Introduction to Accounting	3		
BUSN 105 Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
BUSN 150 Marketing	3		
BUSN 200 Business Management	3		
BUSN 270 Legal Environment of Business	3		
CSIS 115 Computer Concepts and Applications	3		
Specific Emphasis Requirements			
Accounting			
ACCT 101 Accounting Principles I	3		
ACCT 102 Accounting Principles II	3		ACCT 101
ACCT 103 Managerial Accounting	3		ACCT 101
ACCT 140 Individual Income Tax <i>or</i> ACCT 142 Individual Income Tax w/VITA	3		ACCT 101
ACCT 153 Accounting Information Systems	3		ACCT 101
ACCT 155 Accounting Using Spreadsheet	3		ACCT 101
ACCT 202 Intermediate Accounting I	3		ACCT 102
ACCT 290 Accounting Capstone	1		Instructor approval
ACCT/BUSN Electives	6		
Total Credit Hours Required	65-67		

Business, Management & Technology

Business

A.A.S. Business Logistics Management Emphasis

201302 Revised 9/2019 (Fall 2020)

General Education Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ECON 210	Macroeconomics	3		MATH 85 with a grade of C or higher or appropriate placement
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics or	3		
MATH 115	Statistics or higher	3-5		MATH 85 or 95 with a grade of C or higher or appropriate placement
PSYC 140 SOC 160	General Psychology or Sociology	3		
COMM 100 COMM 102	Fundamentals of Speech or Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
Minimum Total General Education Credit Hours		18		
Specific Program Requirements				
ACCT 100	Introduction to Accounting	3		
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
BUSN 150	Marketing	3		
BUSN 200	Business Management	3		
BUSN 270	Legal Environment of Business	3		
CSIS 115	Computer Concepts and Applications	3		
Logistics Management				
BUSN 210	Logistics Management	3		
BUSN 211	Operations Management	3		
BUSN 212	Transportation Operations and Management	3		
BUSN 213	Warehouse and Distribution Centers	3		
BUSN 290	Business Capstone	1		Instructor approval
ACCT/BUSN Electives		15		
Total Credit Hours Required		65-67		

Business, Management & Technology

Business

Business Logistics Management Certificate

NEW 309100 (Effective Fall 2020)

COLL 100 First Year Seminar	1		
Specific Program Requirements			
BUSN 105 Business Communications	3		
BUSN 107 Organizational Behavior	3		
BUSN 200 Management	3		
BUSN 210 Logistics Management	3		
BUSN 211 Operations Management	3		
BUSN 212 Transportation Operations and Management	3		
BUSN 213 Warehousing and Distribution Centers	3		
BUSN 240 Human Resource Management	3		
BUSN 260 Management Internship I	3		
BUSN 261 Management Internship II	3		BUSN 260 with a grade of C or higher
BUSN 290 Business Capstone	1		
Total Credit Hours Required	32		

Business, Management & Technology

Business

A.A.S. Business Management Emphasis

201303 Revised 9/2019 (Fall 2020)

COLL 100 First Year Seminar		1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ECON 210	Macroeconomics	3		MATH 85 with a grade of C or higher or appropriate placement
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
MATH 115	Statistics or higher	3-5		MATH 85/95 with a grade of C or higher or appropriate placement
PSYC 140 SOC 160	General Psychology <i>or</i> Sociology	3		
COMM 100 COMM 102	Fundamentals of Speech <i>or</i> Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
Specific Program Requirements				
ACCT 100	Introduction to Accounting	3		
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
BUSN 150	Marketing	3		
BUSN 200	Business Management	3		
BUSN 270	Legal Environment of Business	3		
CSIS 115	Computer Concepts and Applications	3		
Management				
BUSN 107	Organizational Behavior	3		
BUSN 240	Human Resources Management	3		
BUSN 260	Management Internship I	3		
BUSN 261	Management Internship II	3		BUSN 260
BUSN 290	Business Capstone	1		Instructor approval
ACCT/BUSN Electives		15		
Total Credit Hours Required		65-67		

Business, Management & Technology

Business

Retail Management Certificate

NEW 309000 (Effective Fall 2020)

COLL 100 First Year Seminar	1		
Specific Program Requirements			
ACCT 100 Introduction to Accounting	3		
BUSN 105 Human Resource Management	3		
BUSN 107 Organizational Behavior	3		
BUSN 152 Principles of Selling	3		
BUSN 200 Management	3		
BUSN 202 Retail Management	3		
BUSN 211 Operations Management	3		
BUSN 240 Human Resource Management	3		
BUSN 260 Management Internship I	3		
BUSN 261 Management Internship II	3		BUSN 260 with a C or higher
BUSN 290 Business Capstone	1		
Total Credit Hours Required	32		

Health Services

Community Health Worker

Offered at MCC - Penn Valley

This certificate program is designed specifically for Metropolitan Community College students looking to work in the field of community healthcare advocacy for the first time, as well as those already established in the field and looking to hone skills. Instructors insist on the understanding of legal and ethical responsibilities involved with advocacy and how cultural beliefs and social determinants play a role in community health. Other topics include: understanding public health systems, practicing personal safety, motivational interviewing, case management, conflict resolution, documentation skills, effective communication and working with the community to promote health.

Community Health Worker Certificate16-17 Credits

Community Health Worker Certificate

404700 Approved 7/2015 (Spring 2016)

COLL 100	First Year Seminar <i>or</i>	1-2		
HLSC 100	Introduction to Health Professions			
Specific Education Requirements		Credits	Semester Taken	Prerequisites
CRJU 275	Alcohol & Drug Addiction	3		SOWK 100 (SOWK 190) SOWK 100 (SOWK 275)
SOWK 190	Community Mental Health <i>or</i>			
SOWK 275	Dynamics of Drug and Alcohol Abuse			
PSYC 140	General Psychology <i>or</i>	3		
SOCI 160	Introduction to Sociology			
CHLW 100	Principles of Community Health	3		
CHLW 101	Legal and Ethical Concepts for Community Health	3		
CHLW 102	Community Internship/Service Learning	3		
Total Credit Hours Required		16-17		

Industrial & Engineering Technology

Computer Aided Drafting & Design Technology

Offered at MCC-Business & Technology

A.A.S. Computer Aided Drafting & Design
 Technology 69-70 Credits
 Computer Aided Drafting & Design
 Certificate 17-19 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.

A.A.S. Computer Aided Drafting and Design Technology

200700 Revised 11/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics or	3		
Option #1 MATH 120 MATH 130 or Option #2 MATH 150	College Algebra and Trigonometry Pre-Calculus or higher	5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
PHYS 130	General Physics I	5		MATH 130 (PHYS 130)
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Minimum Total General Education Credit Hours		22-23		
Specific Program Requirements				
EHSS 111 EHSS 112	Introduction to Health & Safety for General Industry or Introduction to Health & Safety for Construction	1		
ETEC 152	Engineering Graphics and CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 153	Descriptive Geometry	3		ETEC 152
ETEC 170	Microstation	3		ETEC 152
ETEC 200	Applied Statics & Mechanics	3		MATH 130
ETEC 210	Introduction to Commercial Architecture	3		ETEC 152
ETEC 211	Revit	3		ETEC 152, concurrent enrollment or Project Lead the Way, Introduction to Engineering Design
ETEC 258	Introduction to Mechanical Design	3		ETEC 152
ETEC 265	Introduction to Civil Design	3		ETEC 152
ETEC 268	Intro to Structural Design	3		ETEC 152
ETEC 269	CADD II	4		ETEC 152 or 169
ETEC 270	Inventor	3		ETEC 152
ETEC 271	Solidworks	3		ETEC 152
ETEC 272 ETE 273	Advanced Inventor or Advanced Solidworks	3		ETEC 270 ETE 271
ETEC 290 ETE 295	Internship in Engineering Technology or Capstone Project in Engineering Technology	3		ETEC 152 (ETE 290) ETE 152, 269, 270, or 271 (ETE 295)
Total Credit Hours		69-70		

Computer Aided Drafting & Design Technology

Offered at MCC-Business & Technology

Computer Aided Drafting and Design Certificate

403100 Revised 10/2019 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
ETEC 152 Engineering Graphics and CADD I or ETEC 169 CADD I	3-5		MATH 95 with a grade of C or higher or appropriate placement score
ETEC 269 CADD II	4		ETEC 152 or 169
Choose 3 courses from the following: ETEC 170 Microstation ETEC 211 Revit ETEC 270 Inventor ETEC 271 Solidworks ETEC 272 Advanced Inventor ETEC 273 Advanced Solidworks	9		ETEC 152 (170) ETEC 152 or Project Lead the Way, Introduction to Engineering Design (211) ETEC 152 (270) ETEC 152 (271) ETEC 270 (272) ETEC 271(273)
Total Credit Hours Required	16-18		

Business, Management & Technology
Computer Integrated Machining & Manufacturing
 Offered at MCC-Business & Technology

- A.A.S. Computer Integrated Machining & Manufacturing
- Machining Emphasis 62-65 Credits
 - Die Making Emphasis 63-65 Credits
 - Mold Making Emphasis 63-65 Credits
 - Tool Making Emphasis 63-65 Credits
 - Lathe Certificate 17-18 Credits
 - Mill Certificate 17-18 Credits
 - Advanced CIMM Certificate 34-38 Credits

Advanced Computer Integrated Machining and Manufacturing workers use manual lathes, manual mills and computer numerical control (CNC) equipment to manufacture precision metal parts.

This program, designed by MCC-BT's Precision Machining Consortium industry partners, begins with an intensive, one-semester certificate that prepares students to begin a career in manufacturing and machining.

CIMM Machining & Manufacturing – Machining Emphasis

204000 Revised 4/28/20 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 or HIST 121	United States History to 1865 United States History since 1865 or POLS 136 Introduction to U.S. National Politics	3		
Choose one of the following Math options:				
Option #1				
MATH 103	Technical Mathematics I or	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
MATH 120	College Algebra and			
MATH 104	Technical Mathematics II or			
MATH 130	Trigonometry			
Option #2				
MATH 150	PreCalculus or higher			
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Minimum Total General Education Credit Hours		17-18		
Special Program Requirements		Credits	Semester Taken	Prerequisites
EHSS 111	Introduction to Health and Safety for General Industry	1		
CIMM 100	Introduction to Machining & Manufacturing	3		
CIMM 104	Metrology	2		
CIMM 105	Introduction to Blueprint Reading	2		
CIMM 106	Geometric Dimensioning and Tolerancing	2		CIMM 105
CIMM 110	Manual Lathe	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 115	Manual Mill	3		CIMM 100 or concurrent enrollment
CIMM 121	CNC Lathe Operation Fundamentals	4		CIMM 110 or concurrent enrollment
CIMM 122	CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CIMM 141	EDM Technologies	4		CIMM 121 or 122
CIMM 150 CIMM 160	Lathe Co-Op or Advanced Lathe Operations	3-4		CSIS 100, INTE 124, CIMM 100/105/110/121 or concurrent enrollment (CIMM 150) CIMM 121 or concurrent enrollment (CIMM 160)
CIMM 151 CIMM 161	Mill Co-Op or Advanced Mill Operations	3-4		CSIS 100, INTE 124, CIMM 100/105/115/122 or concurrent enrollment (CIMM 151) CIMM 122 or concurrent enrollment (CIMM 161)
CIMM 154 CIMM 155	Cutter Grinding or Grinding Operations	2-3		CIMM 104, 110 and 115 w/ a C or higher CIMM 100, 105, 110 and 115
CIMM 225	MasterCam I	3		CSIS 100, CIMM 121 or 122
CIMM 226	MasterCam II	3		CIMM 225
Choose 2 of the following:				
CIMM 231	Capstone Job Planning, Benchwork, & Layout	2		CIMM 100 and 105 (CIMM 231) CIMM 100, 105, and 115 (CIMM 232) CIMM 100, 105, and 110 (CIMM 233) CIMM 100, 105, and 110 (CIMM 234) CIMM 100, 105, and 115 (CIMM 235) CIMM 100, 105, and 122 (CIMM 236) CIMM 100, 105, and 121 (CIMM 237) CIMM 100 and 105 (CIMM 238)
CIMM 232	Capstone Milling			
CIMM 233	Capstone Chucking			
CIMM 234	Capstone Turning			
CIMM 235	Capstone Surface Grinding			
CIMM 236	Capstone CNC Milling			
CIMM 237	Capstone CNC Turning			
CIMM 238	Capstone Drill Press			
Total Credit Hours Required				

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

CIMM Machining & Manufacturing – Die Making Emphasis

204003 Revised 4/28/20 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History since 1865 <i>or</i> Introduction to U.S. National Politics	3		
Choose one of the following Math options: Option #1 MATH 103 Technical Mathematics I <i>or</i> MATH 120 College Algebra <i>and</i> MATH 104 Technical Mathematics II <i>or</i> MATH 130 Trigonometry Option #2 MATH 150 PreCalculus or higher		5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
COMM 100	Fundamentals of Speech	3		ENGL 90 with a grade of S or appropriate placement score.
Minimum Total General Education Credit Hours		17-18		
Special Program Requirements		Credits	Semester Taken	Prerequisites
EHSS 111	Introduction to Health and Safety for General Industry	1		
CIMM 100	Introduction to Machining & Manufacturing	3		
CIMM 104	Metrology	2		
CIMM 105	Introduction to Blueprint Reading	2		
CIMM 106	Geometric Dimensioning and Tolerancing	2		CIMM 105
CIMM 110	Manual Lathe	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 115	Manual Mill	3		CIMM 100 or concurrent enrollment
CIMM 121	CNC Lathe Operation Fundamentals	4		CIMM 110 or concurrent enrollment
CIMM 122	CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CiMM 141	EDM Technologies	4		CIMM 121 or 122
CIMM 154 CIMM 155	Cutter Grinding <i>or</i> Grinding Operations	2-3		CIMM 104, 110 and 115 w/ a C or higher CIMM 100, 105, 110 and 115
CIMM 201	Metallurgy	3		CIMM 100/105/110/115 & CSIS 100 with a grade of C or higher
CIMM 225	MasterCam I	3		CSIS 100, CIMM 121 or 122
CIMM 226	MasterCam II	3		CIMM 225
CIMM 260	Die Making	5		CIMM 106, 122, 145, 201, 225 and CIMM 154 or 155 with a grade of C or higher
Choose 1 of the following: CIMM 231 Capstone Job Planning, Benchwork & Layout CIMM 232 Capstone Milling CIMM 233 Capstone Chucking CIMM 234 Capstone Turning CIMM 235 Capstone Surface Grinding CIMM 236 Capstone CNC Milling CIMM 237 Capstone CNC Turning CIMM 238 Capstone Drill Press		1		CIMM 100 and 105 (CIMM 231) CIMM 100, 105 and 115 (CIMM 232) CIMM 100, 105 and 110 (CIMM 233) CIMM 100, 105 and 110 (CIMM 234) CIMM 100, 105 and 115 (CIMM 235) CIMM 100, 105 and 122 (CIMM 236) CIMM 100, 105 and 121 (CIMM 237) CIMM 100 and 105 (CIMM 238)
Total Credit Hours Required		63-65		

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

CIMM Machining & Manufacturing – Mold Making Emphasis

204004 Revised 4/28/2020 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History since 1865 or Introduction to U.S. National Politics	3		
Choose one of the following Math options: Option #1 MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option #2 MATH 150 PreCalculus or higher		5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Minimum Total General Education Credit Hours		17-18		
Special Program Requirements		Credits	Semester Taken	Prerequisites
EHSS 111	Introduction to Health and Safety for General Industry	1		
CIMM 100	Introduction to Machining & Manufacturing	3		
CIMM 104	Metrology	2		
CIMM 105	Introduction to Blueprint Reading	2		
CIMM 106	Geometric Dimensioning and Tolerancing	2		CIMM 105
CIMM 110	Manual Lathe	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 115	Manual Mill	3		CIMM 100 or concurrent enrollment
CIMM 121	CNC Lathe Operation Fundamentals	4		CIMM 110 or concurrent enrollment
CIMM 122	CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CIMM 141	EDM Technologies	3		CIMM 121 or 122
CIMM 154 CIMM 155	Cutter Grinding or Grinding Operations	2-3		CIMM 104, 110 and 115 w/ a C or higher CIMM 100, 105, 110 and 115
CIMM 201	Metallurgy	3		CIMM 100/105/110/115 & CSIS 100 with a grade of C or higher
CIMM 225	MasterCam I	3		CSIS 100, CIMM 121 or 122
CIMM 226	MasterCam II	3		CIMM 225
CIMM 265	Mold Making	5		CIMM 106, 122, 140, 201, 225 and CIMM 154 or 155 with a grade of C or higher
Choose 1 of the following: CIMM 231 Capstone Job Planning, Benchwork & Layout CIMM 232 Capstone Milling CIMM 233 Capstone Chucking CIMM 234 Capstone Turning CIMM 235 Capstone Surface Grinding CIMM 236 Capstone CNC Milling CIMM 237 Capstone CNC Turning CIMM 238 Capstone Drill Press		1		CIMM 100 and 105 (CIMM 231) CIMM 100, 105 and 115 (CIMM 232) CIMM 100, 105 and 110 (CIMM 233) CIMM 100, 105 and 110 (CIMM 234) CIMM 100, 105 and 115 (CIMM 235) CIMM 100, 105 and 122 (CIMM 236) CIMM 100, 105 and 121 (CIMM 237) CIMM 100 and 105 (CIMM 238)
Total Credit Hours Required		63-65		

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

CIMM Machining & Manufacturing – Tool Making Emphasis

204005 Revised 4/28/2020 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History since 1865 <i>or</i> Introduction to U.S. National Politics	3		
Choose one of the following Math options: Option #1 MATH 103 Technical Mathematics I <i>or</i> MATH 120 College Algebra <i>and</i> MATH 104 Technical Mathematics II <i>or</i> MATH 130 Trigonometry Option #2 MATH 150 PreCalculus or higher		5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Minimum Total General Education Credit Hours		18		
Special Program Requirements		Credits	Semester Taken	Prerequisites
EHSS 111	Introduction to Health and Safety for General Industry	1		
CIMM 100	Introduction to Machining & Manufacturing	3		
CIMM 104	Metrology	2		
CIMM 105	Introduction to Blueprint Reading	2		
CIMM 106	Geometric Dimensioning and Tolerancing	2		CIMM 105
CIMM 110	Manual Lathe	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 115	Manual Mill	3		CIMM 100 or concurrent enrollment
CIMM 121	CNC Lathe Operation Fundamentals	4		CIMM 110 or concurrent enrollment
CIMM 122	CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CIMM 141	EDM Technologies	3		CIMM 121 or 122
CIMM 154 CIMM 155	Cutter Grinding <i>or</i> Grinding Operations	2-3		CIMM 104, 110 and 115 w/ a C or higher CIMM 100, 105, 110 and 115
CIMM 201	Metallurgy	3		CIMM 100/105/110/115 & CSIS 100 with a grade of C or higher
CIMM 225	MasterCam I	3		CSIS 100, CIMM 121 or 122
CIMM 226	MasterCam II	3		CIMM 225
CIMM 255	Tool Design, Jigs, and Fixtures	5		CIMM 106, 121, 122, 201, 225 and CIMM 140 or 145 and CIMM 154 or 155 with grade of C or higher
Choose 1 of the following: CIMM 231 Capstone Job Planning, Benchwork & Layout CIMM 232 Capstone Milling CIMM 233 Capstone Chucking CIMM 234 Capstone Turning CIMM 235 Capstone Surface Grinding CIMM 236 Capstone CNC Milling CIMM 237 Capstone CNC Turning CIMM 238 Capstone Drill Press		1		CIMM 100 and 105 (CIMM 231) CIMM 100, 105 and 115 (CIMM 232) CIMM 100, 105 and 110 (CIMM 233) CIMM 100, 105 and 110 (CIMM 234) CIMM 100, 105 and 115 (CIMM 235) CIMM 100, 105 and 122 (CIMM 236) CIMM 100, 105 and 121 (CIMM 237) CIMM 100 and 105 (CIMM 238)
Total Credit Hours Required		63-65		

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

Lathe Certificate

404000 Revised 4/28/2020 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
CIMM 100 Introduction to Machining & Manufacturing	3		
CIMM 104 Metrology or CIMM 106 Geometric Dimensioning and Tolerancing	2		
CIMM 105 Introduction to Blueprint Reading	2		
CIMM 110 Manual Lathe Operations	3		CIMM 100 with a C or better or current enrollment
CIMM 121 CNC Lathe Operation Fundamentals	4		CIMM 110
CIMM 150 Lathe Internship & Co-Op or CIMM 160 Advanced Lathe Operations	3-4		CSIS 100, CIMM 100/105, 110, 121, or concurrent enrollment and a "C" or better in the prerequisite classes (CIMM 150) CIMM 121 or concurrent enrollment (CIMM 160)
Total Credit Hours Required	17-18		

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

Mill Certificate

404100 Revised 4/28/2020 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
CIMM 100 Introduction to Machining & Manufacturing	3		
CIMM 104 Metrology CIMM 106 Geometric Dimensioning and Machining	2		
CIMM 105 Introduction to Blueprint Reading	2		
CIMM 115 Manual Mill	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 122 CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CIMM 151 Mill Internship & Co-Op or CIMM 161 Advanced Mill Operation	3-4		CSIS 100, CIMM 100/105/115/122, CIMM 123 or concurrent enrollment
Total Credit Hours Required	17-18		

Business, Management & Technology

Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

Advanced Computer Integrated Machining & Manufacturing Certificate

307800 Revised 4/28/2020 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
CIMM 100 Introduction to Machining & Manufacturing	3		
CIMM 105 Introduction to Blueprint Reading	2		
CIMM 110 Manual Lathe Operation	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 115 Manual Mill	3		CIMM 100 with a C or better or concurrent enrollment
CIMM 121 CNC Lathe Operation Fundamentals	4		CIMM 110 or concurrent enrollment
CIMM 122 CNC Mill Operation Fundamentals	4		CIMM 115 or concurrent enrollment
CIMM 141 EDM Technologies	4		CIMM 121 or 122 with a C or better
CIMM 150 Lathe Internship & Co-Op <i>or</i> CIMM 160 Advanced Lathe Operations	3-4		CSIS 100, CIMM 100/105/110/121, or concurrent enrollment (CIMM 150) CIMM 121 or concurrent enrollment (CIMM 160)
CIMM 151 Mill Internship & Co-Op <i>or</i> CIMM 161 Advanced Mill Operations	3-4		CSIS 100, CIMM 100/105/115/122, or concurrent enrollment and a C or better in the prerequisite classes (CIMM 151) CIMM 122 or concurrent enrollment (CIMM 161)
CIMM 155 Grinding Operations	2		CIMM 100, 105, 110 & 115
MATH 103 Technical Math I <i>or</i> higher	3-5		MATH 31 with a grade of S or appropriate placement
Total Credit Hours Required	34-38		

Business, Management & Technology

Computer Science & Information Systems

Offered at all campuses

The Associate in Applied Science in Computer Science degree program is intended to qualify individuals for entry-level positions in computer-related industries.

A.A.S. Computer Science and Information Systems

Advanced Networking.....	62-67 Credits
CISCO Security	61-68 Credits
Software Development	61-66 Credits
Secure Systems Administration & Engineering	61-66 Credits

Certificates

CCNA and CCNP.....	35 Credits
CCNA and Security.....	30 Credits
CCNA and Technology.....	32 Credits
CCENT and CCNA	23 Credits
Computer and User Support.....	16 Credits
Cybersecurity	25 Credits
Network and Systems Support	35 Credits
Software Development	37 Credits
Secure Systems Administration & Engineering	44 Credits

* Some programs are only offered at one campus. Please see an advisor for more information.

A.A.S. Computer Science and Information Systems: Advanced Networking 200509 Revised 11/2016 (Fall 2017)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech <i>or</i> COMM 102 Fundamentals of Human Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score
MATH 120 College Algebra or higher	3		MATH 95 with a grade of C or higher or appropriate placement
Any course numbered 100 or above from the following disciplines: ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Any course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, PHYS	3-6		
Total General Education Requirements	18-23		
Specific Program Requirements	Credits	Semester Taken	Prerequisites
BUSN 105 Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CSIS 110 Information Technology Fundamentals	3		
CSIS 115 Computer Concepts and Applications	3		
Emphasis Area			
CSIS 112 Introduction to Networks CCNA I	4		CSIS 110 with a C or higher
CSIS 113 Routing and Switching Essentials CCNA 2	4		CSIS 112 with a C or higher
CSIS 152 Linux Operating System	3		CSIS 110 with a C or higher
CSIS 212 Scaling Networks CCNA 3	4		CSIS 113 with a C or higher
CSIS 213 Connecting Networks CCNA 4	4		CSIS 212 with a C or higher
CSIS 216 Implementing Cisco IP Routing CCNP I	4		CSIS 213 with a C or higher
CSIS 217 Implementing IP Switching CCNP 2	4		CSIS 213 with a C or higher
CSIS 218 Maintaining and Troubleshooting IP Networks: CCNP 3	4		CSIS 216 and 217
CSIS 290 Field Competencies and Employment Strategies	3		Instructor approval
Total Credit Hours Required	62-67		

Computer Science & Information Systems

A.A.S. Computer Science and Information Systems-Cisco Security

200507 Revised 3/2020 (Spring 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Take	Prerequisites
ENGL 101	Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100 COMM 102	Fundamentals of Speech <i>or</i> Fundamentals of Human Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score
MATH 120 or higher		3		
<i>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, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, COMM/THEA</i>		3-5		
<i>Any course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH 120 or above, PHYS</i>		3-6		
Minimum Total General Education Credit Hours		18-23		
Specific Program Requirements		Credits	Semester Take	Prerequisites
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CSIS 110	Information Technology Fundamentals	3		
CSIS 115	Computer Concepts and Applications	3		
Specific Emphasis Requirements				
CSIS 111	Computer Hardware, Maintenance, and Troubleshooting	3		CSIS 110
CSIS 112	Introduction to Networks CCNA 1	4		CSIS 110
CSIS 113	Routing and Switching Essentials CCNA 2	4		CSIS 112
CSIS 123	Programming Fundamentals	3		MATH 31 w/ a S grade or appropriate placement
CSIS 151	Microcomputer Operating Systems	3		CSIS 110
CSIS 152	Linux Operating System	3		CSIS 110
CSIS 272	Network Security	4		CSIS 113
CSIS 290	Field Competencies and Employment Strategies	3		Instructor Approval Required
Choose two of the following:				
CSIS 230	Windows Server and Active Directory Fundamentals	3		CSIS 112 or 161 with a grade of C or higher and CSIS 151 or 152 with a grade of C or higher
CSIS 232	Virtualization and Cloud Computing Concepts	3		CSIS 230 with a grade of C or higher
CSIS 212	Scaling Networks CCNA 3	4		CSIS 113
CSIS 213	Connecting Networks CCNA 4	4		CSIS 212
		6-8		
Total Credit Hours Required		61-68		

Computer Science & Information Systems

A.A.S. Computer Science and Information Systems: Software Development 200511 Revised 2/2020 (Fall 2020)

General Education Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100 COMM 102	Fundamentals of Speech <i>or</i> Fundamentals of Human Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
MATH 120 or higher		3		
	<i>Any course numbered 100 or above from the following disciplines: ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA</i>	3-5		
	<i>Any course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH 120 or above, PHYS</i>	3-6		
Minimum Total General Education Credit Hours		18-23		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CSIS 110	Information Technology Fundamentals	3		
CSIS 115	Computer Concepts and Applications	3		
Emphasis Area				
CSIS 119	Scripting Fundamentals	3		CSIS 110
CSIS 123	Programming Fundamentals	3		MATH 31 w/ a S grade or appropriate placement
CSIS 128	Web Development	3		CSIS 115 w/ a C or higher
CSIS 143	Database Design and Management	3		CSIS 115
CSIS 152	Linux Operating System	3		CSIS 110
CSIS 161	Networking Fundamentals	3		CSIS 110
CSIS 170	Principles of Information Assurance	3		CSIS 110
CSIS 222	Object-Oriented Programming with Java	3		CSIS 123 w/a C or higher
CSIS 223	Object-Oriented Programming with C++	3		CSIS 123 w/a C or higher
CSIS 228	Advanced Web Development	3		CSIS 128
CSIS 279	Web Database Programming	3		CSIS 123, 128, and 143
Total Credit Hours Required		61-66		

Computer Science & Information Systems

A.A.S. Computer Science and Information Systems: Secure Systems Administration & Engineering
200512 Revised 10/2019 (Fall 2020)

General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics <i>or</i>	3		
COMM 100 COMM 102	Fundamentals of Speech <i>or</i> Fundamentals of Human Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
MATH 120 or higher		3		
<i>Any course numbered 100 or above from the following disciplines: ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOS, SOCI, THEA</i>		3-5		
<i>Any course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 & 110), GEOL, MATH 120 or above, PHYS</i>		3-6		
Minimum Total General Education Credit Hours		18-23		
COLL 100	First Year Seminar	1		
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CSIS 110	Information Technology Fundamentals	3		
CSIS 111	Computer Hardware, Maintenance, and Troubleshooting	3		CSIS 110 with a C or higher
CSIS 151	Microsoft Operating Systems Concepts	3		CSIS 110 with a C or higher
Computer and User Support Certificate - A+		13		
CSIS 119	Scripting Fundamentals	3		CSIS 110 with a C or higher
CSIS 143	Database Design and Management	3		CSIS 110 with a C or higher
CSIS 152	Linux Operating System	3		CSIS 110 with a C or higher
CSIS 161	Networking Fundamentals	3		CSIS 110 with a C or higher
CSIS 230	Windows Server and Active Directory Fundamentals	3		CSIS 112 or 161 and CSIS 151 or CSIS 152 with a C or higher
CSIS 232	Virtualization and Cloud Computing Concepts	3		CSIS 230 with a C or higher (or concurrent enrollment)
Network and Systems Support Certificate - Network +		18		
CSIS 170	Principles of Information Security	3		CSIS 110 with a C or higher
CSIS 270	Network and Systems Security	3		CSIS 112 or 161 and CSIS 170 with a C or higher (or concurrent enrollment)
Students must choose one of the following tracks:				
CSIS 261	Advanced Networking I	3		CSIS 152 and CSIS 161 with a C or higher
CSIS 262	Advanced Networking II	3		CSIS 261 with a C or higher
OR				
CSIS 280	Penetration Testing	3		CSIS 270 with a C or higher (or concurrent enrollment)
CSIS 281	Cyber Analytics	3		CSIS 270 with a C or higher (or concurrent enrollment)
Secure Systems Administration and Engineering Certificate – *Security+		12		
<i>*Pentest+, CySA+, or CCNA can also be TSA</i>				
Total Credit Hours Required		61-66		

Computer Science & Information Systems

Computer and User Support Certificate

405200 Approved 12/2015 (Fall 2016)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
BUSN 105 Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CSIS 110 Information Technology Fundamentals	3		
CSIS 111 Computer Hardware, Maintenance, and Troubleshooting	3		CSIS 111
CSIS 115 Computer Concepts and Applications	3		
CSIS 151 Microsoft Operating System Concepts	3		CSIS 110
Complete the CompTIA A+ Certification	Pass		
Total Credit Hours Required	16		

Computer Science & Information Systems

Cybersecurity Certificate

New 405600 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
CSIS 119 Scripting Fundamentals	3		
CSIS 152 Linux Operating System	3		
CSIS 161 Networking Fundamentals	3		
CSIS 170 Principles of Information Security	3		
CSIS 230 Windows Server and Active Directory Fundamentals	3		
CSIS 270 Network and Systems Security	3		
CSIS 280 Penetration Testing	3		
CSIS 281 Cyber Analytics	3		
Total Credit Hours Required	25		

Computer Science & Information Systems

CSIS Network and Systems Support Certificate

308500 Revised 12/2015 (Fall 2016)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Complete the Computer and User Support Certificate	16		
CSIS 123 Programming Fundamentals	3		MATH 31 w/ a S grade or appropriate placement
CSIS 143 Database Design and Management	3		CSIS 115 w/ a C or higher
CSIS 152 Linux Operating System	3		CSIS 110
CSIS 161 Networking Fundamentals	3		CSIS 110
CSIS 230 Windows Server and Active Directory Fundamentals	3		CSIS 112 or 161 and CSIS 151 or 152
CSIS 232 Virtualization Cloud Computing Concepts	4		CSIS 230
Complete the CompTIA Network+ Certification	Pass		
Total Credit Hours Required	35		

Computer Science & Information Systems

Secure Systems Administration and Engineering Certificate

308600 Approved 12/2015 (Fall 2016)

Specific Education Requirements	Credits	Semester Taken	Prerequisites
Complete the Network and User Support Certificate	35		
CSIS 170 Principles of Information Assurance	3		CSIS 110
CSIS 270 Network and Systems Security	3		CSIS 112 or 161 and CSIS 170
CSIS 290 Field Competencies and Employment Strategies	3		
Complete the CompTIA Security+ Certification	Pass		Approval of instructor
Total Credit Hours Required	44		

Computer Science & Information Systems

CSIS CCNA and CCNP Certificate

305500 Revised 12/2015 (Spring 2016)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
CSIS 110 Information Technology Fundamentals	3		
CSIS 112 Introduction to Networks CCNA 1	4		CSIS 110
CSIS 113 Routing and Switching Essentials CCNA 2	4		CSIS 112
CSIS 212 Scaling Networks CCNA 3	4		CSIS 113
CSIS 213 Connecting Networks CCNA 4	4		CSIS 212
CSIS 216 Implementing Cisco IP Routing	4		CSIS 213
CSIS 217 Implementing Cisco Switched Networks	4		CSIS 213
CSIS 218 Troubleshooting and Maintaining CISCO IP Networks	4		CSIS 216 and 217
CSIS 290 Field Competencies and Employment Strategies	3		Instructor approval.
Total Credit Hours Required	35		

Computer Science & Information Systems

CSIS CCNA and Security Certificate

305400 Revised 12/2015 (Spring 2016)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
CSIS 110 Information Technology Fundamentals	3		
CSIS 112 Introduction to Networks CCNA 1	4		CSIS 110
CSIS 113 Routing and Switching Essentials CCNA 2	4		CSIS 112
CSIS 170 Principles of Information Assurance	3		CSIS 110
CSIS 212 Scaling Networks CCNA 3	4		CSIS 113
CSIS 213 Connecting Networks CCNA 4	4		CSIS 212
CSIS 272 Network Security	4		CSIS 113
CSIS 290 Field Competencies and Employment Strategies	3		Instructor approval.
Total Credit Hours Required	30		

Computer Science & Information Systems

CSIS CCNA and Technology Certificate

305100 Revised 7/2014 (Fall 2014)

COLL 100	First Year Seminar	1		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 107	Organizational Behavior or	3		ENGL 90 with a minimum grade of S or appropriate placement score.
BUSN 105	Business Communications			
CSIS 110	Information Technology Fundamentals	3		
CSIS 111	Computer Hardware, Maintenance, and Troubleshooting	3		CSIS 110
CSIS 112	Introduction to Networks CCNA 1 or	4		CSIS 110
CSIS 113	Routing and Switching Essentials CCNA 2 or	4		CSIS 112
CSIS 152	Linux Operating System	3		CSIS 110
CSIS 170	Principles of Information Assurance	3		CSIS 110
CSIS 212	Scaling Networks CCNA 3	4		CSIS 113
CSIS 213	Connecting Networks CCNA 4	4		CSIS 212
Total Credit Hours Required		32		

Computer Science & Information Systems

CSIS CCENT and CCNA Certificate

405100 Revised 12/2015 (Spring 2016)

COLL 100	First Year Seminar	1		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
CSIS 110	Information Technology Fundamentals	3		
CSIS 112	Introduction to Networks CCNA 1	4		CSIS 110
CSIS 113	Routing and Switching Essentials CCNA 2	4		CSIS 112
CSIS 212	Scaling Networks CCNA 3	4		CSIS 113
CSIS 213	Connecting Networks CCNA 4	4		CSIS 212
CSIS 290	Field Competencies and Employment Strategies	3		Instructor Approval Required
Total Credit Hours Required		23		

Computer Science & Information Systems

CSIS Software Development Certificate

306800 Revised 10/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
Specific Program Requirements		Credits	Semester Taken	CSIS Prerequisites must have a grade of C or higher
CSIS 110	Information Technology Fundamentals	3		
CSIS 115	Computer Concepts and Applications	3		
CSIS 119	Scripting Fundamentals	3		CSIS 110
CSIS 123	Programming Fundamentals	3		MATH 31 with a grade of S or appropriate placement
CSIS 128	Web Development	3		CSIS 110 or CSIS 115
CSIS 143	Database Design and Management	3		CSIS 110 or 115
CSIS 152	Linux Operating System	3		CSIS 110
CSIS 161	Networking Fundamentals	3		CSIS 110
CSIS 170	Principles of Information Assurance	3		CSIS 110
CSIS 222	Object-Oriented Programming with Java	3		CSIS 123
CSIS 223	Object-Oriented Programming with C++	3		CSIS 123
CSIS 228	Advanced Web Development	3		CSIS 128
CSIS 279	Web Database Programming	3		CSIS 123, 128, and 143
Total Credit Hours Required		40		

Industrial & Engineering Technology

Construction Management

Offered at MCC-Business & Technology

A.A.S. Construction Management..... 66-68 credits
 Construction Management Certificate..... 19 credits

This program leads to the Associate in Applied Science degree and prepares students for jobs as construction managers or transfer to a four-year degree program.

A.A.S. Construction Management

204406 Revised 3/2020 (Fall 2017)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121	United States History to 1865 or United States History since 1865	3		
MATH 120 MATH 130 MATH 150	College Algebra and Trigonometry or PreCalculus	5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
PSYC 140	General Psychology	3		
PHYS 101	Introductory Physics or higher	4-5		MATH 31 with a grade of S or appropriate placement
Minimum Total General Education Credit Hours		21-23		
Specific Program Requirements				
ACCT 101	Accounting Principles I	3		
BUSN 270	Legal Environment of Business	3		
CSIS 115	Computer Concepts and Applications	3		
ETEC 152	Engineering Graphics & CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 200	Applied Statics and Mechanics	3		MATH 104 or MATH 130
ETEC 211	Building Information Modeling, REVIT	3		ETEC 152, concurrent enrollment or Project Lead the Way, Introduction to Engineering Design
SRVY 135	Elementary Surveying	3		MATH 130 or 150
Specific Program Requirements				
CSMG 101	Introduction to Construction Management	3		
CSMG 255	Project Cost Estimating	3		CSIS 115 and CSMG 101
CSMG 285	Construction Controls and Documents	3		CSMG 101
Choose 12 hours from the following:				
CSMG 215	Construction Planning and Scheduling	3		CSIS 115
CSMG 225	Construction Materials and Methods	3		CSMG 101
CSMG 235	LEED GA	3		
CSMG 245	Introduction to Industrial Process Construction	1		CSMG 101
CSMG 265	Public Works Construction	1		
CSMG 295	Building Codes and Code Administration	3		CSMG 101
EHSS 101	Hazardous Materials Management and Emergency Response Operations	3		
EHSS 112	Intro to Health and Safety for Construction	1		
ETEC 210	Introduction to Commercial Architecture	3		ETEC 152
Total Credit Hours Required		66-68		

Industrial & Engineering Technology

Construction Management

Offered at MCC-Business & Technology

Construction Management Certificate

308700 Approved 12/2017 (Fall 2018)

General Education Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
CSMG 101	Introduction to Construction Management	3		
CSMG 215	Construction Planning and Scheduling	3		CSIS 115
CSMG 255	Project Cost Estimating	3		CSIS 115, CSMG 101
CSMG 285	Construction Contracts and Documents	3		CSMG 101 with a grade of C or higher
Choose two of the following: CSMG 225 Construction Methods and Materials CSMG 295 Building Codes and Code Administration EHSS 101 Hazardous Waste Operations and Emergency Response ETEC 210 Introduction to Commercial Architecture ETEC 211 Building Information Modeling, REVIT SRVY 135 Elementary Surveying		6		CSMG 101 C or higher (CSMG 225) CSMG 101(CSMG 295) ETEC 152 (ETEC 210) ETEC 152, concurrent enrollment, or Project Lead the Way, Introduction to Engineering Design (ETEC 210 and 211) MATH 130 or 150 with a grade of C or appropriate Placement score (SRVY 135)
Total Credit Hours		19		

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

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 journeyman card for the appropriate craft.

A.A.S. Industrial Technologies

Bricklayer.....	62-66 Credits
Construction Carpentry	62-66 Credits
Construction Cement Masons.....	62-66 Credits
Construction Driver & Logistics	60-63 Credits
Construction Ironworker	62-66 Credits
Construction Laborer.....	62-66 Credits

Floor Layer	62-66 Credits
Glaziers	62-66 Credits
Inside Wiring	
3 -Year program	63-80 Credits
5 -Year program	64-68 Credits
Painter	62-66 Credits
Plumbing	62-66 Credits

Bricklayer Apprenticeship Degree Completion Program

201812 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements				
Bricklayer				
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy or	2-3		
CSIS 115	Computer Concepts and Applications			
EHSS 112	Introduction to Health & Safety for Construction	1		
INTE 151	Industrial Rigging	3		
General Electives		6		
Bricklaying Apprenticeship (Credit by Certification*)		29		
Total Credit Hours		62-66		

* Federally approved bricklaying 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 & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Construction Carpentry Apprenticeship Degree Completion Program

201802 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		

Specific Program Requirements			
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
EHSS 112 Introduction to Health and Safety for Construction	1		
INTE 151 Industrial Rigging	3		
Carpentry Apprenticeship (Credit by Certification*)	29		
General Electives	6		
Total Credit Hours	62-66		

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

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Construction Cement Masons Apprenticeship Degree Completion Program 201803 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		

Specific Program Requirements				
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy or	2-3		
CSIS 115	Computer Concepts and Applications			
EHSS 112	Introduction to Health and Safety for Construction	1		
Cement Masons Apprenticeship (Credit by Certification*)		29		
General Electives		9		
Total Credit Hours		62-66		
* 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.				

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

A.A.S. Industrial Construction Driver & Logistics

201833 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Option 2: MATH 150	PreCalculus or higher			
SPAN 100 SPAN 101	Beginning Occupational Spanish or Elementary Spanish I	3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements				
EHSS 111	Introduction to Health and Safety for General Industry	1		
EHSS 112	Introduction to Health and Safety for Construction	1		
CSIS 110	Technology and Information Management	3		
CSIS 115	Computer Concepts and Applications or higher	3		
INTE 151	Industrial Rigging	3		
BUSN 200	Business Management	3		
BUSN 210	Logistics Management	3		
BUSN 211	Operations Management	3		
BUSN 212	Transportation and Operations and Management	3		
BUSN 213	Warehouse and Distribution Centers	3		
BUSN 130	Entrepreneurship	3		
	Warehouse Worker Apprenticeship*	8		
	Electives as necessary to meet the minimum credit hours to complete the degree.	5		
Total Credit Hours Required		60-63		

*Federally approved Warehouse Worker apprenticeship program that contains a minimum of 144 clock hours of classroom and instruction and 2000 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.

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Construction Ironworker Apprenticeship Degree Completion Program

201804 Revised 3/2020 (Fall 2019)

COLL 100 First Year Seminar	1		
General Education Requirements	Credits	Semester Taken	Prerequisites
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		
Specific Program Requirements			
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
EHSS 112 Introduction to Health and Safety for Construction	1		
INTE 151 Industrial Rigging	3		
General Electives	6		
Ironworking Apprenticeship (Credit by Certification*)	29		
Total Credit Hours	62-66		
* 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.			

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Construction Laborer Apprenticeship Degree Completion Program

201816 Approved 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103) MATH 103 (MATH 104) MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Total General Education Requirement	17-20		
Specific Program Requirements			
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
EHSS 112 Introduction to Health and Safety for Construction	1		
INTE 151 Industrial Rigging	3		
General Electives	6		
Construction Laborer Apprenticeship (Credit by Certification*)	29		
Total Credit Hours	62-66		
* 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.			

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Floor Layer Apprenticeship

201831 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA	3-5		
Total General Education Requirements	17-20		

Specific Program Requirements			
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
EHSS 111 Introduction to Health and Safety for General Industry	1		
INTE 151 Industrial Rigging	3		
Floor Layer Apprenticeship (Credit by Certification*)	29		
General Electives	6		
Total Credit Hours	62-66		

* Federally approved floor layer 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 & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Glaziers Apprenticeship Degree Completion Program

201813 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, COMM/THEA		3-5		
Total General Education Requirements		17-20		

Specific Program Requirements				
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy <i>or</i>	2-3		
CSIS 115	Computer Concepts and Applications			
EHSS 112	Introduction to Health and Safety for Construction	1		
INTE 151	Industrial Rigging	3		
General Electives		6		
Glazier Apprenticeship (Credit by Certification*)		29		
Total Credit Hours		62-66		

* 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 & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Inside Wiring- 3 Year Apprenticeship Degree Completion Program

201814 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA	3-5		
Total General Education Requirements	17-20		

Specific Program Requirements	Credits	Semester Taken	Prerequisites
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
INTE 107 Industrial Electrical Safety	2		
INTE 151 Industrial Rigging	3		
General Electives	6		
Electrical Apprenticeship	29-42		
Total Credit Hours	63-80		

* 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.

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Inside Wiring- 5 Year Apprenticeship Degree Completion Program

201820 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA		3-5		
Total General Education Requirements		17-20		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
CSIS 100 CSIS 115	Digital Literacy <i>or</i> Computer Concepts and Applications	2-3		
INTE 107	Industrial Electrical Safety	2		
Electrical Apprenticeship		42		
Total Credit Hours		64-68		
* 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.				

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Painter Apprenticeship Degree Completion Program

201815 Approved 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA		3-5		
Total General Education Requirements		17-20		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 200	Business Management	3		
CSIS 100 CSIS 115	Digital Literacy or Computer Concepts and Applications	2-3		
EHSS 112	Introduction to Health and Safety for Construction	1		
INTE 151	Industrial Rigging	3		
General Electives		6		
Painter Apprenticeship (Credit by Certification*)		29		
Total Credit Hours		62-66		
* 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.				

Industrial & Engineering Technology

Construction Trades Apprenticeship Program

Offered at MCC-Business & Technology

Plumbing Apprenticeship Degree Completion Program

201818 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		
Specific Program Requirements	Credits	Semester Taken	Prerequisites
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy or CSIS 115 Computer Concepts and Applications	2-3		
EHSS 112 Introduction to Health & Safety for Construction	1		
INTE 151 Industrial Rigging	3		
General Electives	6		
Plumber Apprenticeship (Credit by Certification*)	29		
Total Credit Hours	62-66		
* 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.			

Human Services

Criminal Justice

Offered at MCC-Blue River and MCC-Penn Valley and MCC-Longview

- A.A.S. Criminal Justice Adult
Corrections Emphasis61-64 Credits
- A.A.S. Criminal Justice Juvenile
Services Emphasis61-64 Credits
- A.A.S. Criminal Justice Police
Science65-71 Credits
- Police Science Certificate-600 Program38 Credits

This program leads to the Associate in Applied Science degree with three emphasis areas: Adult Corrections, Juvenile Services and Police Science. These degrees are designed for students seeking employment immediately after graduation. The Police Science program is offered at MCC-Blue River. Penn Valley offers the Adult Corrections and Juvenile Services emphasis areas.

A.A.S. Criminal Justice Adult Corrections Emphasis

204101 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
PSYC 140 General Psychology	3		
SOCI 160 Sociology	3		
Any courses numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (except 104 & 110), GEOL, MATH, PHYS	3-6		
Specific Core Requirements			
CRJU 101 Intro to Criminal Justice	3		
CRJU 105 American Corrections	3		CRJU 101
CRJU 132 Community Relations	3		
CRJU 162 Correctional Psychology	3		
CRJU 165 Criminology	3		
CRJU 167 Special Topics in Criminal Justice (student must take total of 3 credit hours)	3		
CRJU 168 Juvenile Delinquency	3		
CRJU 169 Family Violence and Sexual Abuse	3		
CRJU 200 Internship in Criminal Justice	3		15 credit hours of CRJU including CRJU 101
CRJU 223 Criminal Law I	3		
CRJU 228 Fundamentals of Probation and Parole	3		
Electives: Any course(s) numbered 100 or above from the following disciplines: CRJU, Foreign Language, PSYC, SOCI	9		
Total Credit Hours Required	61-64		

Human Services

Criminal Justice

A.A.S. Criminal Justice Juvenile Services Emphasis

204102 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
PSYC 140	General Psychology	3		
SOCI 160	Sociology	3		
Any courses numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (except 104 & 110), GEOL, MATH, PHYS		3-6		
Minimum Total General Education Credit Hours		18-21		
Specific Core Requirements				
CRJU 101	Intro to Criminal Justice	3		
CRJU 122	Procedural Law	3		
CRJU 132	Community Relations	3		
CRJU 165	Criminology	3		
CRJU 167	Special Topics in Criminal Justice (student must take 3 credit hours)	3		
CRJU 168	Juvenile Delinquency	3		
CRJU 169	Family Violence and Sexual Abuse	3		
CRJU 200	Internship in Criminal Justice	3		15 credit hours of CRJU including CRJU 101
CRJU 215	Juvenile Law	3		
PSYC 245	Adolescent Psychology	3		PSYC 140
Electives: Any course(s) numbered 100 or above from the following disciplines: ANTH, CRJU, Foreign Language, PSYC		9		
Total Credit Hours Required		58-61		

Human Services

Criminal Justice

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

A.A.S. Criminal Justice - Police Science

204103 Revised 3/2020 (Spring 2017)

General Education Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
MATH 100	Mathematics for Business or higher numbered course	3-5		MATH 31 with a grade of S or appropriate placement
PSYC 140 SOC 160	General Psychology <i>or</i> Sociology	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ECON, HIST, Foreign Language		3-5		
Police Science Emphasis Requirements				
LWEN 101	Introduction to Law Enforcement	3		Post Compliance Review
LWEN 111	Law Enforcement Operational Procedures	3		LWEN 101 and Post Compliance Review
LWEN 112	Traffic Control and Investigation	3		Post Compliance Review
LWEN 114	Law Enforcement Report Writing	3		Post Compliance Review
LWEN 122	Procedural Law for Law Enforcement	3		LWEN 101 and Post Compliance Review
LWEN 143	Defensive Tactics for Law Enforcement	3		LWEN 101 and Post Compliance Review
LWEN 144	Physical Training and Well Being for Law Enforcement	2		Post Compliance Review
LWEN 200	Law Enforcement Skills	5		LWEN 101 and Post Compliance Review
LWEN 203	Criminal Investigation I for Law Enforcement	3		LWEN 101 and Post Compliance Review
LWEN 204	Criminal Investigation II for Law Enforcement	3		LWEN 101 and 203 and Post Compliance Review
LWEN 230	Missouri Statutory Law	3		Post Compliance Review
EMS 110	First Responder	3		
Electives				
Choose three courses numbered 100 or above from the following disciplines: ACCT, ANTH, BUSN, CRJU, HIST, LWEN, POLS, PSYC, SOCI, SOWK, or Foreign Language		9-11		
Total Credit Hours Required		65-71		

Human Services

Criminal Justice

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.

Police Science Certificate - 600 Program

304900 Revised 9/2016 (Spring 2017)

COLL 100 First Year Seminar	1		
Specific Program Requirements	Credits	Semester Taken	Prerequisites
LWEN 101 Introduction to Law Enforcement	3		Post Compliance Review
LWEN 111 Law Enforcement Operational Procedures	3		LWEN 101 and Post Compliance Review
LWEN 112 Traffic Control and Investigation	3		Post Compliance Review
LWEN 114 Law Enforcement Report Writing	3		Post Compliance Review
LWEN 122 Procedural Law for Law Enforcement	3		LWEN 101 and Post Compliance Review
LWEN 143 Defensive Tactics for Law Enforcement	3		LWEN 101
LWEN 144 Physical Training and Well Being for Law Enforcement	2		Post Compliance Review
LWEN 200 Law Enforcement Skills	5		LWEN 101 and Post Compliance Review
LWEN 203 Criminal Investigations I for Law Enforcement	3		LWEN 101 and Post Compliance Review
LWEN 204 Criminal Investigations II for Law Enforcement	3		LWEN 101 and 203 and Post Compliance Review
LWEN 230 Missouri Statutory Law	3		Post Compliance Review
EMS 110 First Responder	3		
Total Credit Hours Required	38		

Health Services

Dental Assisting

Offered at MCC-Penn Valley

A.A.S. Dental Assisting 73-78 Credits

Dental Assisting Certificate 54-55 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

203900 Revised 3/2020 (Fall 2016)

Program Prerequisites		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
DENA 100	Introduction to Dental Assisting	1		
General Education Requirements (23-29 credit hours)				
BIOL 109	Anatomy and Physiology or	6-10		CHEM 105 (BIOL 109) CHEM 105 and BIOL 110 (BIOL 210)
BIOL 110	Human Anatomy and			
BIOL 210	Human Physiology			
BIOL 208	Microbiology	5		CHEM 105 or higher, plus one of the following courses: HLSC 108, BIOL 101, 104, 106, 109, 110, 123, or 124.
CHEM 105	Introductory Chemistry for Health Sciences	5		
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to U.S. National Politics			
PSYC 140	General Psychology	3		
COMM 100	Fundamentals of Speech or	3		ENGL 90 with a minimum grade of S or appropriate placement score.
COMM 102	Fundamentals of Human Communication			
Minimum Total General Education Credit Hours		18		
Specific Program Requirements				
EMS 100	Basic Emergency Care	1		
DENA 101	Body Structure and Function	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 102	Head and Neck Anatomy	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 103	Dental Anatomy	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 104	Dental Medical Emergencies and Pharmacology	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 105	Dental Materials I	2.5		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 108	Oral Microbiology & Infection Control	1.5		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 110	Chairside Assisting I	5		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 115	Dental Radiology I	4		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 125	Clinical Experience I	2		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 205	Dental Materials II	3		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 210	Chairside Assisting II	5		DENA 108, 110, 115, 125, 205
DENA 215	Dental Radiology II	2		DENA 108, 110, 115, 125, 205
DENA 225	Dental Office Management	2		DENA 108, 110, 115, 125, 205
DENA 230	Oral Pathology	1		DENA 108, 110, 115, 125, 205
DENA 250	Clinical Experience II	4		DENA 108, 110, 115, 125, 205
DENA 260	Dental Assisting Seminar	2		DENA 108, 110, 115, 125, 205
Total Credit Hours Required		73-78		

Dental Assisting

Dental Assisting Certificate

301300 Revised 12/2015 (Fall 2016)

COLL 100 HLSC 100	First Year Seminar or Intro to Health Professions	1-2		
Program Prerequisites		Credits	Semester Taken	Prerequisites
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
DENA 100	Introduction to Dental Assisting	1		
ENGL 101	Composition and Reading	3		ENGL 90 with a minimum grade of S or appropriate placement score
PSYC 140	General Psychology	3		
Specific Program Requirements				
EMS 100	Basic Emergency Care	1		
DENA 101	Body Structure and Function	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 102	Head and Neck Anatomy	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 103	Dental Anatomy	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 104	Dental Medical Emergencies and Pharmacology	2		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 105	Dental Materials I	2.5		Formal Admission to the Dental Assisting program, DENA 100, ENGL 101
DENA 108	Oral Microbiology & Infection Control	1.5		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 110	Chairside Assisting I	5		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 115	Dental Radiology I	4		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 125	Clinical Experience I	2		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 205	Dental Materials II	3		DENA 101, 102, 103, 104, 105, and EMS 100
DENA 210	Chairside Assisting II	5		DENA 108, 110, 115, 125, 205
DENA 215	Dental Radiology II	2		DENA 108, 110, 115, 125, 205
DENA 225	Dental Office Management	2		DENA 108, 110, 115, 125, 205
DENA 230	Oral Pathology	1		DENA 108, 110, 115, 125, 205
DENA 250	Clinical Experience II	4		DENA 108, 110, 115, 125, 205
DENA 260	Dental Assisting Seminar	2		DENA 108, 110, 115, 125, 205
Total Credit Hours Required		54-55		

Human Services

Early Childhood Education and Development

Offered at MCC-Penn Valley

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

Students must complete the following process:

1. Complete the MCC-Penn Valley admissions process.
2. Complete a background check by going to: <http://www.health.mo.gov/safety/fcsr>
3. Attend the New Student Welcome

Important note to students considering the ECED program: ECED students are required to participate in various practicum experience assignments as part of the certificate and AAS degree programs. Students will be required to observe and practice in a variety of early childhood settings. Students must register with the State of MO Family Care Safety Registry and successfully pass the background screening before beginning any practicum experience for the program. Proof of clear TB screening is also required for enrollment in Capstone Practicum Experience.

A.A.S. Early Childhood Education and Development	60-64 Credits
Early Childhood Education and Development Certificate	22 Credits
Youth Development Certificate	24 Credits

A.A.S. Early Childhood Education and Development

200400 Approved 3/2020 (Spring 2016)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
COMM 100 Fundamentals of Speech <i>or</i> COMM 102 Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104, 110 and GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA.	3-5		
General Education Electives: Any course(s) numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG, GEOL, MATH, PHYS	3-5		
Minimum Total General Education Credit Hours	15-19		

Continued on next page

Human Services

A.A.S. Early Childhood Education and Development (continued)

Specific Emphasis Requirements				
ECED 101	Fundamentals of Early Care and Education	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 110	Child Health, Safety and Nutrition	3		ENGL 90 and READ 11/31 with a minimum grade of S or appropriate placement score
ECED 113	Child Growth and Development I	3		ENGL 30/90 or appropriate placement test score, ECED 101 or concurrent enrollment
ECED 115 ECED 121 ECED 220	Teaching Infants and Toddlers or Issues, Advocacy, and Trends or Child Care Management	3		ECED 113 ECED 101 or concurrent enrollment ECED 113
ECED 128	Curriculum in Early Childhood Education	3		ECED 113 with a C or higher or concurrent enrollment
ECED 132	Learning Environments	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 149	Observation and Assessment	3		ECED 113 with a C or higher
ECED 201	Language Development	3		ECED 113 with a C or higher, ENGL 101 with a C or higher
ECED 213	Child Growth & Development II	3		ECED 113 with a C or higher
ECED 217	Literature for Young Children	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 236	Child Guidance	3		ECED 113 with a C or higher
ECED 255	Capstone Practicum Experience	3		ECED 149, ECED 236 with a C or higher or con- current enrollment
ECED 260	Education of the Exceptional Child	3		ECED 113 with a C or higher
ECED 262	Families, Early Care, and Communities	3		ECED 101 with a C or higher
ECED 270	Portfolio Design	2		Final semester in AAS program
Total Credit Hours Required		60-64		

Early Childhood Education and Development

Early Childhood Education and Development Certificate

300400 Revised 7/2015 (Spring 2016)

Specific Program Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 101	Fundamentals of Early Care and Education	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 110	Child Health, Safety and Nutrition	3		ENGL 90 and READ 11/31 with a minimum grade of S or appropriate placement score
ECED 113	Child Growth and Development I	3		ENGL 30/90 or appropriate placement test score, ECED 101 or concurrent enrollment
ECED 128	Curriculum in Early Childhood Education	3		ECED 113 or concurrent enrollment
ECED 132	Learning Environments I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 149	Observation and Assessment	3		ECED 113
Total Credit Hours Required		22		

Human Services

Early Childhood Education and Development

Youth Development Certificate

NEW 405500 (Spring 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
ECED 113 Child Growth and Development I	3		ENGL 90 or appropriate placement test score
ECED 110 Child Health, Safety and Nutrition	3		ENGL 90 and READ 11 with a minimum grade of S or appropriate placement score
ECED 117 Fundamentals of Youth Work and Development I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 121 Issues, Advocacy and Trends	3		ECED 101 or concurrent enrollment
ECED 127 Fundamentals of Youth Work and Development II	3		ENGL 90 with a minimum grade of S or appropriate placement score
ECED 227 Best Practices in Youth Work and Development	3		ENGL 90 with a minimum grade of S or appropriate placement score, ECED 117 or concurrent enrollment
ECED 236 Child Guidance	3		ECED 113
ECED 262 Families, Early Care, and Communities	3		ECED 101
	24		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

This program leads to an Associate in Applied Science degree and prepares the student to enter the workforce in engineering technology, assisting engineering professionals in the design process as an integral part of the design team. Graduates will have a strong background in mathematics, design principles, computer aided design and other technologies relating to the engineering fields. 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	60-61 Credits
Civil Engineering.....	60-61 Credits
Computer & Electronics.....	64-66 Credits
Mechanical/Manufacturing Tech	62-63 Credits
Mechatronics	66-67 Credits
BIM Certificate	20-22 Credits

A.A.S. Engineering Technology: Architecture Emphasis

204405 Revised 3/2020 (Fall 2019)

COLL 100 First Year Seminar or ENGR 101 Introduction to the Profession	1		
General Education Requirements	Credits	Semester Taken	Prerequisites
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 Technical Writing	3		ENGL 101
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
HIST 120 U.S. History to 1865 <i>or</i> HIST 121 U.S. History since 1865 <i>or</i> POLS 136 Introduction to American National Politics	3		
PHYS 130 General Physics	5		MATH 130 or appropriate placement test score.
Option #1 MATH 120 College Algebra and MATH 130 Trigonometry Option #2 MATH 150 PreCalculus or higher	5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
Minimum Total General Education Credit Hours	22-23		
Specific Program Requirements			
EHSS 111 Intro to Health & Safety for General Industry or EHSS 112 Intro to Health & Safety for Construction	1		
ETEC 152 Engineering Graphics and CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 153 Descriptive Geometry	3		ETEC 152
ETEC 170 CADD I, Microstation	3		ETEC 152
ETEC 200 Applied Statics & Mechanics	3		MATH 104 or 130
ETEC 210 Introduction to Commercial Architecture	3		ETEC 152 and 155
ETEC 211 Building Information Modeling, Revit	3		ETEC 152, concurrent enrollment or Project Lead the Way, Introduction to Engineering Design
ETEC 265 Introduction to Civil Design	3		ETEC 152
ETEC 268 Introduction to Structural Steel Design	3		ETEC 152
ETEC 269 CADD II	4		ETEC 152 or 169
ETEC 290 Internship in Engineering Technology or ETE 295 Capstone Project in Engineering Technology	3		ETEC 152 ETE 152, 269, 270, 271
SRVY 135 Elementary Surveying	3		MATH 130 or 150 with a minimum grade of C or appropriate placement
Total Credit Hours Required	60-61		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

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

204401 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar or	1		
ENGR 101	Introduction to the Profession			
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
SPAN 100	Beginning Occupational Spanish	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
HIST 120	U.S. History to 1865 <i>or</i>	3		
HIST 121	U.S. History since 1865 <i>or</i>			
POLS 136	Introduction to U.S. National Politics			
Option #1		5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
MATH 120	College Algebra and			
MATH 130	Trigonometry			
Option #2		5		MATH 130 or appropriate placement test score.
MATH 150	PreCalculus or higher			
PHYS 130	General Physics			
Minimum Total General Education Credit Hours		25-26		
Specific Program Requirements for:				
EHSS 111	Introduction to Health & Safety for General Industry	1		
ETEC 152	Engineering Graphics and CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 153	Descriptive Geometry	3		ETEC 152
ETEC 200	Applied Statics and Mechanics	3		MATH 104 or 130
ETEC 268	Introduction to Structural Design	3		ETEC 152
ETEC 269	CADD II	4		ETEC 152 or 169
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 130 or 150 with a minimum grade of C or appropriate placement
Total Credit Hours Required		60-61		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

A.A.S. Engineering Technology: Computer & Electronics Emphasis

204403 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar or	1		
ENGR 101	Introduction to the Profession			
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
HIST 120	U.S. History to 1865 <i>or</i>	3		
HIST 121	U.S. History since 1865 <i>or</i>			
POLS 136	Introduction to U.S. National Politics			
Option #1		5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150) MATH 120 (MATH 130)
MATH 120	College Algebra and			
MATH 130	Trigonometry			
Option #2				
MATH 150	PreCalculus or higher			
CHEM 111	General College Chemistry I <i>or</i>	5		MATH 120 or satisfactory score on placement test (CHEM 111) MATH 130
PHYS 130	General Physics I			
Minimum Total General Education Credit Hours		22-23		
Specific Program Requirements				
CSIS 110	Information Technology Fundamentals	3		
CSIS 123	Programming Fundamentals	3		MATH 31 with a grade of S or appropriate placement
CSIS 223	Object-Oriented Programming	3		MATH 95 with a grade of C or higher or appropriate placement and CSIS 123
EHSS 111	Intro to Health & Safety for General Industry <i>or</i>	1		
EHSS 112	Intro to Health & Safety for Construction			
ETEC 114	DC Circuit Analysis	4		MATH 120 or higher
ETEC 118	AC Circuit Analysis	4		MATH 130 or co-requisite
ETEC 130	Digital Electronics	4		MATH 103 or higher
ETEC 152	Engineering Graphics & CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 220	Analog Devices	4		ETEC 118
ETEC 230	Microcontroller Architecture	4		ETEC 130
ETEC 290	Internship in Engineering Technology or	3		ETEC 152 EETC 152, 269, 270, 271
EETC 295	Capstone Project in Engineering Technology			
Electives- choose one: CSIS or INTE		3-4		
Total Credit Hours Required		64-66		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

A.A.S. Engineering Technology: Mechanical/Manufacturing Emphasis

204402 Revised 11/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
SPAN 100	Beginning Occupational Spanish	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
HIST 120	U.S. History to 1865 <i>or</i>	3		
HIST 121	U.S. History since 1865 <i>or</i>			
POLS 136	Introduction to U.S. National Politics <i>or</i>			
Option #1	College Algebra and	5-6		MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)
MATH 120	Trigonometry			
Option #2	Pre-Calculus or higher	5		MATH 120 (MATH 130)
MATH 150	General Physics			
PHYS 130				MATH 130 or appropriate placement test score.
Minimum Total General Education Credit Hours		25-26		
Specific Program Requirements:				
EHSS 111	Introduction to Health and Safety for General Industry	1		
ETEC 152	Engineering Graphics and CADD I	5		MATH 95 with a grade of C or higher or appropriate placement
ETEC 153	Descriptive Geometry	3		ETEC 152
ETEC 200	Applied Statics & Mechanics	3		MATH 104 or 130
ETEC 268	Introduction to Structural Steel Design	3		ETEC 152
ETEC 269	CADD II	4		ETEC 152 or 169
Specific Emphasis Requirements				
Mechanical/Manufacturing				
ETEC 258	Introduction to Machine Design	3		ETEC 152
ETEC 270	Inventor <i>or</i>	3		ETECC 152
ETEC 271	Solidworks			
ETEC 272	Advanced Inventor <i>or</i>	3		ETECC 270 ETECC 271
ETEC 273	Advanced Solidworks			
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101
CIMM 103	Basic Mill Operation	1		CIMM 101
CIMM 121	CNC Lathe Operation Fundamentals <i>or</i>	4		CIMM 110 CIMM 115
CIMM 122	CNC Mill Operation Fundamentals			
WELD 100	Introduction to Welding/Cutting Processes	1		
Total Credit Hours Required		62-63		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

A.A.S. Engineering Technology: Mechatronics

204407 Revised 10/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
COMM 102	Fundamentals of Human Communication	3		ENGL 90 or appropriate test score
ENGL 101	Composition and Reading I	3		ENGL 90 or appropriate test score
ENGL 215	Technical Writing	3		ENGL 101
HIST 120 HIST 121 POLS 136	U.S. History to 1865 <i>or</i> U.S. History since 1865 <i>or</i> Introduction to U.S. National Politics	3		
MATH 120 MATH 130 MATH 150	College Algebra <i>and</i> Trigonometry or higher or Precalculus or higher	5-6		MATH 95 or appropriate test score MATH 120 or appropriate test score
PHYS 130 PHYS 220	General Physics I <i>or</i> Engineering Physics I	5		MATH 130 (PHYS 130) MATH 180 with a C or higher and co-requisite MATH 190 (PHYS 220)
Minimum Total General Education Credit Hours		22-23		
Specific Program Requirements:				
EHSS 111 EHSS 112	Introduction to Health and Safety for General Industry or Introduction to Health and Safety for Construction	1		
ETEC 114	DC Circuit Analysis	4		MATH 120 or higher
ETEC 118	AC Circuit Analysis	4		MATH 130 or higher or concurrent enrollment
ETEC 130	Digital Electronics or (PLTW DE)	4		MATH 103 or higher
ETEC 220	Analog Devices	4		ETEC 118
ETEC 270	Inventor or (PLTW IED)	3		ETEC 152 or PLTW Intro to Engineering Design
ETEC 290 ETE 295	Internship in Engineering Technology or Capstone Project in Engineering Technology	3		ETEC 152 ETE 152, ETEC 269, ETEC 270 or ETEC 271
Choose any of the following electives: CSIS 112, 113; ETE 152, 200, 212, 230, 240, 258, 269, 271; Or INTE 101, 270, 271, 272, 273, 281		20		See an academic advisor for recommendations.
Total Credit Hours Required		66-67		

Industrial & Engineering Technology

Engineering Technology

Offered MCC-Business & Technology

Building Information Modeling Certificate

405300 Approved 10/2019 (Fall 2020)

General Education Requirements		Credits	Semester Taken	Prerequisites
ETEC 152	Engineering Graphics and CADD I or	3-5		MATH 95 with a C or higher or appropriate placement
ETEC 169	CADD I			
ETEC 211	REVIT	3		ETEC 152 or Project Lead the Way, Introduction to Engineering Design
ETEC 213	REVIT MEP (Mechanical Electrical and Plumbing)	3		ETEC 211 with a grade of C or higher
ETEC 268	Introduction to Structural Steel Design	3		ETEC 152
ETEC 269	CADD II	4		ETEC 152 or 169
HVAC 111	Principles of Heating, Ventilation, and Air Conditioning	3		
Total Credit Hours Required		19-21		

Environmental Health & Safety Technology

Offered at MCC-Business & Technology

Safety, health, and environmental professionals prevent harm to people, property, and the environment by applying principals from engineering, education, psychology, physiology, enforcement, health, and management. Learn theory and principles of environmental science and protection, as well as governmental regulations and policy. Apply knowledge to the evaluation of programming, equipment, and environments to assess and remediate risks.

A.A.S. Environmental Health & Safety Tech..... 64-68 Credits

Certificates

Environmental Health & Safety Tech.....31 Credits

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

200900 Revised 12/2017 (Fall 2018)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
BIOL 102	Environmental Science or	4-6		CHEM 105 (BIOL 109)
HLSC 108	Anatomy and Physiology for Health Professions or			
BIOL 109	Anatomy and Physiology or			
GEOL 103	Environmental Geology			
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing	3		ENGL 101
COMM 100	Fundamentals of Speech or	3		ENGL 90 with a minimum grade of S or appropriate placement score
COMM 102	Fundamentals of Human Communication			
BUSN 107	Organizational Behavior or	3		ENGL 90 with a minimum grade of S or appropriate placement score.
BUSN 105	Business Communications			
CHEM 105	Introductory Chemistry or higher	5		
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to U.S. National Politics or			
MATH 103	Technical Math I or higher	3-5		MATH 31 with a grade of S or appropriate placement
Minimum Total General Education Credit Hours		27-31		
Core Program Requirements				
EHSS 110	Properties and Hazards of Hazardous Materials	3		
EHSS 200	Safety and Health Regulations and Standards	3		
EHSS 202	Transportation and Storage of Hazardous Materials	3		EHSS 203
EHSS 203	Environmental Regulations	3		
EHSS 204	Emergency Preparedness and Planning	3		EHSS 101
EHSS 205	Principles of Industrial Hygiene	3		EHSS 200 w/ a grade of C or higher or concurrent enrollment
EHSS 210	Incident & Accident Investigation	3		EHSS 200 w/ a grade of C or higher or concurrent enrollment
EHSS 211	Workers Compensation Legislation for EHS	3		EHSS 200
EHSS 218	Industrial Hazard Control	3		EHSS 200 w/ a grade of C or higher or concurrent enrollment
EHSS 230	Waste Management and Resource Conservation	3		EHSS 203
EHSS 275	Analytic Applications for EHS	3		MATH 103 or higher
EHSS 290	EHS Program Capstone	3		EHSS 200, EHSS 203
Total Credit Hours Required		64-68		

Environmental Health & Safety Technology

Offered MCC-Business & Technology

Environmental Health and Safety Technology Certificate

301700 Revised 12/2017 (Fall 2018)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
EHSS 110 Properties and Hazards of Hazardous Materials	3		
EHSS 200 Safety and Health Regulations and Standards	3		
EHSS 202 Transportation and Storage of Hazardous Materials	3		
EHSS 203 Environmental Regulations	3		
EHSS 204 Emergency Preparedness and Planning	3		EHSS 101
EHSS 205 Principles of Industrial Hygiene	3		EHSS 200 with a grade of C or higher or concurrent enrollment
EHSS 210 Incident and Accident Investigation	3		EHSS 200 with a grade of C or higher or concurrent enrollment
EHSS 211 Workers Compensation Legislation for EHS	3		EHSS 200
EHSS 218 Industrial Hazard Control	3		EHSS 200 with a grade of C or higher or concurrent enrollment
EHSS 230 Waste Management and Resource Conservation	3		EHSS 203
Total Credit Hours Required	31		

Human Services

Fire Science Technology

Offered at MCC-Blue River

The MCC-Blue River Fire Science Technology program offers basic and advanced professional training for the fire service. Most metropolitan fire departments require FF I&II certification and EMT-B licensure prior to employment. The MCC-Blue River Fire Academy is approved by the Missouri Division of Fire Safety and provides education and training for FF I&II, as well as Haz-Mat Awareness and Operations, NREMT-B, and CPAT. Full-time day and part-time night classes are available. Successful graduates of the Academy will receive a Fire Science Certificate and be eligible to test for certification or licensure in the above-mentioned areas. Students completing additional FSTE and General Education courses will receive an AAS: Fire Science Technology degree.

A.A.S. Fire Science Technology64-68 Credits
 Fire Science Certificate28 Credits

A.A.S. Fire Science Technology

201200 Revised 3/2020 (Fall 2020)

COLL 100 First Year Seminar		1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
MATH 115	Statistics or higher	3-5		MATH 85 or 95 with a grade of C or higher or appropriate placement.
PSYC 140	General Psychology	3		
COMM 100 COMM 102	Fundamentals of Speech <i>or</i> Fundamentals of Human Communication	3		ENGL 90 with a grade of S or appropriate placement test score
Electives course from MCC's Core 42 general education requirements.		3-5		
Minimum Total General Education Credit Hours		18		
Specific Program Requirements				
EMS 150	Emergency Medical Technician-Basic	8		Student must be 18 years old by the end of the course
FSTE 109	Fire Science Physical Fitness	3		Enrollment in MCC Fire Academy
FSTE 169	Fire Prevention	3		Enrollment in MCC Fire Academy, successful completion of prior FSTE course with grade of C or higher, or instructor approval
FSTE 170	Haz-Mat Awareness and Operations	3		Enrollment in MCC Fire Academy or instructor approval.
FSTE 172	Firefighting Strategies and Tactics	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 179	Principles of Emergency Services	4		Enrollment in MCC Fire Academy.
FSTE 192	Fire Protection Systems	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 193	Legal Aspects of the Fire Service	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 202	Principles of Fire and Emergency Service Administration	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 204	Principles of Fire Emergency Safety and Survival	3		Enrollment in MCC Fire Academy.
FSTE 205	Fire Behavior and Combustion	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 208	Occupational Safety and Health for Emergency Services	3		Successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 209	Building Construction for Fire Protection	3		Enrollment in MCC Fire Academy, successful completion of prior FSTE course with grade of C or higher, or instructor approval
Total Credit Hours Required		64-68		

Human Services

Fire Science Technology

Offered at MCC-Blue River

Fire Science Certificate

402200 Revised 8/2019 (Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
EMS 150 Emergency Medical Technician-Basic	8		The student must be 18 years old by the end of the course and must hold a high school diploma or GED.
FSTE 109 Fire Science Physical Fitness	3		Enrollment in MCC Fire Academy
FSTE 169 Fire Prevention	3		Enrollment in MCC Fire Academy or successful completion of prior FSTE course with grade of C or higher or instructor approval
FSTE 170 Haz-Mat Awareness and Operations	3		Enrollment in MCC Fire Academy or instructor approval.
FSTE 179 Principles of Emergency Services	4		Enrollment in MCC Fire Academy
FSTE 204 Principles of Fire Emergency Safety and Survival	3		Enrollment in MCC Fire Academy
FSTE 209 Building Construction for Fire Protection	3		Enrollment in MCC Fire Academy or successful completion of prior FSTE course with grade of C or higher or instructor approval
Total Credit Hours Required	28		

Arts & Communication

Foreign Language Interpreting

Offered at MCC-Maple Woods

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 21 Credits

Foreign Language Interpreting Certificate

402900 Approved 1/2020 (Fall 2020)

COLL 100	First Year Seminar	1		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
FLIN 100	Introduction to Interpreting	3		Admission to certificate program
FLIN 105	Fundamentals of Interpreting	3		FLIN 100 or concurrent enrollment
FLIN 110	Medical Interpreting	3		FLIN 105 and BIOL 150
FLIN 115	Legal Interpreting	3		FLIN 105
FLIN 120	Practicum	3		FLIN 110 and FLIN 115
BIOL 150	Medical Terminology	2		
CRJU 101	Introduction to Criminal Justice	3		
Total Credit Hours Required		21		

Forensic Chemistry

Offered at Kansas City Kansas Community College
Coordinated at MCC

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.

A.A.S. Forensic Chemistry.....66-68 Credits

A.A.S. Forensic Chemistry

604300 Revised 7/2014 (Fall 2014)

Specific Program Requirements <i>Must be taken at one of the MCC campuses</i>	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
BIOL Electives Any Biology course except BIOL 204	4-5		See Courses section of this catalog for individual course prerequisites.
CHEM 111 General College Chemistry I	5		CHEM 107 or high school chemistry and MATH 120
CHEM 112 General College Chemistry II	5		CHEM 111
CRJU 165 Criminology	3		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II	3		ENGL 101
MATH 180 Analytic Geometry & Calculus I	5		MATH 130 or 150
PHYS Physics Electives	4-5		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
CRJU 165 Criminology	3		
Humanities Requirements (6 credit hours from at least 3 disciplines including: Art, History, Literature, Modern Language, Music, Philosophy, or Theatre)			
Humanities Core Elective	3		See Courses section of this catalog for individual course prerequisites.
Literature Core Elective	3		
Suggested Social Science Core Electives Include: PSYC 140, SOCI 160, ANTH 100	3		
Specific Program Requirements <i>Must be taken at Kansas City Kansas Community College</i>			
CHEM 101 Introduction to Forensic Science	5		
CHEM 201 Forensic Science Analytical Techniques	3		
CHEM 211 Organic Chemistry I	3		
CHEM 213 Organic Chemistry I Lab	2		
CHEM 212 Organic Chemistry II	3		
CHEM 214 Organic Chemistry II Lab	2		
<i>Recommended Courses (not necessary for degree):</i>			
CHEM 250 Biochemistry	4		
CHEM 251 Biochemistry Lab	2		
Total Credit Hours Required	66-68		

Geographic Information Systems

Offered at MCC-Maple Woods and MCC-Longview

This is a professional certificate that gives GIS users the tools needed to obtain a 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 can be found working in city, county and state government, as well as many sectors of business and industry including conservation & natural resources, public works & infrastructure planning, transportation, architecture, education, and healthcare.

Geographic Information Systems Certificate 17-19 Credits

Geographic Information Systems Certificate

305200 Revised 4/2016 (Fall 2017)

Specific Program Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
CSIS 115	Computer Concepts and Applications	3		
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
GEOG 228	Administrative Issues in GIS	3		GEOG 120
GEOG 230	Geographic Information Systems Internship	1-3		GEOG 120 and 220
Total Credit Hours Required		17-19		

Arts & Communication

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 transfer to a four-year degree program.

A.A.S. Graphic Design..... 64 Credits

A.A.S. Graphic Design

201400 Revised 2/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ART 110	Drawing I	3		
ART 157	History of Graphic Design	3		
COMM 100 COMM 112 COMM 102 COMM 223	Fundamentals of Speech <i>or</i> Introduction to Mass Communication <i>or</i> Fundamentals of Human Communication <i>or</i> Interpersonal Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to American National Politics	3		
ANTH 110 PSYC 140 SOCI 160	Cultural Anthropology <i>or</i> General Psychology <i>or</i> Introduction to Sociology	3		
Specific Program Requirements				
ART 103	Design Foundations	3		
ART 123	Color Theory	3		ART 103 or concurrent enrollment
GDES 110	Digital Design Applications I	3		
GDES 115	Introduction to Graphic Arts*	3		
GDES 150	Digital Design Applications II*	3		GDES 110 with a C or better
GDES 160	Graphic Design I*	3		GDES 150 or concurrent enrollment, READ 11 or higher or appropriate placement score, ENGL 90 or higher or appropriate placement score, formal acceptance
ART 247 GDES 280	Digital Imaging <i>or</i> Advanced Color Correction*	3		GDES 110 (ART 247) GDES 150 or concurrent enrollment (GDES 280)
ART 250 ART 254	Printmaking <i>or</i> Silk Screen Printing I	3		
GDES 210	Graphic Design II*	3		GDES 160 with a C or better
GDES 220	Graphic Design File Preparation*	3		GDES 150 or concurrent enrollment
GDES 245	Web Design I*	3		GDES 150 or concurrent enrollment
GDES 250	Graphic Design III*	3		GDES 210 or concurrent enrollment
GDES 255	Web Design II*	3		GDES 245 with a C or better
GDES 264	Graphic Design Portfolio & Practice*	3		GDES 210 with a C or better
ART or GDES	Elective Course	3		
Total Credit Hours Required		64		

* These courses are only offered on the Penn Valley campus.

Health Services

Health Information Management

Offered at MCC-Penn Valley

This program offers an Associate in Applied Science degree. The program prepares students in all aspects pertaining to the electronic health record, medical coding, reimbursement, database management, data analysis and compliance, legal aspects and health statistics. This program offers a Coding Specialist Certificate. The Program prepares students in the aspects of medical coding and medical billing.

Admission to the Program

Students must apply for admission to the Health Information Management Program. For more information, go to: www.mcckc.edu/programs/healthinformationmanagementcoding/

A.A.S. Health Information Management75.5-82.5 Credits

Coding Specialist Certificate27.5-34.5 Credits

A.A.S. Health Information Management

201600 Revised 3/2020 (Fall 2017)

Program Prerequisites (11-18 credit hours)	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar or HLSC 100 Introduction to Health Professions	1-2		
HIM 100 Medical Terminology	3		
HLSC 108 Anatomy and Physiology for Health Professions or BIOL 109 Human Anatomy and Physiology or BIOL 110 Human Anatomy and BIOL 210 Human Physiology	4-10		CHEM 105 (BIOL 109) BIOL 110 or CHEM 105 (BIOL 210)
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
General Education Requirements (16 credit hours)			
BIOL 137 Intro to Pathophysiology	4		HLSC 108 or BIOL 109 or BIOL 110 and 210
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
PSYC 140 General Psychology	3		
SOCI 160 Sociology	3		
Minimum Total General Education Credit Hours		18	
Specific Program Requirements (48.5 credit hours)			
CSIS 115 Computer Concepts and Applications	3		
HIM 101 Introduction to Health Information Management	4		Formal admission into HIM program, HLSC 108 or 109 or BIOL 110 and 210, ENGL 101 and HIM 100
HIM 108 Legal Aspects of Health Information	3		Formal admission into HIM program, HLSC 108 or 109 or BIOL 110 and 210, ENGL 101 and HIM 100
HIM 110 Pharmacology	2		Formal admission into HIM program, HLSC 108 or 109 or BIOL 110 and 210, ENGL 101 and HIM 100
HIM 112 Database for Health Information	2		Formal admission into HIM program, HLSC 108 or 109 or BIOL 110 and 210, ENGL 101 and HIM 100
HIM 115 Healthcare Statistics	3		CSIS 115, HIM 101, HIM 108, HIM 110, HIM 112
HIM 120 Quality Improvement in Healthcare	3		CSIS 115, HIM 101, HIM 108, HIM 110, HIM 112
HIM 130 Health Data Systems	3		CSIS 115, HIM 101, HIM 108, HIM 110, HIM 112
HIM 135 Organizational Management	3		CSIS 115, HIM 101, HIM 108, HIM 110, HIM 112
HIM 202 Clinical Classification Systems - Diagnostic	4		HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210
HIM 207 Clinical Classification Systems - PCS	3		HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210
HIM 214 Healthcare Reimbursement Methodologies	3		HIM 115, 120, 130, 135
HIM 215 Clinical Professional Practice I	3		HIM 115, 120, 130, 135
HIM 218 Ambulatory Care Coding - CPT	4		HIM 202, HIM 207
HIM 221 Coding Professional Practice	2.5		HIM 202, HIM 207
HIM 222 Health Information Management Competency	3		BIOL 137, HIM 202, HIM 207, HIM 214, HIM 215
Total Credit Hours Required	75.5-82.5		

Health Services

Health Information Management

Offered at MCC-Penn Valley

Coding Specialist Certificate

304600 Revised 12/2016 (Fall 2017)

COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
Program Prerequisites (8-12 hours)		Credits	Semester	Prerequisites
HLSC 108	Anatomy and Physiology for Health Professions or	4-10		CHEM 105 (BIOL 109) BIOL 110 or CHEM 105 (BIOL 210)
BIOL 109	Human Anatomy and Physiology or			
BIOL 110	Human Anatomy and			
BIOL 210	Human Physiology			
BIOL 137	Introduction to Pathophysiology	4		BIOL 110 and 210 or BIOL 109 or HLSC 108
HIM 100	Medical Terminology	3		
Specific Program Requirements				
HIM 107	Medical Billing	2		
HIM 202	Clinical Classification Systems - Diagnostic	4		HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210
HIM 207	Clinical Classification Systems - PCS	3		HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210
HIM 218	Ambulatory Care Coding - CPT	4		HIM 202, HIM 207
HIM 221	Coding Professional Practice	2.5		HIM 202, HIM 207
Total Credit Hours Required		27.5-34.5		

Industrial & Engineering Technology

Heating, Ventilation, Air Conditioning & Refrigeration

Offered at MCC-Business & Technology

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

A.A.S. HVAC	62-64 Credits
Energy Efficiency Certificate	41 Credits
HVAC Advanced Certificate	40-42 Credits
HVAC Certificate	24 Credits

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

201805 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104 or 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA	4-5		See Courses section of this catalog for individual course prerequisites.
Minimum Total General Education Credit Hours	18-20		
Specific Program Requirements			
EHSS 111 Intro to Health & Safety for General Industry or EHSS 112 Intro to Health & Safety for Construction	1		
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
HVAC 136 Residential Heating and Air Conditioning II	4		HVAC 135
HVAC 221 Commercial Refrigeration	4		HVAC 109, 120, 136
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 224 Energy Management, Efficiency and Conservation	3		
6 hours from the following: HVAC/INTE/WELD electives	6		
Total Credit Hours Required	62-64		

Industrial & Engineering Technology

Heating, Ventilation, Air Conditioning & Refrigeration

Offered at MCC-Business & Technology

Energy Efficiency Certificate

306500 Revised 8/2011 (Spring 2012)

General Education Requirements	Credits	Semester Taken	Prerequisites
HVAC Certificate*	24*		
HVAC 240 Geo-Thermal Heat Pumps	3		HVAC 136
HVAC 201 Stationary Engineering	3		HVAC 111 and 120
INTE 224 Energy Management, Efficiency, and Conservation	3		
GEOL 180 Energy and the Environment	5		
BUSN 130 Entrepreneurship	3		
*Includes HVAC 109, 111, 120, 135, 136, 230, COLL 100			
Total Credit Hours Required	41		

Heating, Ventilation, Air Conditioning & Refrigeration

Heating, Ventilation and Air Conditioning Advanced Certificate

302000 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
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
HVAC 136 Residential Heating and Air Conditioning II	4		HVAC 135
HVAC 221 Commercial Refrigeration	4		HVAC 109, 120, and 136
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
HVAC 201 Stationary Engineering or	3		HVAC 111 and 120 (HVAC 201) HVAC 109 and
INTE 224 Energy Management, Efficiency, and Conservation	3		INTE 115 (INTE 175)
MATH 103 Technical Mathematics I or higher	3-5		MATH 40 or 40L
Total Credit Hours Required	40-42		

Heating, Ventilation, Air Conditioning & Refrigeration

Heating, Ventilation and Air Conditioning Certificate

402100 Revised 2/2012 (Summer 2012)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
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 230 Sheet Metal Layout and Fabrication	4		
Total Credit Hours Required	24		

Industrial and Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

If you enjoy always learning new technology and hands on learning, careers in the industrial technology program will prepare you for jobs related to the repair and installation of automation, robotics and programming of machines in manufacturing, energy and utilities.

A.A.S. Industrial Technology		Industrial Technology Certificates	
Industrial Electrical	61-64 Credits	Industrial Technology Level I	20-22 Credits
Industrial Maintenance	62-65 Credits	Industrial Automation Mechatronics Level II	38-40 Credits
Instrumentation & Controls	68-71 Credits	Industrial Automation Mechatronics Level III	79-83 Credits
Military Technology	63-66 Credits	Industrial Mechanic Level II - Maintenance Mechanics	42-44 Credits
Millwright	62-65 Credits	Industrial Electrical Level II	41-43 Credits
Multi-craft	63-66 Credits	Industrial Maintenance	38-42 Credits
Photovoltaics	62-67 Credits	Industrial Millwright Level II	41-43 Credits
Stationary Engineering	64-67 Credits	Instrumentation Level III	56-58 Credits
Stationary Engineering Critical Facilities	68-71 Credits	Photovoltaic	33-35 Credits
		Stationary Engineering Critical Facilities Level II	41-43 Credits
		Stationary Engineering HVAC	19 Credits
		Stationary Engineering Level II	40-43 Credits

AAS INTE – Stationary Engineering Critical Facilities Emphasis

201830 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215	Technical Writing <i>or</i>	3		ENGL 101 (ENGL 215)
SPAN 100	Beginning Occupational Spanish			
HIST 120	United States History to 1865 <i>or</i>	3		
HIST 121	United States History Since 1865 <i>or</i>			
POLS 136	Introduction to U.S. National Politics			
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Choose one of the following Math options				
Option 1:				
MATH 103	Technical Mathematics I or	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
MATH 120	College Algebra and			
MATH 104	Technical Mathematics II or			
MATH 130	Trigonometry			
Option 2:				
MATH 150	PreCalculus or higher			
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA				
Minimum Total General Education Credit Hours		20-23		

Continued on next page

Industrial and Engineering Technology

Industrial Technologies

AAS INTE – Stationary Engineering Critical Facilities Emphasis (Continued)

Core Program Requirements				
EHSS 111	Introduction to Health & Safety for General Industry	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Specific Program Requirements				
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3		
HVAC 120	Fundamentals of Refrigeration	4		
HVAC 201	Stationary Engineering	3		HVAC 111 and 120
HVAC 221	Commercial Refrigeration	4		HVAC 109, 120, and 136
INTE 271	Programmable Logic Controllers I	4		INTE 113, 175 with a grade of C or higher
INTE 273	Variable Speed Motors and Drives	3		INTE 175 and INTE 271
INTE 275	Electric Motor Controls II	3		INTE 175
INTE 276	Electrical Troubleshooting and PLC Troubleshooting	4		INTE 275 and INTE 271, both co-requisites
INTE 279	Networking for Automated Systems	3		INTE 271
Total Credit Hours Required		68-71		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

A.A.S. INTE Industrial Electrical Emphasis

201806 Revised 3/2020 (Fall 2019)

General Education Requirements		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20		
Core Program Requirements				
EHSS 111	Introduction to Health & Safety for General Industry	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Industrial Electrical Program Requirements				
INTE 142	National Electric Code	3		INTE 113
INTE 225	Industrial Electrical Print Reading	3		INTE 115
INTE 271	Programmable Logic Controller I	4		INTE 113 and 175 with a grade of C or higher
INTE 273	Variable Speed Motors and Drives	3		INTE 175 and 271
INTE 275	Electric Motor Controls II	3		INTE 175
INTE 276	Electrical and PLC Troubleshooting	4		INTE 275 and INTE 271, co-requisites
INTE 281	Industrial Robotics	4		INTE 271 or concurrent enrollment
Total Credit Hours Required		61-64		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

AAS INTE – Industrial Maintenance Emphasis

201807 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		
Core Program Requirements				
EHSS 111	Introduction to Health & Safety for General Industry	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Specific Program Requirements				
INTE 150	Fluid Power Fundamentals of Hydraulics and Pneumatics	3		
INTE 151	Industrial Rigging	3		
INTE 240	Adv. Industrial Machine Repair	3		INTE 140
INTE 260	Industrial Pipefitting and Plumbing Fundamentals	3		INTE 140
INTE 275	Electric Motor Controls II	3		INTE 175
INTE 276	Electrical and PLC Troubleshooting	4		INTE 271 and INTE 275, co-requisite
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101 or concurrent enrollment
CIMM 103	Basic Mill Operation	1		CIMM 101 or concurrent enrollment
WELD 105	Welding for the Trades	3		
Total Credit Hours Required		62-65		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

AAS INTE – Instrumentation & Controls Emphasis

201827 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		
Core Program Requirements				
INTE 107	Industrial Electrical Safety	2		
EHSS 111	Introduction to Health and Safety for General Industry	1		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Specific Program Requirements				
CSIS 110	Information and Technology Fundamentals	3		
CSIS 123	Programming Fundamentals	3		MATH 31 with a grade of S or appropriate placement
INTE 270	Instrumentation & Process Control	3		HVAC 201 or INTE 271
INTE 271	Programmable Logic Controllers I	4		INTE 113, INTE 175 with a grade of C or higher
INTE 272	Programmable Logic Controllers II	3		INTE 115 and INTE 271
INTE 276	Electrical and PLC Troubleshooting	4		INTE 275 and INTE 271 as co-requisites
INTE 279	Networking for Automated Systems	3		INTE 271
INTE 280	Networking- HMI for the PLC	4		INTE 272
INTE 291	Process Control Capstone	4		INTE 270 and INTE 272
Total Credit Hours Required		68-71		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

A.A.S. Indus. Tech. Military Technology

201835 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any Gen Ed course numbered 100 or above from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements				
Electives (EHSS, ETEC, HVAC, INTE, CIMM, WELD, CSIS)		15		
4 Year Military Technology Training & Job Experience (Credit by Certification*)		30		
Total Credit Hours Required		62-66		
*MCC will award 30 college credits to students who successfully complete a documented military technology training program and the above 33-37 credit hours. The student must submit to the MCC Registrar documentation of successful completion of 4 years military technology training and job experience in the form of a certified page from the member's service record or a certified electronic transcript. The credit will be transcribed upon completion of 15 MCC credits.				

Industrial & Engineering Technology

Industrial Technologies

AAS INTE – Millwright Emphasis

201809 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		
Core Program Requirements				
INTE 107	Industrial Electrical Safety	2		
EHSS 111	Introduction to Health and Safety for General Industry	1		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Specific Program Requirements				
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101 or concurrent enrollment
CIMM 103	Basic Mill Operation	1		CIMM 101 or concurrent enrollment
HVAC 230	Sheet Metal Layout and Fabrication	4		
INTE 150	Fundamentals of Hydraulics and Pneumatics	3		
INTE 151	Industrial Rigging	3		
INTE 240	Adv. Industrial Machine Repair	3		INTE 140
INTE 260	Industrial Pipefitting and Plumbing Fundamentals	3		INTE 140
WELD 110	Welding Industry Fundamentals	3		
WELD 120	Thermal Cutting Processes Lecture and	1		WELD 110 or taken concurrently
WELD 121	Thermal Cutting Processes Lab	2		WELD 120 or taken concurrently
Total Credit Hours Required		62-65		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

AAS INTE – Multi-craft Emphasis

201828 Revised 3/2020 (Fall 2019)

General Education Requirements		Credits	Semester	Prerequisites
COLL 100	First Year Seminar	1		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 30/90 or appropriate placement test score
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 w/ a grade of S 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 110 or satisfactory score in math placement test (MATH 150)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		
Core Program Requirements				
EHSS 111	Intro to Health & Safety for General Industry	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115
Specific Program Requirements				
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101 or concurrent enrollment
CIMM 103	Basic Mill Operation	1		CIMM 101 or concurrent enrollment
HVAC 111	Principles of Heating, Ventilation, & Refrigeration	3		
INTE 240	Advanced Industrial Machine Repair	3		INTE 140 with a C grade or higher
INTE 275	Electric Motor Controls II	3		INTE 175
WELD 105	Welding for the Trades	3		
Electives: CIMM, EHSS, ETEC, HVAC, or WELD		6		
Total Credit Hours Required		58-61		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

AAS INTE – Photovoltaic Emphasis

201829 Revised 11/2018 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
MATH 103 MATH 104	Technical Mathematics I <i>and</i> Technical Mathematics II or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		

Core Program Requirements

CSIS 115	Computer Concepts and Applications	3		
EHSS 112	Introduction to Health & Safety for Construction	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		MATH 103 concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 165	Wiring Methods and Materials Installation	3		INTE 113, 115, and INTE 142 as a co-requisite with a C or higher

Specific Program Requirements

ETEC 152 ETEC 169	Engineering Graphics and CADD I or CADD I	3-5		MATH 95 w. a grade of C or higher or appropriate placement score (ETEC 152)
ETEC 211	Building Information Modeling, Revit	3		ETEC 152 or Concurrent enrollment or Project Lead The Way, Introduction to Engineering
INTE 142	National Electric Code	3		INTE 113 with a C or higher
INTE 185	Photovoltaic Systems	3		INTE 112 with a C or higher
INTE 224	Energy Management, Efficiency & Conservation	3		
INTE 230	Solar/Photovoltaic Design/Installation	4		INTE 142, INTE 185, and either ETEC 110, HVAC
INTE 235	Solar/Photovoltaic Site Assessment	3		INTE 185
INTE 242	Master and Journeyman Prep	3		INTE 142
Total Credit Hours Required		62-67		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

AAS INTE – Stationary Engineering Emphasis

201801 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 215 SPAN 100	Technical Writing <i>or</i> Beginning Occupational Spanish	3		ENGL 101 (ENGL 215)
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		20-23		

Core Program Requirements

EHSS 111	Introduction to Health & Safety for General Industry	1		
INTE 107	Industrial Electrical Safety	2		
INTE 112	Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115	Electrical Print Reading	3		INTE 113
INTE 140	Fundamentals of Industrial Machine Repair	3		
INTE 175	Electric Motor Controls I	3		HVAC 109 or INTE 115

Specific Program Requirements

HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3		
HVAC 120	Fundamentals of Refrigeration	4		
HVAC 201	Stationary Engineering	3		HVAC 111 and 120
HVAC 221	Commercial Refrigeration	4		HVAC 109, 120, and 136
INTE 224	Energy Management, Efficiency, and Conservation	3		
INTE 240	Adv. Industrial Machine Repair	3		INTE 140
INTE 270	Instrumentation & Process Controls	3		HVAC 201 or INTE 271
INTE 271	Programmable Logic Controller I	4		INTE 113 and INTE 175
Total Credit Hours Required		64-67		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

Industrial Technology Level I Certificate

404500 Approved 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
EHSS 111 Introduction to Health and Safety in General Industry	1		
INTE 107 Industrial Electrical Safety	1		
INTE 112 Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113 Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115 Electrical Print Reading	3		INTE 113
INTE 140 Fundamentals of Industrial Machine Repair	3		
INTE 175 Electric Motor Controls I	3		HVAC 109 or INTE 115
MATH 103 Technical Math I <i>or</i> higher	3-5		MATH 31 with a grade of S or appropriate placement
Total Credit Hours Required	20-22		

Industrial Technologies

Industrial Automation/Mechatronics Level II PLC Certificate

308000 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
CSIS 110 Information Technology Fundamentals	3		
CSIS 112 Introduction to Networks CCNA I	4		Concurrent enrollment or completion of MATH 103 or higher
INTE 271 Programmable Logic Controller I	4		INTE 113, 175 with a C grade or higher
INTE 273 Variable Speed Motor Drives and Controllers	3		INTE 175 and 271
INTE 276 Electrical and PLC Troubleshooting	4		INTE 275 and 271, both co-requisites
Total Credit Hours Required	38-40		

Industrial Technologies

Industrial Automation Mechatronics Level III Certificate

308100 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-21		
Industrial Automation/Mechatronics Level II PLC or Industrial Electrical Level II	18-21		
CSIS 123 Programming Fundamentals	3		MATH 31 with a grade of S or appropriate placement
INTE 272 Programmable Logic Controller II	3		INTE 115 and 271
INTE 279 Networking for Industrial and Building Automation	3		INTE 271 with a C grade or higher
INTE 280 Networking HMI for the PLC	4		INTE 272
INTE 281 Industrial Robotics	4		INTE 271 or concurrent enrollment with a C grade or higher
INTE 290 Programmable Logic Controller Capstone	4		INTE 277 or concurrent enrollment
Total Credit Hours Required	59-64		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

Industrial Mechanic Level II --Maintenance Mechanic Certificate

307900 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
CIMM 101 Machine Shop Safety	1		
CIMM 102 Basic Lathe Operation	1		
CIMM 103 Basic Mills Operation	1		
HVAC 230 Sheet Metal Layout and Fabrication	4		
INTE 150 Fluid Power Fundamentals of Hydraulics and Pneumatics	3		
INTE 151 Industrial Rigging	3		
INTE 240 Advanced Industrial Machine Repair	3		INTE 140 with a C grade or higher
INTE 260 Industrial Pipefitting and Plumbing Fundamentals	3		INTE 140 with a C grade or higher
WELD 105 Welding for the Trades	3		
Total Credit Hours Required	42-44		

Industrial Technologies

Industrial Electrical Level II Certificate

302100 Revised 11/2016 (Fall 2017)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
INTE 142 National Electric Code	3		INTE 113
INTE 225 Industrial Print Reading I	3		INTE 115
INTE 271 Programmable Logic Controllers I	4		INTE 113, 175 with a C grade or higher
INTE 275 Electric Motor Controls II	3		INTE 175
INTE 276 Electrical and PLC Troubleshooting	4		INTE 275 and 271, both co-requisites
INTE 281 Industrial Robotics	4		INTE 271 or concurrent enrollment with a C grade or higher
Total Credit Hours Required	41-43		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

Industrial Maintenance Certificate

302200 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
CSIS 100 Digital Literacy	2		
CIMM 101 Machine Shop Safety and CIMM 102 Basic Lathe Operation and CIMM 103 Basic Mill Operation or CIMM 130 Machining for Related Occupations	3-5		CIMM 101 or concurrent enrollment (CIMM 102) CIMM 101 or concurrent enrollment(CIMM 103)
EHSS 111 Introduction to Health and Safety in General Industry	1		
INTE 107 Industrial Electrical Safety	2		
INTE 112 Industrial Electrical DC Principles	2		Concurrent enrollment or completion of MATH 103 or higher
INTE 113 Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115 Electrical Print Reading	3		INTE 112 or equivalent
INTE 140 Fundamentals of Industrial Machine Repair	3		
INTE 150 Fluid Power Fundamentals of Hydraulics and Pneumatics	3		
INTE 175 Electric Motor Controls I	3		HVAC 109 or INTE 115
INTE 240 Advanced Industrial Machine Repair	3		INTE 140
MATH 103 Technical Math I or higher	3-5		MATH 31 with a grade of S or appropriate placement
WELD 100 Introduction to Welding/Cutting Processes	1		
Choose 2 of the following: INTE 142 National Electric Code INTE 219 Internship & Co-Op INTE 221 Internship & Co-Op II INTE 225 Industrial Electrical Print Reading INTE 271 Programmable Logic Controllers I INTE 275 Electric Motor Controls II	6		INTE 113 (INTE 142) INTE 124 (INTE 219) INTE 219 (INTE 221) INTE 115 (INTE 225) INTE 113 and INTE 175 (INTE 271) INTE 175 (INTE 275)
Total Credit Hours Required	38-42		

Industrial Technologies

Industrial Millwright Level II Certificate

302400 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
CIMM 101 Machine Shop Safety	1		
CIMM 102 Basic Lathe Operation	1		
CIMM 103 Basic Mills Operation	1		
INTE 150 Fluid Power Fundamentals of Hydraulics and Pneumatics	3		
INTE 151 Industrial Rigging	3		
INTE 260 Pipe Fitting Fundamentals <i>or</i> HVAC 230 Sheet Metal Layout and Fabrication	3-4		INTE 140 with a C grade or higher (INTE 260)
WELD 105 Welding for the Trades	3		
WELD 110 Welding Industry Fundamentals	3		
WELD 120 Thermal Cutting Processes Lecture	1		WELD 110 or concurrent enrollment
WELD 121 Thermal Cutting Processes Lab	2		WELD 120 or concurrent enrollment
Total Credit Hours Required	41-44		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

Instrumentation Level III Certificate

308300 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
Industrial Automation/Mechatronics Level II PLC	19		
INTE 225 Industrial Electrical Print Reading	3		INTE 115
INTE 270 Instrumentation & Process Control	3		HVAC 201 or INTE 271
INTE 272 Programmable Logic Controllers II	3		INTE 115 and INTE 271
INTE 280 Networking - HMI for the PLC	4		INTE 272
INTE 291 Process Controls Capstone	4		INTE 270 and INTE 272
Total Credit Hours Required	56-58		

Industrial Technologies

Offered at MCC-Business & Technology

Photovoltaics Certificate

403400 Revised 11/2018 (Fall 2019)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
General Education Requirements			
CSIS 115 Computer Concepts and Applications	3		
EHSS 112 Intro to Health and Safety for Construction	1		
MATH 103 Technical Math I or higher	3-5		MATH 31 with a grade of S or appropriate placement
INTE 107 Industrial Electrical Safety	2		
INTE 112 Industrial Electrical DC Principles	2		Concurrent Enrollment or completion of MATH 103 or Higher
INTE 113 Industrial Electrical AC Principles	2		INTE 112 or equivalent
INTE 115 Electrical Print Reading	3		INTE 113
INTE 142 National Electrical Code	3		INTE 113
INTE 165 Wiring Methods and Materials Installation	3		INTE 113, 115, and INTE 142 as a co-requisite
INTE 185 Solar/Photovoltaic Systems	3		HVAC 109 or INTE 115
INTE 230 Solar/Photovoltaic Design and Installation	4		INTE 185, INTE 142, and either HVAC 109 or INTE 110, or ETEC 110.
Electives:			
INTE 219 Industrial Technologies Internship I or	3		INTE 124 (INTE 219)
INTE 235 Solar Photovoltaic Site Assessment			INTE 185 (INTE 235)
Total Credit Hours Required	33-35		

Industrial Technologies

Stationary Engineering -- Critical Facilities Level II Certificate

308200 Revised 11/2016 (Fall 2017)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
INTE 260 Industrial Pipefitting and Plumbing Fundamentals <i>or</i>	3-4		INTE 140 (INTE 260)
HVAC 230 Sheet Metal Layout and Fabrication			
INTE 270 Instrumentation and Process Controls	3		HVAC 201 or INTE 271
INTE 271 Programmable Logic Controller I	4		INTE 113, 175 with a C grade or higher
INTE 273 Variable Speed Motors and Drives	3		INTE 271 and 275
INTE 276 Electrical and PLC Troubleshooting	4		INTE 271 and 275, both co-requisites
INTE 279 Networking for Automated Systems	3		INTE 271 with a C grade or higher
Total Credit Hours Required	40-43		

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

Stationary Engineering -- HVAC Certificate

404600 Revised 11/2014 (Spring 2015)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
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 201 Stationary Engineering	3		HVAC 111 and 120
HVAC 221 Commercial Refrigeration	4		HVAC 109, 120, and 136
Total Credit Hours Required	19		

Industrial Technologies

Offered at MCC-Business & Technology

Stationary Engineering Level II Certificate

302500 Revised 11/2014 (Spring 2015)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
Industrial Technology Level I Certificate	20-22		
INTE 150 Fluid Power Fundamentals of Hydraulics and Pneumatics	3		
INTE 240 Adv. Industrial Machine Repair	3		INTE 140 with a C grade or higher
INTE 260 Pipe Fitting Fundamentals or HVAC 230 Sheet Metal Layout and Fabrication	3-4		INTE 140 with a C grade or higher (INTE 260)
INTE 271 Programmable Logic Controller I	4		INTE 113, 175 with a C grade or higher
INTE 275 Electric Motor Controls II	3		INTE 175
INTE 276 Electrical and PLC Troubleshooting	4		INTE 271 and 275, both co-requisites
Total Credit Hours Required	40-43		

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

These degree completion programs are restricted programs that grant college credit by certification for certain federally approved apprenticeship programs. Students must have received their DOL Apprenticeship Completion Certificate to complete these 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 journeyman card for the appropriate craft.

A.A.S. Industrial Technology

Industrial Mechanic62-67 Credits	Lineman Tech/Cable Splicer 62-63 Credits
Industrial Pipefitter/Sprinkler Fitter64-67 Credits	Maintenance Electrician 60-64 Credits
Industrial Warehouse Worker60-63 Credits	Millwright 62-65 Credits
Industrial Welder64-69 Credits	Sheet Metal 62-65 Credits

Industrial Trades Post-Apprenticeship Degree

Offered at MCC-Business & Technology

AAS INTE – Industrial Mechanic

201824 Revised 3/2020 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		
Specific Program Requirements	Credits	Semester Taken	Prerequisites
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy	2		
EHSS 111 Intro to Safety & Health for General Industry	1		
INTE 151 Industrial Rigging or CIMM 130 Machining for Related Occupations	3-5		
General Electives	6		
Industrial Mechanic Apprenticeship*	29		
Total Credit Hours Required	62-67		

*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. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

AAS INTE – Industrial Pipefitter/Sprinkler Fitter

201826 Revised 3/2020 (Fall 2019)

COLL 100 First Year Seminar	1		
General Education Requirements	Credits	Semester Taken	Prerequisites
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOCS, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		
Specific Program Requirements	Credits	Semester Taken	Prerequisites
BUSN 200 Business Management	3		
CSIS 100 Digital Literacy	2		
EHSS 112 Introduction to Health and Safety for Construction	1		
INTE 107 Industrial Electrical Safety	2		
INTE 151 Industrial Rigging	3		
General Electives	6		
Industrial Pipefitter/Sprinkler Fitter Apprenticeship*	29		
Total Credit Hours Required	64-67		
*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. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.			

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

A.A.S. Indus. Warehouse Worker

201834 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
SPAN 100 SPAN 101	Beginning Occupational Spanish or Elementary Spanish I	3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements				
EHSS 111	Introduction to Health and Safety for General Industry	1		
CSIS 110	Information Technology Fundamentals	3		
CSIS 115	Computer Concepts and Applications	3		
INTE 151	Industrial Rigging	3		
BUSN 200	Business Management	3		
BUSN 210	Logistics Management	3		
BUSN 211	Operations Management	3		
BUSN 212	Transportation and Operations and Management	3		
BUSN 213	Warehouse and Distribution Centers	3		
BUSN 130	Entrepreneurship	3		
Warehouse Worker Apprenticeship*		8		
Electives		6		
Total Credit Hours Required		60-63		

*Federally approved Warehouse Worker apprenticeship program that contains a minimum of 144 clock hours of classroom and instruction and 2000 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.

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

AAS INTE – Industrial Welder

201825 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy	2		
EHSS 112	Introduction to Health and Safety for Construction	1		
INTE 107	Industrial Electrical Safety	2		
INTE 151 CIMM 130	Industrial Rigging <i>or</i> Machining for Related Occupations	3-5		
General Electives		6		
Industrial Welders Apprenticeship*		29		
Total Credit Hours Required		64-69		

*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. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft.

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

AAS INTE – Lineman Technician/Cable Splicer

201822 Revised 3/2020 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
MATH 103 MATH 104 MATH 120 MATH 130 MATH 150	Technical Mathematics I and Technical Mathematics II or College Algebra and Trigonometry or PreCalculus	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 120)
SPAN 100	Beginning Occupational Spanish	3		
Minimum Total General Education Credit Hours		17-18		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
LINE 253	Safety and Accident Prevention	4		Line 215 and Line 237
INTE 112	Industrial Electrical DC and	4		MATH 103
INTE 113	Industrial Electrical AC	4		INTE 112 or equivalent
INTE 219	INTE Internship & Co-Op	3		Line 124
INTE 221	INTE Internship & Co-Op II	3		
Technician/Cable Splicer Apprenticeship*		30		
Total Credit Hours Required		62-63		
*Federally approved Lineman Technician/Cable Splicer 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.				

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

Ind. Main. Electrician Apprenticeship Degree Completion Program

201823 Revised 3/2020 (Fall 2019)

COLL 100 First Year Seminar	1		
General Education Requirements	Credits	Semester Taken	Prerequisites
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 Technical Mathematics I or MATH 120 College Algebra and MATH 104 Technical Mathematics II or MATH 130 Trigonometry Option 2: MATH 150 PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	17-20		

Specific Program Requirements			
EHSS 111 Introduction to Health and Safety for General Industry	1		
CSIS 100 Digital Literacy	2		
INTE 225 Industrial Electrical Print Reading	3		
INTE 272 Programmable Logic Controller II or INTE 277 Programmable Logic Controller Troubleshooting	3-4		INTE 115 AND INTE 271
INTE 276 Electrical Troubleshooting	4		INTE 275
Industrial Maintenance Electrician Apprenticeship*	29		
Total Credit Hours Required	60-64		

*Federally approved Industrial Maintenance Electrician 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.

Industrial & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

AAS INTE – Millwright Apprenticeship Degree Completion Program

201832 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy	2		
EHSS 111	Introduction to Health and Safety for General Industry	1		
INTE 151	Industrial Rigging	3		
General Electives		6		
Millwright Apprenticeship*		29		
Total Credit Hours Required		62-65		

*Federally approved Millwright apprenticeship program that contains a minimum of 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 & Engineering Technology

Industrial Trades-Post Apprenticeship Degree

Offered at MCC-Business & Technology

Sheet Metal Apprenticeship Degree Completion Program

201819 Revised 3/2020 (Fall 2019)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 HIST 121 POLS 136	United States History to 1865 or United States History Since 1865 or Introduction to U.S. National Politics	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Option 1: MATH 103 MATH 120 MATH 104 MATH 130 Option 2: MATH 150	Technical Mathematics I or College Algebra and Technical Mathematics II or Trigonometry PreCalculus or higher	5-6		MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) MATH 120 or appropriate placement score (MATH 130)
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA		3-5		
Minimum Total General Education Credit Hours		17-20		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
BUSN 200	Business Management	3		
CSIS 100	Digital Literacy	2		
EHSS 111	Introduction to Health and Safety for General Industry	1		
INTE 151	Industrial Rigging	3		
General Electives		6		
Sheet Metal Apprenticeship (Credit by Certification*)		29		
Total Credit Hours		62-65		
* 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.				

Industrial & Engineering Technology

Industrial Technologies

Offered at MCC-Business & Technology

INTE- Apprenticeship Certificate

NEW 308800 (Fall 2020)

Core Program Requirements			
MATH 103	Technical Math I	3	
INTE 112	Industrial Electrical DC Principles	2	Concurrent enrollment or completion of MATH
INTE 113	Industrial Electrical AC Principles	2	INTE 112 or equivalent
Electives: Any of the following 100 level courses: AUTO, CIMM, INTE, EHSS, ETEC, HVAC or WELD		9	
		16	
Specific Program Requirements			
Electives: AUTO, CIMM, INTE, EHSS, ETEC, HVAC or WELD		26	
Total Credit Hours Required:		42	

*Student must be in an approved Department of Labor (DOL) apprenticeship program to select this certificate

Industrial & Engineering Technology

Trade Apprenticeship Degree Completion Programs

Offered at MCC-Business & Technology

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 journeyman card for the appropriate craft.

Construction Trades Apprenticeship Programs

Offered at MCC-Business & Technology

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 journeyman card for the appropriate craft.

A.A.S. Industrial Technologies

Bricklayer	62-66 Credits
Construction Carpentry	62-66 Credits
Construction Cement Masons	62-66 Credits
Construction Driver & Logistics	60-63 Credits
Construction Ironworker	62-66 Credits
Construction Laborer	62-66 Credits

Floor Layer	62-66 Credits
Glaziers	62-66 Credits
Inside Wiring	
3 -Year program	63-67 Credits
5 -Year program	64-68 Credits
Painter	62-66 Credits
Plumbing	62-66 Credits

Industrial Trades- Post Apprenticeship Programs

Offered at MCC-Business & Technology

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 journeyman card for the appropriate craft.

A.A.S. Industrial Technology

Industrial Mechanic	62-67 Credits
Industrial Pipefitter/Sprinkler Fitter	64-67 Credits
Industrial Warehouse Worker	60-63 Credits
Industrial Welder	64-69 Credits

Lineman Tech/Cable Splicer	61-62 Credits
Maintenance Electrician.....	60-64 Credits
Millwright	62-65 Credits
Sheet Metal	62-65 Credits

International Studies

Offered at MCC-Blue River, MCC-Longview, MCC-Maple Woods, MCC-Penn Valley

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

306300 Revised 11/2014 (Spring 2015)

General Education Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
HUMN 103 Introduction to International Studies	3		
GEOG 105 World Geography	3		
One of the following Humanities courses: COMM 228, ENGL 254, ENGL 255, ENGL 256, MUSI 160, PHIL 102	3		
One of the following History courses: HIST 133, HIST 134, HIST 145	3		
One of the following Social Science courses: ANTH 110, GEOG 113, POLS 234, SOSC 171	3		
One Foreign Language course 101 or above	3-5		
One elective from the following: ANTH 110, BIOL 238, 239, COMM 233, Foreign Language 102 or higher, ENGL 254, 255, 256, HIST 133, 134, 145, 221, HUMN 141, MUSI 160, PHIL 102, POLS 234, SOSC 171	3-5		
One course from the following: ENGL 260, 262, 264, 267, 268, HIST 130, 140, 150, MUSI 116, SOCI 164	3-5		
Total Credit Hours Required	25-31		

Industrial & Engineering Technology

Lineman

Offered at MCC-Business & Technology

Learn skills for the construction and de-construction of lines and equipment following industry standards. Understand the principles of electrical theory and how they pertain to a lineman in the field. Build and simulation energizing single phase and three phase transformers off the pole. Learn the strategies for safety following recommended PPE and Minimum Approach Distance.

A.A.S. Lineman 62-68 Credits
 Lineman Certificate 47-49 Credits

A.A.S. Lineman

201821 Revised 3/2020 (Summer 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to American National Politics			
SPAN 100	Beginning Occupational Spanish or higher	3-5		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
MATH 103	Technical Mathematics I or	3-5		MATH 31 with a grade of S or appropriate placement (MATH 103) MATH 95 with a grade of C or appropriate placement (MATH 120)
MATH 120	College Algebra or higher			
General Education Electives: Any course(s) numbered 100 or above from the following disciplines: ANTH, ART, ECON, ENGL, Foreign Language, GEOG (except 104, 110 and GIS Courses), PHIL, PSYC, SOCI, SOSOC		3-5		
Minimum Total General Education Credit Hours		18-22		
Specific Program Requirements				
BUSN 190	Personal Finance	3		
CSIS 115	Computer Concepts and Applications	3		
INTE 112	Industrial Electrical DC Principles	2		
INTE 113	Industrial Electrical AC Principles	2		INTE 112 or equivalent
LINE 104	Pole Climbing Skills	5		
LINE 105	Electrical Distribution Systems	3		INTE 113 with a C or higher
LINE 210	Pole Framing and Construction Specifications	3		LINE 104 and 105 or concurrent enrollment
LINE 215	Setting and Replacing Poles	3		LINE 104 and 105 or concurrent enrollment
LINE 237	Transformer Theory and Installation	3		LINE 104 and 105 or concurrent enrollment
LINE 241	Conductor Installation and Metering	3		LINE 104 and 105 or concurrent enrollment
LINE 250	Fusing, Substations, & Voltage Regulation	3		LINE 210 and 237 or concurrent enrollment
LINE 251	Installation and Troubleshooting Underground Distribution Systems	3		LINE 215 and 241 or concurrent enrollment
LINE 252	Advanced Pole Climbing	3		LINE 104 and 215 or concurrent enrollment
LINE 253	Safety and Accident Prevention	4		LINE 215 and 237 or concurrent enrollment
Total Credit Hours Required		62-68		

Industrial & Engineering Technology

Lineman

Offered at MCC-Business & Technology

Lineman Certificate

306200 (Summer 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
CSIS 115 Computer Concepts and Applications	3		
ENGL 101 Composition and Reading I	3		ENGL 30/90 or appropriate
INTE 112 Industrial Electrical DC Principles	2		
INTE 113 Industrial Electrical AC Principles	2		INTE 112 or equivalent
LINE 104 Pole Climbing Skills	5		
LINE 105 Electrical Distribution Systems	3		INTE 113 with a C grade or higher
LINE 210 Pole Framing and Construction Specifications	3		LINE 104 and 105 or concurrent enrollment
LINE 215 Setting and Replacing Poles	3		LINE 104 and 105 or concurrent enrollment
LINE 237 Transformer Theory and Installation	3		LINE 104 and 105 or concurrent enrollment
LINE 241 Conductor Installation and Metering	3		LINE 104 and 105 or concurrent enrollment
LINE 250 Fusing, Substations, & Voltage Regulation	3		LINE 210 and 237 or concurrent enrollment
LINE 251 Installation and Troubleshooting Underground Distribution Systems	3		LINE 215 and 241 or concurrent enrollment
LINE 252 Advanced Pole Climbing	3		LINE 104 and 215 or concurrent enrollment
LINE 253 Safety and Accident Prevention	4		LINE 215 and 237 or concurrent enrollment
MATH 103 Technical Mathematics I or MATH 120 College Algebra or higher	3-5		MATH 40/40L or appropriate placement test score (MATH 103) MATH 110 or appropriate placement test score (MATH 120)
Total Credit Hours Required	46-48		

Major Appliance Technology

Offered at Kansas City Kansas Community College

This program prepares students for entry level technical positions servicing commercial restaurant food equipment and residential major appliances. Students receive detailed instruction on all major commercial and residential kitchen and laundry equipment, as well as training in refrigeration, silver brazing, and electrical and mechanical troubleshooting techniques. This program is approved for EPA licensing and for the Professional Servicer Association Certification.

Major Appliance Technology Certificate

605600 Revised 7/2014 (Fall 2014)

Essential Courses <i>Must be taken at one of the MCC campuses</i>		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
EHSS 111	Introduction to Health and Safety for General Industry *	1		
INTE 124	Employment Strategies for Technical Careers	2		
*This course must be taken first				
Essential Courses <i>Must be taken at Kansas City Kansas Community College</i>		Credits	Semester Taken	Prerequisites
MAPRO 103	Tools of the Trade	1		
MAPRO 108	Basic Electricity	3		
MAPRO 112	Fundamentals of Refrigeration	2		
MAPRO 115	Parts Research and Ordering Systems	1		
MAPRO 120	Principles of Combustion	2		
MAPRO 135	Oxy/Acetylene Safety/Usage	2		
MAPRO 140	Brazing/Swaging/Silver and Soft Soldering	3		
MAPRO 205	Gas and Electric Wall Ovens- Domestic/Professional	3		
MAPRO 210	Gas and Electric Ranges/Cook Tops Domestic/Professional/Commercial	3		
MAPRO 220	Dishwashers – Domestic/Professional/Commercial	3		
MAPRO 222	Advanced Refrigeration	2		
MAPRO 230	Refrigerators/Freezers Domestic/Commercial	3		
MAPRO 233	Ice Makers-Domestic/Clear Ice/Commercial Ice Makers	3		
MAPRO 235	Commercial Walk-in/Reach-in Freezers/Coolers	3		
MAPRO 243	Microwave Ovens-Domestic/Commercial	3		
MAPRO 245	Top and Front Load Clothes Washers–Domestic/Commercial	3		
MAPRO 247	Gas and Electric Clothes Dryers/Stack Laundry- Domestic/Commercial	3		
Electives <i>Choose 6 credit hours to complete program</i>		Credits	Semester Taken	Prerequisites
MAPRO 215	Ventilation Hoods/Make-Up Air Blowers – Domestic/Commercial	3		
MAPRO 240	Steam Ovens/Proffers/Deep Fryers –Domestic/Commercial	3		
MAPRO 284	Special Projects	3		
MAPRO 290	Internship	3		
MAPRO 291	Internship II	3		
Total Credit Hours Required		53		

Human Services

Mortuary Science

*Offered at Kansas City Kansas Community College
Coordinated at MCC*

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. 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.

A.A.S. Mortuary Science 72 Credits

A.A.S. Mortuary Science

604500 Revised 3/020 (Fall 2014)

Specific Program Requirements <i>Must be taken at one of the MCC campuses</i>		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar	1		
BIOL 110	Human Anatomy and Lab	5		
BIOL 208	Microbiology	5		CHEM 105 or higher, plus one of the following courses: HLSC 108, BIOL 101, 104, 106,
ACCT 101	Accounting Principles I	3		
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102	Composition and Reading II	3		ENGL 101
MATH 100	Mathematics for Business	3		MATH 31 with a grade of S or appropriate placement
BUSN 200	Business Management	3		
PSYC 140	General Psychology	3		
PSYC 230	Death and Dying	3		
COMM 100	Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
Ethics or Philosophy		3		
Specific Program Requirements <i>Must be taken at Kansas City Kansas Community College</i>				
MTSC 101	Orientation to Funeral Service	2		
MTSC 105	Mortuary Law	3		
MTSC 108	Mortuary Chemistry	3		
MTSC 110	Restorative Art	4		
MTSC 201	Pathology	3		
MTSC 205	Embalming Theory	4		
MTSC 210	Mortuary Management	3		
MTSC 212	Funeral Service Merchandising	3		
MTSC 225	Funeral Service Counseling	3		
MTSC 240	Mortuary Science Practicum I	3		
MTSC 241	Mortuary Science Practicum II	3		
Total Credit Hours Required		72		
<p>* A minimum cumulative grade point average of 2.5. This includes all undergraduate college courses taken. * Human Anatomy and Accounting must have been taken within the last 4 years to transfer to KCKCC. * All General Education requirements (31 hours) must be completed with a "C" grade or better prior to acceptance into the program. * Students entering in Fall 2014 will need a letter of recommendation from a licensed funeral director or submit an investigation questionnaire.</p>				

Arts & Communication

Music Technology

*Offered at Kansas City Kansas Community College
Coordinated at MCC*

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.

A.A.S. Music Technology 56-59 Credits

A.A.S. Music Technology

604600 Revised 7/2014 (Fall 2014)

Specific Program Requirements <i>Must be taken at one of the MCC campuses</i>	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II or ENGL 215 Technical Writing	3		
PSYC 140 General Psychology <i>or</i> SOC 160 Sociology	3		
COMM 100 Fundamentals of Speech or COMM 223 Interpersonal Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
MATH 120 College Algebra or higher	3		MATH 95 with a grade of C or higher or appropriate placement
MUSI 108 Music Appreciation	3		
Music Requirements <i>Can be taken at KCKCC or MCC</i>			
MUSC 111 Music Theory I (MUSI 110 at MCC)	4		
MUSC 112 Music Theory II (MUSI 111 at MCC)	4		
MUSC 213 Music Theory III (MUSI 210 at MCC)	4		
MUSC 214 Music Theory IV (MUSI 211 at MCC)	4		
Performance Groups (4 semesters) Applied Piano (4 semesters) Applied Voice (4 semesters) <i>or</i> Other Applied Lessons (4 semesters)	3-4		
NASC 130 Introductory Physics at KCKCC <i>or</i> PHYS 101 Introductory Physics at MCC	3-5		
Music Technology Requirements <i>Must be taken at KCKCC</i>			
AUDIO 110 Music Technology I	3		
AUDIO 210 Music Technology II	3		
AUDIO 230 Multimedia Production	3		
AUDIO 240 Sound Editing and Synthesis	3		
AUDIO 250 Audio Recording I	3		
Total Credit Hours Required	56-59		
* MUST be taken at KCKCC			

Nursing

Do you like helping other people and working in a fast-paced, challenging environment? There is growing demand for trained nursing professionals and Metropolitan Community College has the programs you need to get started on your pathway to a nursing career. There are several ways to enter this path at MCC: Certified Nursing Assistant (CNA), Licensed Practical Nurse (LPN), and Registered Nurse (RN). Students who want to continue their education can go on to a Bachelor's of Science in Nursing (BSN) and beyond. You can start at any level, or start at CNA and move up while you work.

Certified Nursing Assistant (CNA)

Education Requirements: The MCC program is 175 hours, which includes 100 hours of clinical training.

What Does a CNA Do? Certified Nursing Assistants assist the healthcare team in direct patient care duties such as monitoring vital signs, obtaining heights and weights, and monitoring intake and output. You may also choose to continue your education by becoming a Certified Medical Technician (CMT), or by entering one of the other nursing or allied health programs.

How Do I Get Started? You must be at least 18 years of age, with a valid social security number, and a government issued, valid photo ID. For further information see http://mccckc.edu/professional-dev/healthcare/cna_cmt.asp.

Licensed Practical Nurse (LPN)

Education Requirements: Twelve months of training in such areas as anatomy, physiology, pharmacology and direct patient care. LPNs must pass a national board exam and maintain a professional license.

What Does an LPN Do? Licensed practical nurses are allowed to perform simple medical procedures under the direct supervision of either a doctor or a registered nurse. Common tasks include administering medications, (LPNs can do IV medications if IV certified); dressing wounds; measuring blood pressure, heart rate and temperature; collecting samples; and maintaining patient records. An LPN may also choose to continue on and become a Registered Nurse through MCC's LPN to ADN Bridge Program.

How Do I Get Started? For further information please see the Practical Nursing page of this catalog.

Registered Nurse (RN)

Education Requirements: There are several educational routes that can be taken in pursuit of an RN qualification. The most common is a 2-year program that culminates with earning an Associates Degree in Nursing (ADN). Other options include a hospital diploma program that involves a 3-year course of study or earning a 4-year BSN degree (see below). If you are already an LPN, please see the LPN-ADN Bridge Program page of this catalog for more information.

What Does an RN Do? A registered nurse supervises the work of an LPN and is responsible for the overall safety and care of patients. RN's also have a wide array of nursing career options available and may work for insurance companies, attorneys, schools, surgical centers and even as independent medical consultants.

How Do I Get Started? For further information please see the Professional Nursing page of this catalog.

Bachelor's in Nursing (BSN) and Master's in Nursing (MSN)

Typical Education Requirements: After successful completion of an ADN degree, the RN may decide to earn a BSN or MSN. The BSN offers the professional registered nurse upward mobility in the field of nursing to management positions and more advanced degrees. One to three additional years of study may be required depending on if a student goes part-time or full-time. The MSN would be of most interest to students interested in nursing education.

What Does a BSN Do? The role of the BSN nurse is the same as the ADN nurse.

How Do I Get Started? Locate a school offering a BSN program.

For further information see <http://www.allnursingschools.com/nursing-careers/article/nursing-career-path>

LPN-ADN Bridge Program

Offered at MCC-Penn Valley

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, work and after successful completion of RNUR 115 - Professional Transition Course.

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 Statutes 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 fully approved by the Missouri State Board of Nursing and is accredited by The Accreditation Commission for Education in Nursing.
- 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 Accreditation Commission for Education in Nursing can be contacted at 3343 Peachtree Road, N.E. Suite 850, Atlanta, GA. 30326; telephone (404) 975-5000; fax (404) 975-5020.

LPN-ADN Bridge Program 75-81 Credits

LPN-ADN Bridge Program

202701 Revised 3/2020 (Summer 2009)

COLL 100	First Year Seminar	1		
Prerequisite Courses:				
CHEM 105	Introductory Chemistry for Health Sciences	3-5		
BIOL 109	Anatomy and Physiology	6-10		CHEM 105 (BIOL 109) CHEM 105 and BIOL 110 (BIOL 110 & 210)
BIOL 110	Human Anatomy and			
BIOL 210	Human Physiology			
PSYC 140	General Psychology	3		
BIOL 208	Microbiology	5		CHEM 105 or higher, plus one of the following courses: HLSC 108, BIOL 101, 104, 106, 109 or 110
PSYC 243	Human Lifespan Development	4		PSYC 140
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
<i>The student must complete one of the following courses:</i>				
HIST 120	United States History to 1865 or	3		
HIST 121	United States History since 1865 or			
POLS 136	Introduction to U.S. National Politics			
SOCI 160	Sociology	3		
COMM 100	Fundamentals of Speech or	3		ENGL 90 with a minimum grade of S or appropriate placement score
COMM 102	Fundamentals of Human Communication			
Specific Program Requirements				
Following successful completion of RNUR 115 – Professional Transitions, credit will be given for RNUR 126, 131, 134, 138 and 141.		19		
RNUR 115	Professional Transition	4		Completion of all prerequisites; admission to Nursing program
RNUR 230	Leadership/Management/Trends	2		ENGL 101, SOCI 160, RNUR 234, 238, COMM 100 or 102, HIST 120/121, or POLS 135/136/137. Constitutional requirement may be taken concurrently.
RNUR 234	Child Centered Nursing	4		BIOL 208, RNUR 134, 138, 141, or taken concurrently: ENGL 101, SOCI 160.
RNUR 238	Adult Nursing II	5		BIOL 208, RNUR 134, 138, 141 OR taken concurrently: ENGL 101, SOCI 160.
RNUR 244	Adult Nursing III	7		ENGL 101, SOCI 160, RNUR 234, RNUR 238, or taken concurrently: COMM 100 & Constitutional Requirement (one course) HIST 120/121 or POLS 135/136/137 or SOSC 151
Total Credit Hours Required		75-81		

Health Services

Practical Nursing

Offered at MCC-Penn Valley and MCC-Maple Woods/St. Joseph

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 Practical Nursing Program is conditionally approved by the Missouri State Board of Nursing. The MSBN can be contacted at 3605 MO Blvd., P.O. Box 656 Jefferson City, MO 65102-0656; telephone 573-751-0681.

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

Practical Nursing Certificate 52.5-56.5 Credits

Practical Nursing Certificate

303400 Revised 8/2019 (Fall 2020)

CHEM 105	Introductory Chemistry for Health Sciences	5		
BIOL 109	Anatomy and Physiology OR	6		
BIOL 110	Human Anatomy AND	5		
BIOL 210	Human Physiology	5		
Specific Program Requirements		Credits	Semester Taken	Prerequisites
PNUR 100	Personal Vocational Concepts	1		CHEM105, BIOL 109 (or BIOL 110 and BIOL 210) with C or higher and Admission to Practical Nursing Program
PNUR 103	Fundamentals of Nursing	7		CHEM 105, BIOL 109 (or BIOL 110 and BIOL 210) with a "C" or higher and admission to the practical nursing program.
PNUR 110	Applied Pharmacology I	2.5		CHEM 105, BIOL 109 (or BIOL 110 and BIOL 210) with a "C" or higher and admission to the practical nursing program.
PNUR 111	Applied Pharmacology II	2.5		PNUR 100, PNUR 103, PNUR 138, and PNUR 110
PNUR 128	Mental Health Nursing	4		PNUR 100, PNUR 103, PNUR 110, and PNUR 138
PNUR 132	The Childbearing Family	4		PNUR 100, PNUR 103, PNUR 110, and PNUR 138
PNUR 136	Venous Access and Intravenous Infusion	1.5		PNUR 100, PNUR 103, PNUR 110, and PNUR 138
PNUR 138	Nursing of the Adult I	8		CHEM 105, BIOL 109 (or BIOL 110 and BIOL 210) with a "C" or higher and admission to the practical nursing program.
PNUR 144	Nursing of the Adult II	8		PNUR 100, PNUR 103, PNUR 110, and PNUR 138
PNUR 146	Leadership	3		PNUR 100, PNUR 103, PNUR 110, and PNUR 138
Total Program Credit Hours Required		52.5-56.5		

Professional Nursing

Offered at MCC-Penn Valley

The Professional Nursing program plan leads to the Associate in Applied Science in Nursing degree. Beginning students are prepared to take the National Council of State Boards of Nursing Licensure Examination for Registered Nurses. Graduates who pass the exam can accept entry-level jobs in acute, intermediate and long-term care facilities. For more information, go to <http://www.mcckc.edu/pvnursing>

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 Statutes 1986. Copies of this law are available from the Missouri State Board of Nursing.

Accreditation

The nursing program is fully approved by the Missouri State Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing. 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 Accreditation Commission for Education in Nursing can be contacted at 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; P – 404-975-5000; fax – 404-975-5020.

A.A.S. Professional Nursing.....73-77 Credits

A.A.S. Professional Nursing

202702 Revised 3/2020 (Summer 2010)

Prerequisite Courses:	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
CHEM 105 Introductory Chemistry	5		
BIOL 109 Anatomy and Physiology or BIOL 110 Human Anatomy and BIOL 210 Human Physiology	6-10		CHEM 105 (BIOL 109) CHEM 105 and BIOL 110 (BIOL 210)
PSYC 140 General Psychology	3		
General Education Requirements			
BIOL 208 Microbiology	5		CHEM 105 or higher, plus one of the following courses: HLSC 108, BIOL 101, 104, 106, 109, or 110.
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
PSYC 243 Human Lifespan Development	4		PSYC 140
SOCI 160 Sociology	3		
COMM 100 Fundamentals of Speech or COMM 102 Fundamentals of Human Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score

Continued on next page

A.A.S. Professional Nursing (continued)

Specific Program Requirements			
RNUR 126	Fundamentals of Professional Nursing	6	Admission to the nursing program; completion of or concurrent enrollment in PSYC 243
RNUR 131	Essential Nursing Concepts	2	Admission to the nursing program; completion of or concurrent enrollment in PSYC 243
RNUR 134	Mental Health Nursing	4	RNUR 126, RNUR 131, BIOL 109, PSYC 243; completion of or concurrent enrollment in BIOL 208
RNUR 138	Nursing Care of Women and Neonates	4	BIOL 100 OR CHEM 105, PSYC 140, RNUR 126, RNUR 131, BIOL 109, or option of BIOL 110 and BIOL 210, PSYC 243.
RNUR 141	Adult Nursing I	3	RNUR 126, RNUR 131, PSYC 243; completion of or concurrent enrollment in BIOL 208
RNUR 230	Leadership/Management/Trends	2	ENGL 101, SOCI 160, RNUR 234, 238, COMM 100 OR 102, HIST 120/121 OR POLS 135/136/137 (Constitutional requirement may be taken concurrently)
RNUR 234	Child-Centered Nursing	4	BIOL 208, RNUR 134, RNUR 138, RNUR 141 or taken concurrently: ENGL 101, SOCI 160
RNUR 238	Adult Nursing II	5	BIOL 208, RNUR 134, RNUR 138, RNUR 141. Prerequisites or taken concurrently: ENGL 101, SOCI 160
RNUR 244	Adult Nursing III	7	ENGL 101, SOCI 160, RNUR 234, RNUR 238, or taken concurrently: COMM 100 & Constitutional Requirement (one course) HIST 120/121 or POLS 135/136/137 or SOSC 151
Total Credit Hours Required		73-77	

Human Services

Occupational Education

Offered at all Campuses

This program, which prepares students to become vocational educators, leads to an Associate in Applied Science degree. The program is a collaborative effort between Missouri community colleges and the University of Central Missouri.

A.A.S. Occupational Education 67-69 Credits

A.A.S. Occupational Education

203700 Approved 3/2020 (Fall 2014)

COLL 100 First Year Seminar	1		
General Education Requirements	Credits	Semester Taken	Prerequisites
BIOL 101 General Biology or CHEM 107 Preparatory General Chemistry or PHYS 101 Introductory Physics	5		MATH 95 with a grade of C or higher or appropriate placement or one unit of high school algebra (CHEM 107) MATH 31 with a grade of S or appropriate placement (PHYS 101)
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 and HIST 121 United States History Since 1865	6		
MATH 119 Mathematical Reasoning and Modeling or MATH 120 College Algebra	3		MATH 85 or 95 with a grade of C or higher or appropriate placement (MATH 119) MATH 95 with a grade of C or higher or appropriate placement (MATH 120)
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
Any course numbered 100 or higher from the following disciplines: ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA	3-5		
Minimum Total General Education Credit Hours	18		
Specific Program Requirements			
Technical Education:			
Must focus on a specific occupational area (Any combination of formal college coursework, occupational certification or CBEX)	24		
Professional Education: Three of the following: (University of Central Missouri courses)			
CTE 4140 New Teacher Institute or CTE 4110 Foundations of CTE	3		
CTE 4145 Curriculum Construction in Career and Technical Education	3		
CTE 4160 Methods of Teaching Career and Technical Education	3		
CTE 4165 Performance Assessment in Career and Technical Education	3		
CTE 4150 Vocational Guidance or CTE 4200 Coordination of Cooperative Education	2		
PSY 4200 Psychology of the Exceptional Child or EDSP 2100 Education of the Exceptional Child	2		
EDFL 2200 Educational Psychology	3		
<i>For more information, please check with the University of Central Missouri's Career and Technology Education department.</i>			
Total Credit Hours Required	67-69		

Health Services

Occupational Therapy Assistant

Offered at MCC-Penn Valley

A.A.S. Occupational Therapy Assistant.....73.5 – 81.5 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 6116 Executive Boulevard, Suite 200, North Bethesda, MD 20852-4929. ACOTE's telephone number C/O AOTA, is (301) 652-AOTA and its web address is WWW.ACOTELINE.ORG.

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

A.A.S. Occupational Therapy Assistant

202200 Revised 3/2020 (Fall 2020)

COLL 100	First Year Seminar	1		
Program Prerequisites		Credits	Semester Taken	Prerequisites
Any biological or physical science course.(BIOL, CHEM, GEOL, or PHYS)		4-6		
BIOL 150	Medical Terminology	2		
OTHA 100	Introduction to Occupational Therapy	2		
ENGL 101	Composition and Reading I	3		ENGL 30/90 or appropriate placement test score
General Education Requirements				
COMM 100	Fundamentals of Speech <i>or</i>	3		ENGL 30/90 or appropriate placement test score
COMM 102	Fundamentals of Human Communication <i>or</i>			
COMM 223	Interpersonal Communications <i>or</i>			
COMM 233	Intercultural Communications			
HIST 120	United States History to 1865 <i>or</i>	3		
HIST 121	United States History Since 1865 <i>or</i>			
POLS 136	Introduction to American National Politics			
PSYC 140	General Psychology	3		
Minimum Total General Education Credit Hours		20-22		
Specific Program Requirements				
HLSC 108	Anatomy and Physiology Health Professions <i>or</i>	4-10		None for HLSC 108
BIOL 109	Anatomy and Physiology <i>or</i>			
BIOL 110	Human Anatomy <i>and</i>			
BIOL 210	Human Physiology			
OTHA 102	Documentation Guidelines	2		Formal admission to the OTHA program
OTHA 103	Clinical Conditions	2		Formal admission to the OTHA program
OTHA 106	Therapeutic Interventions I	4		Formal admission to the OTHA program
OTHA 114	Introduction to Fieldwork	.5		Formal admission to the OTHA program
OTHA 116	Level I Fieldwork I	.5		Formal admission to the OTHA program
OTHA 118	Assessment and Intervention	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, OTHA 100, 102, 103, 106, 114, & 116
OTHA 120	Pediatrics	2		HLSC 108 or BIOL 109 or BIOL 110 & 210, OTHA 100, 102, 103, 106, 114, & 116
OTHA 121	Level I Fieldwork II	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, OTHA 100, 102, 103, 106, 114, & 116
OTHA 130	Kinesiology: Applied Analysis of Movement	4		HLSC 108 or BIOL 109 or BIOL 110 & 210, OTHA 100, 102, 103, 106, 114, & 116
OTHA 154	Applied Neurology	2		HLSC 108 or BIOL 109 or BIOL 110 & 210, admission to OTHA or PTHA programs.
OTHA 201	Mental Health	2.5		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 202	Physical Dysfunction: Applications for Practice	3		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 203	Gerontology	2		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 208	Therapeutic Interventions II	4		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 212	Level I Fieldwork III	2		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 217	Occupational Therapy Capstone	2		OTHA 118, 120, 121, 130 and 154, C or higher
OTHA 222	Level II Fieldwork	12		OTHA 201, 202, 203, 208, 212 and 217, C or higher
Total Credit Hours Required		73.5 – 81.5		

Human Services

Paralegal Practice

Offered at MCC-Penn Valley

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.

A.A.S. Paralegal Practice..... 64-67 Credits

A.A.S. Paralegal Practice

202400 Revised 3/2020 (Spring 2012)

Specific Program Requirements <i>Must be taken at one of the MCC campuses</i>	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 or HIST 121 United States History Since 1865 or POLS 136 Introduction to U.S. National Politics	3		
PSYC 140 General Psychology	3		
SOCI 160 Sociology	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score.
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	3-6		
Minimum Total General Education Credit Hours	18		
Specific Program Requirements			
CRJU 101 Introduction to Criminal Justice	3		
CSIS 115 Computer Concepts and Applications	3		
PARA 100 Introduction to Paralegal Practice	3		
PARA 104 Principles of Legal Technology	3		PARA 100, CSIS 110 or higher
PARA 126 Criminal Law and Procedures	3		PARA 100
PARA 176 Legal Research	3		PARA 100
PARA 177 Legal Writing	3		PARA 176
PARA 185 Ethics for the Paralegal	3		PARA 100
PARA 290 Internship in Paralegal Practice	3		PARA 100, 104, 176, 177, 185
PARA Electives	12		
Electives from CRJU, Foreign Language, MATH or CSIS	6		
Total Credit Hours Required	64-67		

Health Services

Paramedic

Offered at MCC-Penn Valley

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. The student must have the ability to obtain or have a current State of Missouri EMT license or National Registry of EMT's EMT certification.

For more information, go to <http://www.mcckc.edu/EMT>

A.A.S. Paramedic..... 77-86 Credits
 Paramedic Certificate..... 58-65 Credits

A.A.S. Paramedic

204200 Revised 3/2020 (Effective Fall 2018)

Program Prerequisites	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar or HLSC 100 Introduction to Health Professions	1-2		
EMS 150 Emergency Medical Technician	8		Student must be 18 years old by the end of the course
General Education Requirements (23-25 credit hours)			
COMM 100 Fundamentals of Speech	3		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History Since 1865 <i>or</i> POLS 136 Introduction to U.S. National Politics	3		
PSYC 140 General Psychology	3		
MATH 120 or higher	3		
Any biological or physical science course. (BIOL, CHEM, GEOL, or PHYS)	4-6		
Minimum Total General Education Credit Hours	18		
Specific Program Requirements (36 credit hours)			
HLSC 108 Anatomy and Physiology Health Professions <i>or</i> BIOL 109 Anatomy and Physiology <i>or</i> BIOL 110 Human Anatomy <i>and</i> BIOL 210 Human Physiology	4-10		CHEM 105
EMS 154 Foundations	1		Formal acceptance to the paramedic program.
EMS 159 Advanced Patient Assessment	2		Formal acceptance to the paramedic program.
EMS 168 Paramedic Laboratory I	3		Formal acceptance to the paramedic program.
EMS 176 Airway and Respiratory Management	1		Formal acceptance to the paramedic program.
EMS 192 Pharmacology	3		Formal acceptance to the paramedic program.
EMS 201 Clinical Research and Documentation	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 212 Cardiology	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 214 Paramedic Skills Laboratory II	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 216 Advanced Cardiac Life Support (ACLS)	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 218 Medical Emergencies	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 224 Trauma Management	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 230 Special Patient Populations	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 236 Paramedic Laboratory III	3		EMS 212, 214, and 216
EMS 254 Paramedic Clinical	6		EMS 212, 214, and 216
EMS 258 Paramedic Field Internship	10		EMS 236 and 254
EMS 280 Advanced Medical Life Support (AMLS)	1		EMS 218
EMS 284 Prehospital Trauma Life Support (PHTLS)	1		EMS 224
EMS 286 Pediatric Emergency Care	1		EMS 230
Total Credit Hours Required	77-86		

Health Services

Paramedic

Offered at MCC-Penn Valley

Paramedic Certificate

305300 Revised 3/2016 (Fall 2016)

Program Prerequisites		Credits	Semester Taken	Prerequisites
COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
EMS 150	Emergency Medical Technician	8		Student must be 18 years old by the end of the course
Specific Program Requirements				
HLSC 108	Anatomy and Physiology Health Professions or	4-10		CHEM 105 (BIOL 109) CHEM 105, BIOL 110 (BIOL 210)
BIOL 109	Anatomy and Physiology or			
BIOL 110	Human Anatomy and			
BIOL 210	Human Physiology			
EMS 154	Foundations	1		Formal acceptance to the paramedic program.
EMS 159	Advanced Patient Assessment	2		Formal acceptance to the paramedic program.
EMS 168	Paramedic Laboratory I	3		Formal acceptance to the paramedic program.
EMS 176	Airway and Respiratory Management	1		Formal acceptance to the paramedic program.
EMS 192	Pharmacology	3		Formal acceptance to the paramedic program.
EMS 201	Clinical Research and Documentation	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 212	Cardiology	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 214	Paramedic Skills Laboratory II	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 216	Advanced Cardiac Life Support (ACLS)	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 218	Medical Emergencies	3		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 224	Trauma Management	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 230	Special Patient Populations	1		HLSC 108 or BIOL 109 or BIOL 110 & 210, EMS 154, 159, 168, 176, and 192
EMS 236	Paramedic Laboratory III	3		EMS 212, 214, and 216
EMS 254	Paramedic Clinical	6		EMS 212, 214, and 216
EMS 258	Paramedic Field Internship	10		EMS 236 and 254
EMS 280	Advanced Medical Life Support (AMLS)	1		EMS 218
EMS 284	Prehospital Trauma Life Support (PHTLS)	1		EMS 224
EMS 286	Pediatric Emergency Care	1		EMS 230
Total Credit Hours Required		58-65		

Physical Therapist Assistant

Offered at MCC-Penn Valley

This program leads to an Associate in Applied Science degree. Graduates will be ready to sit for the national Physical Therapist Assistant licensing exam. Physical Therapist Assistants provide services to patients to improve mobility, relieve pain and prevent or limit permanent physical disabilities due to injury or disease.

Because enrollment to the program is limited, there is a separate application to the program. The program offers a traditional program with all classes at the Health Science Institute (HSI), as well as a web-based program, with lecture classes delivered on-line and labs delivered at the HSI. Prospective students should review the program web page, download and read the "PTA Information" pdf and the "PTA Application" at <http://www.mcckc.edu/physicaltherapy>.

Applications for the traditional program are due June 10th. Applications for the web-based program are due October 1st.

A.A.S. Physical Therapist Assistant..... 72-81 Credits

A.A.S. Physical Therapist Assistant

202500 Revised 3/2020 (Fall 2015)

COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
BIOL 150	Medical Terminology	2		
Any biological or physical sciences course. (BIOL, CHEM, GEOL, PHYS)		4-6		
COMM 100	Fundamentals of Speech or	3		ENGL 90 with a grade of S or appropriate placement score
COMM 102	Fundamentals of Human Communication			
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to U.S. National Politics			
PSYC 140	General Psychology	3		
Minimum Total General Education Credit Hours		18		
Specific Program Requirements				
EMS 100	Basic Emergency Patient Care	1		
PTHA 151	Intro to Physical Therapy	2		
HLSC 108	Anatomy and Physiology Health Professions or	4-10		CHEM 105 (BIOL 109)
BIOL 109	Anatomy and Physiology or			BIOL 110 and CHEM 105 (BIOL 210)
BIOL 110	Human Anatomy and			
BIOL 210	Human Physiology			
PTHA 152	Physical Therapy Fundamentals I	4		Formal acceptance into the program.
PTHA 153	Kinesiology	4		HLSC 108 or BIOL 109 or BIOL 110 & 210, PTHA 152, PTHA 160 with a grade of C or higher
PTHA 154	Applied Neurology	2		HLSC 108 or BIOL 109 or BIOL 110 & 210, admission to OTHA or PTHA programs.
PTHA 155	Rehabilitation	4		PTHA 162
PTHA 158	Therapeutic Exercise	4		PTHA 162
PTHA 159	Orthopedic Pathology	2		HLSC 108 or BIOL 109 or BIOL 110 & 210, PTHA 152, PTHA 160 with a grade of C or higher
PTHA 160	Medical Diseases	2		Formal acceptance into the program
PTHA 161	Physical Therapy Fundamentals II	4		HLSC 108 or BIOL 109 or BIOL 110 & 210, PTHA 152, PTHA 160 with a grade of C or higher
PTHA 162	Clinical Immersion I	1		EMS 100, PTHA 153, 154, 159, & 161
PTHA 164	Pediatrics and Gerontology	2		PTHA 162
PTHA 170	Clinical Education I	3		PTHA 162, concurrent enrollment in PTHA 155, 158, 164 and 171
PTHA 171	Clinical Seminar	2		PTHA 162
PTHA 272	Clinical Education II	12		Completion of all other required courses in the PTHA program
Total Credit Hours Required		72-81		

Health Services

Radiologic Technology

Offered at MCC-Penn Valley and MCC-Maple Woods/St. Joseph

This program leads to an Associate in Applied Science degree and prepares students for entry level employment as a radiologic technologist. Graduates of this program are eligible to take the national certification exam given by the American Registry of Radiologic Technologists. Because enrollment in this program is limited, a student must apply for admission to the radiologic technology program and meet the requirements.

For more information, go to <http://www.mcckc.edu/radiology>

A.A.S. Radiologic Technology..... 75-85 Credits

A.A.S. Radiologic Technology

202900 Revised 3/2020 (Summer 2019)

COLL 100	First Year Seminar or	1-2		
HLSC 100	Introduction to Health Professions			
General Education Requirements		Credits	Semester Taken	Prerequisites
COMM 100	Fundamentals of Speech or	3		ENGL 90 or appropriate placement score
COMM 102	Fundamentals of Human Communication			
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of C or higher or a satisfactory score on ENGL placement test
MATH 120	College Algebra	3		MATH 95 with a grade of C or higher or appropriate placement
HIST 120	United States History to 1865 <i>or</i>	3		
HIST 121	United States History Since 1865 <i>or</i>			
POLS 136	Introduction to U.S. National Politics			
PSYC 140	General Psychology	3		
Any courses numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (except 104 & 110), GEOL, MATH, PHYS		3-6		
Minimum Total General Education Credit Hours		18-21		
Specific Program Requirements				
HLSC 108	Anatomy and Physiology Health Professions <i>or</i>	4-10		CHEM 105 (BIOL 110)
BIOL 109	Anatomy and Physiology <i>or</i>			CHEM 105, BIOL 110 (BIOL 210)
BIOL 110	Human Anatomy <i>and</i>			
BIOL 210	Human Physiology			
RATE 160	Fundamentals of Radiologic Technology	2		Formal admission to the Radiologic Technology program
RATE 165	Patient Care	3		RATE 160
RATE 171	Principles of Radiographic Imaging	2.5		RATE 160
RATE 172	Radiographic Procedures I	3		RATE 160 with a grade of C or higher or concurrent enrollment in RATE 165 and 173
RATE 173	Clinical Immersion	3		RATE 160 and concurrent enrollment in RATE 165 and 172
RATE 175	Clinical Practice I	4		RATE 165, 171, 172, 173. Concurrent enrollment in RATE 175, 176, 180
RATE 176	Radiographic Procedures II	3		BIOL, RATE 165, 172, 173 with a grade of C or higher and concurrent enrollment in RATE 175

Continued on next page

A.A.S. Radiologic Technology (continued)

Specific Program Requirements (continued)			
RATE 180	Digital Imaging Environment and Image Analysis	2.5	RATE 171 with a grade of C or higher
RATE 185	Clinical Practice II	4	RATE 175, 176, 180 with a grade of C or higher
RATE 270	Radiation Biology and Protection	3	RATE 180 with a grade of C or higher
RATE 278	Pathology	2	RATE 279, 280 with a grade of C or higher and concurrent enrollment in RATE 282
RATE 279	Radiographic Procedures III	2	RATE 176, 180, 185 with a grade of C or higher and concurrent enrollment in RATE 280, 285
RATE 280	Clinical Practice III	6	RATE 185 with a grade of C or higher and concurrent enrollment in RATE 278,
RATE 281	Radiation Physics	3	RATE 180, 270, 279, 285. Concurrent enrollment in RATE 283
RATE 282	Clinical Practice IV	6	RATE 278, 279, 280 with a grade of C or higher and concurrent enrollment in RATE 281, 283
RATE 283	Final Seminar	2	RATE 270, 279, 280, 285. Concurrent enrollment in 278, 281, 282
RATE 285	Imaging Modalities	2	RATE 176 and concurrent enrollment in RATE 279 and 280
Total Credit Hours Required		76-86	

Health Services

Surgical Technology

Offered at MCC-Penn Valley and MCC-Maple Woods/St. Joseph

This program leads to an Associate in Applied Science degree and prepares students for entry-level jobs in surgical technology.

Surgical Technology 65-70 Credits

A.A.S. Surgical Technology

204600 Revised 3/2020 (Summer 2014)

COLL 100	First Year Seminar <i>or</i>	1-2		
HLSC 100	Introduction to Health Professions			
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
BIOL 109	Anatomy and Physiology <i>or</i>	6-10		CHEM 105 (BIOL 109) BIOL 110 <i>and</i> CHEM 105 (BIOL 210)
BIOL 110	Human Anatomy <i>and</i>			
BIOL 210	Human Physiology			
CHEM 105	Introductory Chemistry for Health Sciences	5		
BIOL 208	Microbiology	5		CHEM 105 <i>or</i> higher, plus one of the following courses: BIOL 101, 104, 106, 109, <i>or</i> 110
HIST 120	United States History to 1865 or	3		
HIST 121	United States History Since 1865 or			
POLS 136	Introduction to U.S. National Politics			
COMM 100	Fundamentals of Speech or	3		ENGL 90 with a minimum grade of S or appropriate placement score
COMM 102	Fundamentals of Human Communications			
Minimum Total General Education Credit Hours		25-29		
Specific Program Requirements				
SURT 100	Introduction to Surgical Technology	2		
SURT 103	Central Services Process	4		
SURT 105	Care of the Surgical Patient	3		CHEM 105, BIOL 109 or BIOL 110 & BIOL 210, BIOL 208, & formal acceptance into the Surgical Technology Program
SURT 109	Pharmacology for the Surgical Technologist	2		CHEM 105, BIOL 109 or BIOL 110 & BIOL 210, BIOL 208, & formal acceptance into the Surgical Technology Program
SURT 120	Fundamentals of Surgical Technology I	5		SURT 100, 103, 105, and 109
SURT 121	Fundamentals of Surgical Technology II	5		SURT 100, 103, 105, 109
SURT 130	Surgical Procedures I	5		SURT 100, 103, 105, 109, 120, 121
SURT 131	Surgical Procedures II	5		SURT 100, 103, 105, 109, 120, 121, and 130
SURT 140	Clinical Experience	6		SURT 120, 121, 130
SURT 150	Surgical Technology Capstone	2		SURT 120, 121, 130
Total Credit Hours Required		65-70		

Veterinary Technology

Offered at MCC-Maple Woods

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.

Admission to the Program

Admission to the program is limited so that each student has full access to our outstanding instructors and facilities. To be admitted to the program, students must meet certain requirements. Students can view the requirements and obtain an application packet online.

Call the program office (816) 604-3235 for more information

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

A.A.S. Veterinary Technology.....	78 Credits
Veterinary Assistant Certificate.....	18 Credits
Veterinary Receptionist Certificate	16 Credits

A.A.S. Veterinary Technology

203300 Revised 10/2019 (Fall 2020)

COLL 100	First Year Seminar	1		
General Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
ANHS 130	Veterinary Terminology	2		
HIST 120 HIST 121 POLS 136	United States History to 1865 <i>or</i> United States History Since 1865 <i>or</i> Introduction to U.S. National Politics	3		
COMM 100 COMM 102 COMM 223	Fundamentals of Speech <i>or</i> Fundamentals of Human Communication <i>or</i> Interpersonal Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
BIOL 106 BIOL 101	General Zoology <i>or</i> General Biology	5		
BIOL 208	Microbiology	5		CHEM 105 or higher, plus one of the following: BIOL 101, 104, 106, 109, 110, 123, or 124, or HLSC 108
CHEM 105 CHEM 111	Introductory Chemistry for Health Sciences <i>or</i> General College Chemistry	5		CHEM 111 has prerequisite of CHEM 107 or high school chemistry or MATH 120
Specific Program Requirements				
VETT 100	Veterinary Practice Management	2		
VETT 101	Veterinary Technician I	4		Admission into Veterinary Technician Program
VETT 108	Clinical Mathematics for Veterinary Technicians	2		Admission into Veterinary Technician Program
VETT 110	Veterinary Technician II	4		VETT 101
VETT 111	Infectious Disease Management	2		Admission into Veterinary Technician Program
VETT 200	Veterinary Technician III	4		VETT 110
VETT 201	Clinical Pathology Techniques	4		Admission into Veterinary Technician Program
VETT 202	Veterinary Anatomy	5		BIOL 101 or BIOL 106
VETT 203	Laboratory Animal Technology	2		VETT 101, 110 and 201
VETT 209	Equine Medicine and Management	3		VETT 212
VETT 210	Veterinary Technician IV	4		VETT 200
VETT 211	Clinical Pathology Techniques II	5		VETT 201
VETT 212	Large Animal Technology	4		VETT 101 and 110
VETT 214	Veterinary Technician Preceptorship	6		Two semesters of 1st year VETT tech courses
Total Credit Hours Required		78		

Natural Resources/Agriculture

Veterinary Technology

Offered at MCC-Maple Woods

Veterinary Assistant Certificate

404800 Revised 11/2019 (Fall 2020)

Specific Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
COMM 100 COMM 102 COMM 223	Fundamentals of Speech or Fundamentals of Human Communication or Interpersonal Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
BIOL 101 BIOL 106	General Biology <i>or</i> General Zoology	5		
ANHS 130	Veterinary Terminology	2		
VETT 100	Veterinary Practice Management	2		
ANHS 140 ANHS 150	Animal Diseases of Canine, Feline, and Exotic Pets, <i>and</i> Animal Care and Sanitation	2 2		ANHS 130 Veterinary Terminology with a "C" or better, and BIOL 101 General Biology with a "C" or better, or BIOL 106 General Zoology with a "C" or better.
Total Credit Hours Required		19		

Veterinary Technology

Offered at MCC-Maple Woods

Veterinary Receptionist Certificate

404900 Revised 11/2019 (Fall 2020)

Specific Education Requirements		Credits	Semester Taken	Prerequisites
ENGL 101	Composition & Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
COMM 100 COMM 102 COMM 223	Fundamentals of Speech or Fundamentals of Human Communication or Interpersonal Communication	3		ENGL 90 with a minimum grade of S or appropriate placement score
BIOL 101 BIOL 106	General Biology or General Zoology	5		
BUSN 105	Business Communications	3		ENGL 90 with a minimum grade of S or appropriate placement score.
ANHS 130	Veterinary Terminology	2		
VETT 100	Veterinary Practice Management	2		
ANHS 140 ANHS 150	Animal Diseases of Canine, Feline, and Exotic Pets, <i>and</i> Animal Care and Sanitation	2 2		ANHS 130 Veterinary Terminology with a "C" or better, and BIOL 101 General Biology with a "C" or better, or BIOL 106 General Zoology with a "C" or better.
Total Credit Hours Required		22		

Industrial & Engineering Technology

Welding

Offered at MCC-Business & Technology

This program provides students with training to the standards of the American Welding Society curriculum, which prepares students for the AWS written certification tests, and for employment in the welding/fabrication industry. Students completing the two-year degree will acquire the skills required of managerial and technical training personnel, preparing them to move beyond entry-level jobs into other welding-related careers. Students completing welding certificates can return to school while employed and use course work already completed toward the two-year degree.

A.A.S. Welding Technology and Management	61-64 Credits
MIG Certificate	18 Credits
MIG/TIG Certificate	18 Credits
Welding Construction Certificate	18 Credits

A.A.S. Welding Technology and Management

204700 Revised 3/2020 (Fall 2020)

General Requirements	Credits	Semester Taken	Prerequisites
COLL 100 First Year Seminar	1		
ENGL 101 Composition and Reading I	3		ENGL 90 with a minimum grade of S or appropriate placement score
HIST 120 United States History to 1865 <i>or</i> HIST 121 United States History since 1865 <i>or</i> POLS 136 Introduction to American National Politics	3		
Choose one of the following Math options: Option #1 MATH 103 Technical Math <i>or</i> MATH 120 College Algebra And MATH 104 Technical Math II <i>or</i> MATH 130 Trigonometry Option #2 MATH 150 Pre-Calculus	5-6		MATH 31 with a grade of S or appropriate placement (MATH 104) MATH 95 with a grade of C or higher or appropriate placement (MATH 120) MATH 120 with a grade of C or higher or appropriate placement score (MATH 130)
SPAN 100 Beginning Occupational Spanish	3		
COMM 100 Fundamentals of Speech	3		ENGL 90 with a grade of S or appropriate placement score
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	3-5		
Minimum Total General Education Credit Hours	20-23		
Specific Program Requirements			
CIMM 201 Metallurgy	3		
EHSS 111 Introduction to Health & Safety for General Industry <i>or</i> EHSS 112 Introduction to Health & Safety for Construction	1		
WELD 110 Welding Industry Fundamentals	3		
WELD 120 Thermal Cutting Processes Lecture	1		WELD 110 or concurrent enrollment
WELD 121 Thermal Cutting Processes Lab	2		WELD 120 or concurrent enrollment
WELD 130 Print Reading & Weld Symbols	3		
WELD 140 Shielded Metal Arc Welding I (SMAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 141 Shielded Metal Arc Welding I (SMAW) Lab	2		WELD 140 or concurrent enrollment
WELD 150 Gas Metal Arc Welding I (GMAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 151 Gas Metal Arc Welding I (GMAW) Lab	2		WELD 150 or concurrent enrollment
WELD 160 Gas Tungsten Arc Welding I (GTAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 161 Gas Tungsten Arc Welding I (GTAW) Lab	2		WELD 160 or concurrent enrollment
WELD 230 Layout and Fabrication Lecture	1		WELD 130 and one WELD 100 level lecture & lab
WELD 231 Layout and Fabrication Lab	2		WELD 230 and one WELD 100 level lecture & lab
WELD 240 Shielded Metal Arc Welding II (SMAW) Lecture	1		WELD 141
WELD 241 Shielded Metal Arc Welding II (SMAW) Lab	2		WELD 240
WELD 250 Gas Metal Arc Welding II (GMAW) Lecture	1		WELD 151
WELD 251 Gas Metal Arc Welding II (GMAW) Lab	2		WELD 250
WELD 260 Gas Tungsten Arc Welding II (GTAW) Lecture	1		WELD 161
WELD 261 Gas Tungsten Arc Welding II (GTAW) Lab	2		WELD 260
WELD 270 Flux Core Arc Welding (FCAW) Lecture	1		WELD 151 or concurrent enrollment
WELD 271 Flux Core Arc Welding (FCAW) Lab	2		WELD 270 or concurrent enrollment
WELD 290 Management Skills for the Trades	3		WELD 231 and one WELD 100 level lecture & lab
Total Credit Hours Required	61-64		

Industrial & Engineering Technology

Welding

Offered at MCC-Business & Technology

Welding GMAW Certificate (AWS modular certification)

403900 Revised 6/2019 (Effective Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
WELD 110 Welding Industry Fundamentals	3		
WELD 120 Thermal Cutting Processes Lecture	1		WELD 110 or concurrent enrollment
WELD 121 Thermal Cutting Processes Lab	2		WELD 120 or concurrent enrollment
WELD 130 Print Reading & Weld Symbols	3		
WELD 150 Gas Metal Arc Welding I (GMAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 151 Gas Metal Arc Welding I (GMAW) Lab	2		WELD 150 or concurrent enrollment
WELD 230 Layout and Fabrication Lecture	1		WELD 105 or WELD 150/151; WELD 130
WELD 231 Layout and Fabrication Lab	2		WELD 105 or WELD 150/151; WELD 230
WELD 270 Flux Core Arc Welding I (FCAW) Lecture	1		WELD 151 or concurrent enrollment
WELD 271 Flux Core Arc Welding I (FCAW) Lab	2		WELD 270 or concurrent enrollment
Total Credit Hours Required	18		

Industrial & Engineering Technology

Welding

Offered at MCC-Business & Technology

Welding GMAW/GTAW (AWS modular certification)

403200 Revised 6/2019 (Effective Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
WELD 110 Welding Industry Fundamentals	3		
WELD 120 Thermal Cutting Processes Lecture	1		WELD 110 or concurrent enrollment
WELD 121 Thermal Cutting Processes Lab	2		WELD 120 or concurrent enrollment
WELD 130 Print Reading & Weld Symbols	3		
WELD 150 Gas Metal Arc Welding I (GMAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 151 Gas Metal Arc Welding I (GMAW) Lab	2		WELD 150 or concurrent enrollment
WELD 160 Gas Tungsten Arc Welding I (GTAW) Lecture	1		WELD 121 or concurrent enrollment
WELD 161 Gas Tungsten Arc Welding I (GTAW) Lab	2		WELD 160 or concurrent enrollment
WELD 230 Layout and Fabrication Lecture	1		WELD 105 or WELD 150/151; WELD 130
WELD 231 Layout and Fabrication Lab	2		WELD 105 or WELD 150/151; WELD 230
Total Credit Hours Required	18		

Industrial & Engineering Technology

Welding

Offered at MCC-Business & Technology

Welding Construction Certificate

404400 Revised 6/2019 (Effective Fall 2020)

Specific Program Requirements	Credits	Semester Taken	Prerequisites
WELD 110 Welding Industry Fundamentals	3		
WELD 120 Thermal Cutting Processes Lecture	1		WELD 110 or taken concurrently
WELD 121 Thermal Cutting Processes Lab	2		WELD 120 or taken concurrently
WELD 130 Print Reading & Weld Symbols	3		
WELD 140 Shielded Metal Arc Welding (SMAW) Lecture	1		WELD 121 or taken concurrently
WELD 141 Shielded Metal Arc Welding (SMAW) Lab	2		WELD 140 or taken concurrently
WELD 150 Gas Metal Arc Welding I (GMAW) Lecture	1		WELD 121 or taken concurrently
WELD 151 Gas Metal Arc Welding I (GMAW) Lab	2		WELD 150 or taken concurrently
WELD 160 Gas Tungsten Arc Welding I (GTAW) Lecture	1		WELD 121 or taken concurrently
WELD 161 Gas Tungsten Arc Welding I (GTAW) Lab	2		WELD 160 or taken concurrently
Total Credit Hours Required	18		

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 clinicals 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 Global Diversity requirement. Please see an academic advisor for details.



This symbol denotes courses that meet the Missouri Higher Education Core Transfer Curriculum Act requirements (CORE 42) and are guaranteed to transfer. Please see an academic advisor for details.

MOTR: refers to state approved courses guaranteed to transfer.

ACCOUNTING

MCC-Maple Woods

Kimberly Luken

ACCT 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.

ACCT 101 ACCOUNTING PRINCIPLES I

3 credits. 3 hours. (Lecture 3 HOURS.)

This course covers the practice and application of accounting principles involved in the process of preparing financial statements in accordance with the Generally Accepted Accounting Principles (GAAP).

ACCT 102 ACCOUNTING PRINCIPLES II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C.

This course involves the practice and application of accounting principles involved in corporations. Departmentalization, budgeting, and statement analysis are all covered; along with introductory managerial accounting concepts.

ACCT 103 MANAGERIAL ACCOUNTING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C. Interaction between the fields of accounting and management with emphasis on analysis of accounting records for aiding managerial decision making.

ACCT 140 INDIVIDUAL INCOME TAX

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C. Principles of the Internal Revenue Code (IRC) as applied to individual returns are covered, along with forms required from the employer and the individual. Course involves preparation of individual tax form 1040 and accompanying schedules.

ACCT 142 INDIVIDUAL INCOME TAX W/VITA

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C or instructor consent.

This course provides an introduction to individual income taxes. Students are required to complete Internal Revenue Service (IRS) certification exams to serve as a preparer for the Volunteer Income Tax Assistance (VITA) program. Upon certification students must volunteer twenty (20) hours as a tax return preparer at a VITA tax site.

ACCT 144 ADVANCED INDIVIDUAL INCOME TAX W/VITA

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 142 with a minimum grade of C.

This course is for a student who in a prior year completed ACCT 142: Individual Income Tax w/VITA. This course provides an introduction to individual income taxes. Students are required to complete Internal Revenue Service (IRS) certification exams to serve as a quality reviewer for the Volunteer Income Tax Assistance (VITA) program. Upon certification, students must volunteer twenty (20) hours as a tax return quality reviewer at a VITA tax site.

ACCT 153 ACCOUNTING INFORMATION SYSTEMS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C.

Investigations, application and utilization of accounting software packages in a computerized business accounting system.

ACCT 155 ACCOUNTING USING SPREADSHEETS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 101 with a minimum grade of C.

Investigations, application and utilization of accounting software packages in a computerized business accounting system.

ACCT 158 INTRODUCTION TO DATA ANALYTICS FOR ACCOUNTING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 102 with a minimum grade of C.

Learning to analyze data with technological assistance in a way that assists in answering fundamental business and accounting questions and create value.

ACCT 202 INTERMEDIATE ACCOUNTING I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ACCT 102 with a minimum grade of C.

This course covers advanced practice and application of financial reporting accounting in accordance with the generally accepted accounting principles (GAAP), includes financial statements, related disclosures, asset measurement, income determination, valuation of liabilities and investments.

ACCT 290 ACCOUNTING CAPSTONE

1 credit. 1hour. (Lecture 1 HOUR.)

Prerequisite: Instructor approval required.

Independent study in accounting under the supervision of a faculty member. This course is graded as Pass/Fail.

AGRICULTURE

AGRI 100 INTRODUCTION TO AGRICULTURE

3 credits. 3 hours. (Lecture 3 HOURS.)

Explore career opportunities and create a strategy for a professional future in agriculture. Introduction to modern agricultural industries, history, management philosophies, and challenges. Course topics include food production, sustainable resource management, global food demands, and economics.

AGRI 102 INTRODUCTION TO AGRIBUSINESS

3 credits. 3 hours. (Lecture 3 HOURS.)

Overview of all phases of owning, operating, managing, and working in an agriculture-based business. Topics include agriculture economics, planning and organization, management, accounting and finance. This course will also acquaint students with agriculture input and policies as well as domestic and international marketing.

AGRI 120 INTRODUCTION TO PLANT SCIENCE

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: AGRI 100 or AGRI 102 with a minimum grade of C.

Introduction to plant science core principles including plant growth, crop production, ornamental plant culture, and production horticulture.

AGRI 129 PEST MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: AGRI 100 or AGRI 102 with a minimum grade of C.

Principles of pesticide use and importance in plant production. This course will cover pesticide mode of action, application techniques, equipment, application calculations, environmental impact, and alternative pesticide techniques.

AGRI 130 AGRIBUSINESS MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: AGRI 102 with a minimum grade of C.

Principles and practices of agribusiness management developed around the framework of business planning, organizing, controlling, and analysis. Specific topics covered include managerial ethics, group dynamics, employee motivation, communications, decision-making, leadership and management styles, productivity, and organizational effectiveness.

AGRI 140 ANIMAL SCIENCE

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: AGRI 100 or AGRI 102 with a minimum grade of C.

General principles of livestock production and management systems. Topics will include animal selection, breeding, feeding, management, and marketing both major animal production species and new alternative animal production species.

AGRI 142 MEAT SCIENCE

3 credits. 3 hours. (Lecture 3 HOURS.)

Meat Science will cover livestock evaluation, animal health and nutrition influences, meat processing, proper storage and safety, and meat quality determination and grading.

AGRI 200 GLOBAL AGRICULTURE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 101 with a minimum grade of C.

This course is an overview of farming and food systems worldwide. Students will discover the agricultural practices in different cultures and how agriculture influences social, economic, governmental, and environmental factors.

Requirement Designation: Global Diversity

AGRI 220 SOIL SCIENCE

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: AGRI 100 with a minimum grade of C.

Students will discover the physical, chemical, and biological properties of soils. The course will cover effective soil management techniques to improve soil properties and aid plant production.

AGRI 222 HORTICULTURE

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: AGRI 120 with a minimum grade of C.

This course will cover the biological principles of growing horticultural crops (i.e. flowers, fruits, vegetables) including plant-water relations, membrane transport, photosynthesis, photomorphogenesis, respiration, and phytohormones. The course will emphasize a plant's responses to environmental factors (temperature, water, and light) including cellular and whole-plant physiology under stressful environments. Laboratory exercises will emphasize environmental factors and detailed observation of plant growth.

AGRI 232 AGRICULTURE MARKETING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ECON 210 with a minimum grade of C.

This course is a study of the elements of agricultural markets and marketing. Students will learn price analysis, markets for agricultural products, international agricultural trade, marketing strategies, strategic price setting, and creative pricing methodology. The course will cover market and consumer research along with commodities and futures markets.

AGRI 240 ANIMAL NUTRITION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: AGRI 100 or AGRI 102 with a minimum grade of C.

This course is a study of the fundamental principles of feeds, feed use, and ration formulation. The course will cover the nutritional requirements and the digestive physiology of the major agriculture animal species and companion animal species

AGRI 245 ANIMAL REPRODUCTION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: AGRI 140 with a minimum grade of C.

This course will cover the principles of genetics, animal selection, hybrid vigor, pedigree, animal reproductive systems, mating procedures, overview of embryo transfer, principles of artificial insemination, and pregnancy testing.

AGRI 270 LEADERSHIP IN AGRICULTURE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: AGRI 120, AGRI 130, or AGRI 140 with a minimum grade of C.

This course will assist students in developing their knowledge, attitudes, skills, and aspirations regarding leadership development in an agricultural setting. The course will cover personal leadership development, effective leader characteristics, leadership styles, ethics, and leadership challenges.

ANHS - ANIMAL HEALTH SCIENCE

MCC-Maple Woods

Christopher Morrow
Billi Tiner

ANHS 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.

ANHS 140 ANIMAL DISEASES OF CANINE, FELINE, AND EXOTIC PETS

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisite: ANHS 130, BIOL 101, and BIOL 106 with grade of C or higher.
This course covers disease recognition, disease prevention procedures, and reporting guidelines of both common and zoonotic diseases. The course focus will be on diseases and parasites found in canines, felines, reptiles, amphibians, ferrets, rabbits, rodents, birds, and fish.

ANHS 150 ANIMAL CARE AND SANITATION

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)
Prerequisite: ANHS 130, BIOL 101, and BIOL 106 with grade of C or higher.
This course is an introduction to animal care, husbandry, and nutrition for canine, feline, and exotic pets. The course covers parasite and vermin control, cleaning and sterilization, and sanitary procedures in animal care.

ANTHROPOLOGY

MCC-Blue River *MCC-Longview*
Melissa Eaton Ann Raab

ANTH 100 GENERAL ANTHROPOLOGY 

3 credits. 3 hours. (Lecture 3 HOURS.)
This survey of anthropology emphasizes the four-field holistic approach to the study of humans. This course will focus on both biological and cultural perspectives related to the study of human origins and development, social organization, subsistence patterns, language, culture and adaptation to the environment. (MOTR ANTH 101)

ANTH 110 CULTURAL ANTHROPOLOGY 

3 credits. 3 hours. (Lecture 3 HOURS.)
This survey of cultural anthropology will explore anthropological theories and methodologies that explore the concepts of culture, social institutions and organization. Topics will include economy, political organization, kinship, family, art, marriage, language, law and religion. (MOTR ANTH 201)

ANTH 120 INTRODUCTION TO ARCHAEOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)
Archaeology is the study of past cultures through their material remains. This course introduces archaeological goals, methods, theories, and ethics. Topics include archaeological survey, excavation, dating techniques, artifact analysis, conservation, cultural adaptation and change.

ANTH 140 INTRODUCTION TO PHYSICAL ANTHROPOLOGY 

3 credits. 3 hours. (Lecture 3 HOURS.)
The course will be a study of the basic concepts, methods, and research areas in physical anthropology. Scientific methods, forces of evolution (especially as they relate to global diversity), dating methods, archaeological techniques, primate characteristics and behavior, the tracing of primate and human evolution through skeletal material and artifacts, and the biocultural and behavioral adaptations of humans to differing environments resulting in diverse global populations will be among the topics discussed.

ANTH 290A SPECIAL TOPICS IN ANTHROPOLOGY

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisites: ANTH 100 or above & ENGL 101.
Guided readings, discussion, and writing and/or field experience in anthropology. Topics and material will vary by instructor each semester. Specific reading list activities and writing assignments to be determined by instructor.

ANTH 290B SPECIAL TOPICS IN ANTHROPOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisite: ANTH 100 or above & ENGL 101.
Guided readings, discussion, and writing and/or field experience in anthropology. Topics and material will vary by instructor each semester. Specific reading list activities and writing assignments to be determined by instructor.

ANTH 290C SPECIAL TOPICS IN ANTHROPOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: ANTH 100 or above & ENGL 101.
Guided readings, discussion, and writing and/or field experience in anthropology. Topics and material will vary by instructor each semester. Specific reading list activities and writing assignments to be determined by instructor.

ARABIC

ARAB 101D ELEMENTARY MODERN ARABIC I 

4 credits. 4 hours. (Lecture 4 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. (MOTR LANG 105)

ARAB 101E ELEMENTARY MODERN ARABIC I 

5 credits. 5 hours. (Lecture 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. (MOTR LANG 105)

ARAB 102D ELEMENTARY MODERN ARABIC II

4 Credits. 4 Hours. (Lecture 4 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. (MOTR LANG 106)

ARAB 102E ELEMENTARY MODERN ARABIC II

5 credits. 5 hours. (Lecture 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. (MOTR LANG 106)

ART

MCC-Blue River

DeAnna Skedel

MCC-Longview

Daniel Reneau

MCC-Maple Woods

Carlos Bass

MCC-Penn Valley

Bernadette Torres

Darlene Town

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 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 105 DIGITAL ART FOUNDATION

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 utilize vector, raster and presentation processes with the design elements and principles to establish visual literacy. Keyboarding skills are highly recommended. This class does not meet the 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. (MOTR ART 100) Requirement

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. (MOTR PERF 105D)

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 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 138 DIGITAL PHOTOGRAPHY

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 110

This course will integrate contemporary digital technology and the current functional roles of photography as a form of expression that can be descriptive, explanatory, poetic, evaluative or theoretical. Emphasis will be directed toward the development of visual literacy and the ability to see photographically using color and gray scale light in the process of purposeful image making. Adobe Photo Shop skills will be developed for image manipulation as a "digital darkroom." Essential camera skills will be mastered.

ART 139 FILM & DARKROOM PHOTOGRAPHY

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 examples 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. (MOTR ARTS 101)

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. (MOTR ARTS 102)

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 contemporary times. The history of America through its relationship of architecture, sculpture, and painting.

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. (MOTR PERF 105C)

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 212 LIFE DRAWING I

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)
Prerequisite: ART 110.
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 214.
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.
This course will introduce basic principles of design and pictorial composition. Students will execute a series of paintings on various themes. (MOTR PERF 105P).

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.)

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. (MOTR PERF 105S).

ART 231 SCULPTURE II

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: ART 230.

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 231.

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 232.

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 241A SPECIAL PROJECTS IN ART

1 credit. 2 hours. (Laboratory 2 HOURS.)

ART 241B SPECIAL PROJECTS IN ART

2 credits. 4 hours. (Laboratory 4 HOURS.)

ART 241C SPECIAL PROJECTS IN ART

3 credits. 6 hours. (Laboratory 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 247 DIGITAL IMAGING

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisites: ART 105 or ART 138 or GDES 110.

Advanced exploration of photographic techniques, images and themes using the computer, digital camera, and scanners. Photoshop will be primary software utilized in the production of innovative digital images and solutions.

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 251 PRINTMAKING II

3 credits. 6 hours. (Laboratory 6 HOURS.)

Prerequisite: ART 250.

Development of student skills in handling various printmaking processes. Styles, subject matter, and the development of a visual awareness of the basic elements.

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 263 ART PORTFOLIO

3 credits. 6 hours. (Laboratory 6 HOURS.)

Selection, revamping, and mounting of student work for the professional portfolio.

ART 270 ILLUSTRATION

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: ART 103 and GDES 110.

Illustration techniques involving research and visual problem solving. Emphases on research, style, media, clients and presentation with advertising and story illustrations.

ART 280A SPECIAL STUDIES

1 credit. 2 hours. (Laboratory 2 HOURS.)

Individual projects involving media and techniques chosen by the student with the advice of the instructor.

ART 280B SPECIAL STUDIES

2 credits. 4 hours. (Laboratory 4 HOURS.)

Individual projects involving media and techniques chosen by the student with the advice of the instructor.

ART 280C SPECIAL STUDIES

3 credits. 6 hours. (Laboratory 6 HOURS.)

Individual projects involving media and techniques chosen by the student with the advice of the instructor.

AUTOMOTIVE TECHNOLOGY

MCC-Longview

Danny Blurton

Peter Eskew

David Patience

Rory Perrodin

AUTO 101 AUTOMOTIVE INTERNSHIP I

3 credits. 15 hours. (Field Studies 15 HOURS.)

Prerequisite: Two AUTO courses numbered 117 or higher with a minimum grade of C.

Cooperative on-the-job training in the automotive industry.

AUTO 102 AUTOMOTIVE INTERNSHIP II

3-99 credits. 3-99 hours.

Prerequisites: AUTO 101.

Cooperative on-the-job training in the automotive industry. This course builds on the work experience gained in AUTO 101.

AUTO 105 COOPERATIVE WORK EXPERIENCE I

1 credit. 40 hours. (Field Studies 40 HOURS.)

Prerequisite: Be enrolled in one of the corporate emphasis areas, maintain a C average and be approved by a sponsoring dealer.

Co-operative on-the-job training in the automotive industry. This course is only open to GM ASEP and Ford ASSET emphasis students.

AUTO 106 COOPERATIVE WORK EXPERIENCE II

1 credit. 40 hours. (Field Studies 40 HOURS.)

Prerequisite: Be enrolled in one of the corporate emphasis areas, maintain a C average and be approved by a sponsoring dealer.

Co-operative on-the-job training in the automotive industry. This course is only open to GM ASEP and Ford ASSET emphasis students.

AUTO 107 COOPERATIVE WORK EXPERIENCE III

1 credit. 40 hours. (Field Studies 40 HOURS.)

Prerequisite: Be enrolled in one of the corporate emphasis areas, maintain a C average and be approved by a sponsoring dealer.

Co-operative on-the-job training in the automotive industry. This course is only open to GM ASEP and Ford ASSET emphasis students.

AUTO 108 COOPERATIVE WORK EXPERIENCE IV

1 credit. 40 hours. (Field Studies 40 HOURS.)

Prerequisite: Be enrolled in one of the corporate emphasis areas, maintain a C average and be approved by a sponsoring dealer.

Co-operative on-the-job training in the automotive industry. This course is only open to GM ASEP and Ford ASSET emphasis students.

AUTO 117 AUTOMOTIVE MAINTENANCE AND LIGHT REPAIR

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

This is an introductory course designed to provide the student with fundamentals of operation, service, maintenance and light repair of modern automobiles. Students will learn basic automotive shop safety, tool and equipment use, basic engine, cooling system, brake, steering, suspension, serpentine belt and electrical system maintenance.

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 ENGINE REPAIR

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

This course covers the history, theory of operation, diagnosis, and repair of automotive gasoline and light-duty diesel engines. The student will receive instruction on engine maintenance and repair including methods, tools and procedures required to properly recondition engine assemblies. Reconditioning of engine assemblies and components include cylinder head and valve service, piston and ring service, block and bearing service. This course emphasizes precision measuring and engine mechanical systems diagnosis.

AUTO 166 AUTOMOTIVE ELECTRICAL SYSTEMS

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

This course incorporates a study of the theory, construction, and repair of modern automotive electrical systems. Operational theory, testing and repair of batteries, charging systems, starting systems, lighting systems, wiring and accessories will be stressed. Practice in the use of test equipment to diagnose vehicle electrical systems will be covered in detail.

AUTO 170 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 172 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 MANUAL DRIVETRAIN AND AXLES

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

This course incorporates the theory of operation and service procedures of manual drive trains and axles including drivelines, constant velocity (CV) joints, manual transmissions and transaxles, differentials and clutches. Noise, vibration, and harshness (NVH) will be covered in this course.

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 ASEP or Ford Motor 7 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 drivability. Each student will be required to perform the duties of a service advisor and service manager.

AUTO 264 AUTOMOTIVE AIR CONDITIONING

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: AUTO 166.

This course incorporates history, theories of operation, diagnosis, and repair of various types of automotive air conditioners, and cabin heating systems. Practice using refrigerant identification and reclaiming equipment. Students will have the opportunity to become certified to purchase and handle refrigerants.

AUTO 272 AUTOMATIC TRANSMISSIONS AND TRANSAXLES

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

Prerequisites: AUTO 166 and one of the following: AUTO 150, AUTO 172, AUTO 174, AUTO 276, AUTO 279, AUTO 280.

This course incorporates history, theories of operation, testing, diagnosis and repair of automatic transmissions and transaxles. Hydraulic theory, torque multiplication factor, and planetary gear set operation will be covered in detail. Proper disassembly and reassembly procedures will be emphasized.

AUTO 276 AUTOMOTIVE ENGINE PERFORMANCE

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

Prerequisites: AUTO 150, AUTO 166, and concurrent enrollment in or completion of AUTO 279.

This course incorporates the history, theories of operation, diagnosis, and repair of fuel systems, emissions systems and electronic engine management systems. Ignition system theory and secondary system checks will be covered. This course will emphasize published diagnostics procedures.

AUTO 279 AUTOMOTIVE ELECTRONIC SYSTEMS

6 credits. 8 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

Prerequisites: AUTO 166.

This course builds on previous learning in automotive electrical systems. Electronic principles and theories of operation are explored in detail. Application, diagnosis and repair of automotive computer management systems will be covered.

AUTO 280 DIAGNOSIS AND REPAIR

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: Completion of AUTO 150, AUTO 166, AUTO 172, AUTO 174 (not required for GM ASEP or Ford ASSET students) and AUTO 264.

Concurrent enrollment in or completion of AUTO 272, AUTO 276, and AUTO 279. This course employs a lecture/laboratory approach to the use of diagnostic equipment pertaining to drivability issues, network communications, and computerized management of all vehicular systems. This course will concentrate on development of diagnostic processes without published procedures. This course is designed to increase problem solving and critical thinking skills.

AUTO 282 HYBRID ELECTRIC VEHICLES

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: AUTO 150, AUTO 166, AUTO 276, AUTO 279.

Concurrent enrollment in or completion of AUTO 280. This course incorporates history, theories of operation, maintenance, diagnosis and repair of hybrid electric power trains. Computerized management systems related to hybrid electric vehicle systems will be covered in detail.

AUTO 288 ALTERNATIVE FUELS & VEHICLES

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 6 HOURS.)

Prerequisites: AUTO 150, AUTO 166, AUTO 276, and AUTO 279.

Concurrent enrollment in or completion of AUTO 280. This course incorporates history, theories of operation, maintenance, diagnosis and repair of alternative fuel vehicle power trains including hybrid electric vehicles. Computerized management systems related to alternative fuel and hybrid electric vehicles will be covered in detail.

BIOLOGY

MCC-Blue River

Mehdi Borhan
Shari Harden
Rachel Smith

MCC-Longview

Alex Harris
Keet Kopecky
Greg Loftin
Amanda Merryman
Jason Thornley
Lavon Tonga

MCC-Maple Woods

Christine Biel
Rani Duggal
Scott Quinton
Raymund Ramirez
Kenneth Snell
Billi Tiner

MCC-Penn Valley

Mahmoud Bishr
Terrence Davin
Andrew Greene
Heidi Kuster
Steven Lewis

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. (MOTR BIOL 100L)

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. (MOTR BIOL 100LEV)

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. (MOTR BIOL 100LB)

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. (MOTR BIOL 100LZ)

BIOL 109 ANATOMY AND PHYSIOLOGY

6 credits. 8 hours. (Lecture 4 HOURS. Laboratory 4 HOURS.)

Prerequisite: 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. (MOTR LIFS 100LA)

BIOL 118 INTRODUCTION TO BIOLOGY

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Basic structure of life. Cell structure. Plant and animal systems. 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. (MOTR BIOL 100L)

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 123 GENERAL BIOLOGY FOR MAJORS I

4 credits. 6 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Study of biological principles including; genetics, evolution, population, and ecosystems. (MOTR BIOL 150L)

BIOL 124 GENERAL BIOLOGY FOR MAJORS II

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: BIOL 123 with a C grade or higher.

A survey of plant and animal phyla, life cycles, natural history, ecological relationships and genetics.

BIOL 125 BIOLOGY OF HUMAN SEXUALITY

3 credits. 3 hours. (Lecture 3 HOURS.)

Exploration of human sexuality and the broad spectrum of its development, manifestations and expressions. Reproductive strategies across the kingdoms; development, anatomy and physiology of human reproductive and sexual systems from conception to maturity; sexual function and dysfunction; gender and sexual expression; sexual health and infection; fertility and infertility; roles of society, culture and relationships in human sexuality.

BIOL 132 HUMAN NUTRITION

3 credits. 3 hours. (Lecture 3 HOURS.)

Function of nutrients. Factors affecting the utilization of nutrients. Food pyramids and dietary allowances. Dietary calculation and evaluation. Special needs during the life cycle. Current issues in nutrition. (MOTR LIFS 100N)

BIOL 137 INTRODUCTION TO PATHOPHYSIOLOGY

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisites: BIOL 110 and 210, or HLSC 108 or BIOL 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 150 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 198A SERVICE-LEARNING IN BIOLOGY

1 credit. 1 hour. (Lecture 1 HOUR.)

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 198B SERVICE-LEARNING IN BIOLOGY

2 credits. 2 hours. (Lecture 2 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 198C SERVICE-LEARNING IN BIOLOGY

3 credits. 3 hours. (Lecture 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: BIOL101, BIOL 104, BIOL 106, BIOL 123, or BIOL 124 with a minimum grade of C.

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: BIOL101, BIOL 104, BIOL 106, BIOL 123, or BIOL 124 with a minimum grade of C.

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: CHEM 105 or higher, plus one of the following courses: BIOL 101, BIOL 104, BIOL 106, BIOL 109, BIOL 110, BIOL 123, BIOL 124 or HLSC 108.

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 CHEM 105.

Functions of the human body as revealed by cells, tissues, organs, and systems in terms of underlying physicochemical processes. (MOTR LIFS 150LP)

BIOL 211 FIELD BIOLOGY

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisite: BIOL101, BIOL 104, BIOL 106, BIOL 123, or BIOL 124 with a minimum grade of C.

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: BIOL101, BIOL 104, BIOL 106, BIOL 123, or BIOL 124 with a minimum grade of C.

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 220A SPECIAL TOPICS IN BIOLOGY

1 credit. 1 hour. (Laboratory 2 HOURS.)

Prerequisite: Two courses in biological science.

Study of a biological topic of special interest under the supervision of a faculty member.

BIOL 220B SPECIAL TOPICS IN BIOLOGY

2 credits. 4 hours. (Laboratory 4 HOURS.)

Prerequisite: Two courses in biological science.

Study of a biological topic of special interest under the supervision of a faculty member.

BIOL 220C SPECIAL TOPICS IN BIOLOGY

3 credits. 6 hours. (Laboratory 6 HOURS.)

Prerequisite: Two courses in biological science.

Study of a biological topic of special interest under the supervision of a faculty member.

BIOL 220D SPECIAL TOPICS IN BIOLOGY

4 credits. 8 hours. (Laboratory 8 HOURS.)

Prerequisite: Two courses in biological science.

Study of a biological topic of special interest under the supervision of a faculty member.

BIOL 220E SPECIAL TOPICS IN BIOLOGY

5 credits. 10 hours. (Laboratory 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.

BIOL 239 INTERNATIONAL FIELD BIOLOGY 

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisites: BIOL101, BIOL 104, BIOL 106, BIOL 123, or BIOL 124 with a minimum grade of C.

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.

BUILDING MAINTENANCE

MCC-Business and Technology

Je-Anne Rueckert

BLDM 109 GENERAL CONSTRUCTION PRINCIPLES AND TRADE TOOLS

4 credits. 4hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: MATH 31 with grade of S or appropriate placement.

This is an introduction to the basic concepts of construction and the appropriate hand tools used in the trade

BLDM 110 ELECTRICAL SAFETY AND PRINCIPLES

3 credits. 3hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: MATH 31 may be taken as a co-requisite.

The course is designed to teach the fundamentals of electrical safety and principles as they apply to building maintenance. It will cover both OSHA and NEC electrical and wiring methods for this trade.

BLDM 119 CARPENTRY: SHEETROCK, SIDING AND FINISHES

4 credits. 4hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: BLDM 109 with a grade of C or better.
This course covers the carpentry aspects of hanging, mudding and patching sheetrock. It also addresses finishes used on various wood products. The course will also cover how to install and repair siding.

BLDM 124 WIRING METHODS: RESIDENTIAL AND LIGHT COMMERCIAL

3 credits. 3hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: BLDM 110 with a grade of C or higher.
The course is designed to teach the fundamentals of installing panels and equipment, running conduit, and then wiring the different components together. It will cover reading both mechanical and electrical prints used in the installation and modification of equipment, as well as using prints to troubleshoot equipment and plan the proper corrective action. It will also cover the installation of this equipment and how the National Electric Code (NEC) and building codes apply.

BLDM 210 CARPENTRY: STAIRS, FLOORING AND ROOFS

3 credits. 3hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: BLDM 119 with a grade of C or better.
This course covers the carpentry aspects of constructing and repairing stairs, flooring and roofing materials

BLDM 220 BUILDING MECHANICAL SYSTEMS

3 credits. 3hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: BLDM 110 with a grade of C or higher.
The course is designed to teach the fundamentals of building mechanical systems and equipment troubleshooting and repair.

BUSINESS ADMINISTRATION

MCC-Blue River

Lynn Canaday

MCC-Longview

Sheryl Farnan

Randy Kidd

Zach McNeil

MCC- Maple Woods

Kimberly Luken

James Moes

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.

BUSN 100 INTRODUCTION TO BUSINESS

3 credits. 3 hours. (Lecture 3 HOURS.)

Overview of business, including ownership, marketing, human resources, finance/accounting, management, and the relationship of business to the social and economic environment.

BUSN 105 BUSINESS COMMUNICATIONS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Business Communications identifies the scope and structure of communications within a business environment.

The areas of study include writing processes involving a wide variety of business correspondences. Instruction in current methods of electronic communication will be provided. Emphasis is placed on formal reports within the APA and MLA formats/structures.

BUSN 107 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.

BUSN 130 ENTREPRENEURSHIP

3 credits. 3 hours. (Lecture 3 HOURS.)

A combined practical, hands-on, and academic approach to entrepreneurship via the creative and innovative process of recognizing opportunity, gathering resources and creating a feasibility study around conceptualizing a business idea and business plan.

BUSN 150 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.

BUSN 152 PRINCIPLES OF SELLING

3 credits. 3 hours. (Lecture 3 HOURS.)

This class covers the basic foundations for understanding the concepts and practices of personal selling. Emphasis will be on developing relationships and partnerships in the selling process.

BUSN 160 FIELD EXPERIENCE I

3 credits. 3 hours. (Lecture 3 HOURS.)

Independent study in business related field under the supervision of a Business faculty member. For students currently employed a minimum of 19 hours per week.

BUSN 161 FIELD EXPERIENCE II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: BUSN 160 with a grade of C or higher.

Field Experience II is a continuation of Field Experience I; however, this course focuses on the five functions of management: controlling, organizing, developing, planning and staffing.

BUSN 190 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.

BUSN 200 BUSINESS MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

The course focuses on management functions such as planning, organizing, leading and controlling for successful managerial activities. The students will learn how successful managers use organizational resources through organizational functions in order to effectively and efficiently achieve organizational objectives.

BUSN 202 RETAIL MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

This course presents an overview of the retail value chain. It explores the current retail environment and key retail management strategies. Students gain an understanding of how to manage in the highly competitive retail environment.

BUSN 210 LOGISTICS MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Logistics Management is an integrated system approach involving a variety of environments within a global marketplace. The course explores the logistic system from inbound movement of material and freight into the organization, through physical distribution of the completed product to the consumer. Includes hands-on applications, activities and simulations using the Council of Supply Chain Management Professionals' guidelines and material.

BUSN 211 OPERATIONS MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

This course covers the central role and importance of the operations function in both service and product organizations. Strategy, design, scheduling, materials handling, inventory, production, MRP and distribution are covered.

BUSN 212 TRANSPORTATION OPERATIONS AND MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

This course covers the significance of an integrated, well-organized, transportation system to a market-driven economy. The development of the transportation system to the U.S. from both historic and economic perspectives is included.

BUSN 213 WAREHOUSE AND DISTRIBUTION CENTERS

3 credits. 3 hours. (Lecture 3 HOURS.)

Warehousing and Distribution Centers is an integrated system approach involving a variety of environments within a global marketplace. The course covers the organization and operations of warehouses and distribution centers. The major components are warehousing and distribution center paradigms, system design, locations, technology and financial dimensions.

BUSN 240 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.

BUSN 260 MANAGEMENT INTERNSHIP I

3 credits. 15 hours. (Field Studies 15 HOURS.)

On-the-job experience approved by the coordinator.

BUSN 261 MANAGEMENT INTERNSHIP II

3 credits. 15 hours. (Field Studies 15 HOURS.)

Prerequisite: BUSN 260 with a grade of C or higher.

On-the-job experience approved by the coordinator.

BUSN 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.

BUSN 290 BUSINESS CAPSTONE

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: Instructor approval required.
This course is required to obtain an Associate in Applied Science Degree with a Management emphasis. Independent study in business related areas under the supervision of a faculty member. Pass/Fail.

CHEMISTRY

<i>MCC-Blue River</i>	<i>MCC-Longview</i>
James Bryan	Monty Helm
	Shveta Chaudhary
<i>MCC-Maple Woods</i>	<i>MCC-Penn Valley</i>
Pat Chernovitz	Michael Sweetland
DaeKeun Kwon	

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. (MOTR CHEM 100L)

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. (MOTR CHEM 100LHP)

CHEM 107 PREPARATORY GENERAL CHEMISTRY

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)
Prerequisite: MATH 95 with a grade of C or better or appropriate placement test score or one unit of high school algebra.
Introduction to the elementary principles of chemistry with emphasis on chemical calculations. (MOTR CHEM 100L)

CHEM 111 GENERAL COLLEGE CHEMISTRY I 

5 credits. 7 hours. (Lecture 4 HOURS. Laboratory 3 HOURS.)
Prerequisite: CHEM 107 or high school chemistry & MATH 120.

Introduction to the understanding of atoms and molecules: their qualitative and quantitative reactions and interactions. (MOTR CHEM 150L)

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 198A SPECIAL TOPICS

1 credit. 1 hour. (Lecture 1 HOUR.)
A study of a topic of current chemical interest.

CHEM 198B SPECIAL TOPICS

2 credits. 2 hours. (Lecture 2 HOURS.)
A study of a topic of current chemical interest.

CHEM 198C SPECIAL TOPICS

3 credits. 3 hours. (Lecture 3 HOURS.)
A study of a topic of current chemical interest.

CHEM 221 ORGANIC CHEMISTRY I

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 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 222 ORGANIC CHEMISTRY II

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)
Prerequisite: CHEM 221 with a grade of C or better.
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.

CHINESE

CHIN 101D ELEMENTARY CHINESE I CORE #2 MOTR TRANSFER GUARANTEED

4 credits. 4 hours. (Lecture 4 HOURS.)

An introduction to Chinese. Course develops basic communication skills: Listening, reading, writing, and speaking. Informal study of the culture of Chinese-speaking countries. (MOTR LANG 105)

CHIN 101E ELEMENTARY CHINESE I CORE #2 MOTR TRANSFER GUARANTEED

5 credits. 5 hours. (Lecture 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. (MOTR LANG 105)

CHIN 102D ELEMENTARY CHINESE II CORE #2 MOTR TRANSFER GUARANTEED

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisite: CHIN 101.

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. (MOTR LANG 106)

CHIN 102E ELEMENTARY CHINESE II CORE #2 MOTR TRANSFER GUARANTEED

5 credits. 5 hours. (Lecture 5 HOURS.)

Prerequisite: CHIN 101.

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. (MOTR LANG 106)

COMMUNITY HEALTH WORKER

CHLW 100 PRINCIPLES OF COMMUNITY HEALTH

3 credits. 3 hours. (Lecture 3 HOURS.)

Introduction to the role of the community health worker as part of the healthcare community team. Overview of community resources, terms and services. Effective interaction with others as related to clients and member of the healthcare team.

CHLW 101 LEGAL AND ETHICAL CONCEPTS FOR COMMUNITY HEALTH

3 credits. 3 hours. (Lecture 3 HOURS.)

This course examines the laws and ethics that apply to healthcare and the role of the community health worker. The role of access to health care and the social determinants to health will be examined.

CHLW 102 COMMUNITY INTERNSHIP/SERVICE LEARNING

3 credits. 3 hours. (Lecture 2 HOURS. Field Studies 60 HOURS.)

Community Health Worker Field Opportunity requires sixty (60) hours of services. Twenty (20) hours can be waived if currently employed as a Community Health Worker or similar role. Options for fieldwork vary based on student interest and area of specialty.

COMPUTER INTEGRATED MACHINING & MANUFACTURING

MCC-Business & Technology

David Grady
Edward Makos

CIMM 100 INTRODUCTION TO MACHINING AND MANUFACTURING

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, drawing, measurement and layout and an introduction to basic shop equipment.

CIMM 101 MACHINE SHOP SAFETY

1 credit. 1 hour. (Lecture 1 HOUR.)

This course covers the safe use of basic shop power equipment and hand tools. The student will learn precision measurement methods. This course is designed for students in engineering disciplines. It serves as a prerequisite for supervised use of the Engineering Student Machine Shop and serves as a prerequisite for all UMKC Engineering Lab courses.47110

CIMM 102 BASIC LATHE OPERATION

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: CIMM 101 or concurrent enrollment. This course covers the safe use and proper operation of a manual lathe. This course is designed for students in engineering disciplines. It serves as a prerequisite for supervised use of the Engineering Student Machine Shop and serves as a prerequisite for all UMKC Engineering Lab courses.

CIMM 103 BASIC MILL OPERATION

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: CIMM 101 or concurrent enrollment.

This course covers the safe use and proper operation of a manual mill. This course is designed for students in engineering disciplines. It serves as a prerequisite for supervised use of the Engineering Student Machine Shop and serves as a prerequisite for all UMKC Engineering Lab courses.

CIMM 104 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.

CIMM 105 INTRODUCTION TO BLUEPRINT READING

2 credits. 2 hours. (Lecture 2 HOURS.)

The student will learn to read and interpret basic blueprints commonly found in manufacturing. This course is designed for students in the machining and manufacturing careers.

CIMM 106 GEOMETRIC DIMENSIONING AND TOLERANCING

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisites: CIMM 105.

Geometric Dimensioning & Tolerancing (GD&T) is an international system of symbolic language for stating and interpreting design requirements. GD&T is 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 where complex material is presented in a "building-block" approach.

CIMM 110 MANUAL LATHE OPERATION

3 credits. 3 hours. (Lecture 1.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: CIMM 100 with a C or better or concurrent enrollment.

The student will learn to select appropriate tooling, setup and safely operate a manual lathe. This course is designed for students in machining and manufacturing careers.

CIMM 115 MANUAL MILL

3 credits. 3 hours. (Lecture 3 HOURS. Laboratory 3 HOURS.)

Prerequisite: CIMM 100 with a C or better or concurrent enrollment.

The student will learn to select appropriate tooling, setup and safely operate a manual mill. This course is designed for students in machining and manufacturing careers.

CIMM 121 CNC LATHE OPERATION FUNDAMENTALS

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisites: CIMM 110 or concurrent enrollment.

The student will learn the fundamentals of Computer Numerical Control (CNC) lathe programming and operation. This course is designed for students in machining and manufacturing careers.

CIMM 122 CNC MILL OPERATION FUNDAMENTALS

4 credits. 4 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: CIMM 115 or concurrent enrollment.

The student will learn the fundamentals of Computer Numerical Control (CNC) mill programming and operation. This course is designed for students in machining and manufacturing careers.

CIMM 140 EDM-SINKER

3 credits. 4.5 hours. (Lecture 1.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: CIMM 121 or CIMM 122.

This course is designed to meet the needs for higher-level training associated with the Machining and Tool and Die Making fields. EDM-Sinker trains machinists to work in all technical areas of machining with an Electrical Discharge Machine-Sinker type. This course is designed for students in manufacturing disciplines.

CIMM 141 EDM TECHNOLOGIES

4 credits. 2.5 hours. (Lecture 2.5HOURS. Laboratory 3 HOURS.)

Prerequisite: CIMM 121 OR 122 with a "C" or better.

This course is designed to meet the needs for higher-level training associated with the machining and tool and die making fields. EDM Technologies trains machinists to work in all technical areas of machining with an Electrical Discharge Machine-Sinker Type or Wire type. This course is designed for students in manufacturing disciplines.

CIMM 145 EDM-WIRE

3 credits. 4.5 hours. (Lecture 1.5 HOURS. Laboratory 3 HOURS.)

Prerequisites: CIMM 121 or CIMM 122 with a grade of C or better.

This course is designed to meet the needs for higher-level training associated with the Machining and Tool and Die Making fields. EDM-Wire trains machinists to work in all technical areas of machining with an Electrical Discharge Machine-Wire type. This course is designed for students in manufacturing disciplines.

CIMM 150 LATHE INTERNSHIP & CO-OP

3 credits. 3 hours. (Lecture 3 HOURS. Clinical 6 HOURS.)

Prerequisites: CSIS 100, CIMM 100, CIMM 105, CIMM 110, and CIMM 121, or concurrent enrollment and a C or better in the prerequisite classes.

The student will get on-the-job work experience as a manual and/or CNC lathe machinist. The student will attend class and work on specific skill development related to manual and/or CNC lathe operation.

CIMM 151 MILL INTERNSHIP & CO-OP

3 credits. 3 hours. (Lecture 3 HOURS. Clinical 3 HOURS.)

Prerequisites: CIMM 100/105/115/122, CSIS 100 or concurrent enrollment and a C or higher in the prerequisite classes.

The student will get on-the-job experience as a manual and/or CNC mill operator. The student will attend class and work on specific skill development related to manual and/or CNC mill operation.

CIMM 154 CUTTER GRINDING

3 credits. 3hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CIMM 104, 110, and 115 with a grade of C or higher.

This course is designed to meet the needs for higher-level training associated with the Machining and Tool and Die Making fields. Cutter grinding trains machinists to work in all technical areas of grinding and re-sharpening tooling consumed in other areas of this discipline. This course is designed for students in manufacturing disciplines.

CIMM 155 GRINDING OPERATIONS

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisites: CIMM 100 & 105 & 110 & 115.

This course covers the fundamentals of safely operating various pieces of grinding equipment. The emphasis will be on the care and use of surface grinders. This course is designed for students in machining and manufacturing careers.

CIMM 160 ADVANCED LATHE OPERATIONS

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisites: CIMM 121 or concurrent enrollment.

This course covers numerous topics in lathe operation not covered by the basic courses. This will include CNC Lathe as well as Manual Lathe. The course is designed for students in the machining and manufacturing careers.

CIMM 161 ADVANCED MILL OPERATIONS

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisites: CIMM 122 or concurrent enrollment.

This course covers numerous topics in mill operation not covered by the basic courses. This will include CNC mill as well as manual mill. The course is designed for students in the machining and manufacturing careers.

CIMM 199A SPECIAL PROBLEMS AND PROJECTS

1 credit. 1 hour. (Laboratory 2 HOURS.)

Prerequisite: Instructor Approval.

Independent study in machining and manufacturing areas under the supervision of a faculty member.

CIMM 199B SPECIAL PROBLEMS AND PROJECTS

2 credits. 2 hours. (Laboratory 4 HOURS.)

Prerequisite: Instructor Approval.

Independent study in machining and manufacturing areas under the supervision of a faculty member.

CIMM 199C SPECIAL PROBLEMS AND PROJECTS

3 credits. 3 hours. (Laboratory 6 HOURS.)

Prerequisites: Instructor Approval.

Independent study in machining and manufacturing areas under the supervision of a faculty member.

CIMM 200 ADVANCED MACHINING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: CIMM 150 & 151 or CIMM 160 & 161.

This course will provide advanced machining concepts in lathe and mill operations. It will also give an overview of Metallurgy and Geometric Dimensioning and Tolerancing.

CIMM 201 METALLURGY

3 credits. 4 hours. (Lecture 3 HOURS.)

Prerequisites: CIMM 100, 105, 110, 115, and CSIS 100.

Metallurgy covers all aspects of metallurgical engineering, which include the three areas of extractive, mechanical, and physical metallurgy. Properties of ferrous and nonferrous metals.

CIMM 225 MASTERCAM I

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 100 & (CIMM 121 or CIMM 122).

This course is designed as an introduction to MasterCAM software. Menu screens and configuration of the software will be covered working thru 2-D projects on the lathe and mill.

CIMM 226 MASTERCAM II

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: CIMM 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.

CIMM 231 CAPSTONE - JOB PLANNING, BENCHMARK & LAYOUT

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, CIMM 105.

Students receive NIMS Level I Credentials in Job Planning, Benchmark, 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.

CIMM 232 CAPSTONE - MILLING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, 105 & 115.

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.

CIMM 233 CAPSTONE - CHUCKING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, 105 & 110.

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.

CIMM 234 CAPSTONE - TURNING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, 105 & 110.

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.

CIMM 235 CAPSTONE - SURFACE GRINDING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, 105 & 115.

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.

CIMM 236 CAPSTONE - CNC MILLING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisite: CIMM 100, 105 & 122.

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 individuals through the skill standard developed through a consortium.

CIMM 237 CAPSTONE - CNC TURNING

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisite: CIMM 100, CIMM 105, CIMM 121.

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 individuals through the skill standard developed through a consortium.

CIMM 238 CAPSTONE - DRILL PRESS

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Prerequisites: CIMM 100, CIMM 105.

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 individuals through the skill standard developed through a consortium.

CIMM 255 TOOL DESIGN, JIGS AND FIXTURES

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Prerequisites: CIMM 106, 121, 122, 201, 225 and CIMM 140 or 145 and CIMM 154 or 155 with a grade of C or higher.

This course is designed to meet the needs for higher-level training associated with the Tool and Die Making field. Tool Design, Jigs, and Fixtures trains machinists to work in all technical areas of preparation, design, processing and manufacturing of jigs and fixtures. This course is designed for students in manufacturing disciplines.

CIMM 260 DIE MAKING

5 credits. 5 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Prerequisites: CIMM 106, 122, 145, 201, 225 and either CIMM 154 or 155 with a grade of C or higher.

This course is designed to meet the needs for higher-level training associated with the Tool and Die Making field. Die Making trains machinists to work in all technical areas of preparation, design, processing, and manufacture of dies. This course is designed for students in manufacturing disciplines.

CIMM 265 MOLD MAKING

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Prerequisites: CIMM 106, 121, 122, 140, 201, 225 and CIMM 154 or 155.

This course is designed to meet the needs for higher-level training associated with the Tool and Die Making field. Mold Making trains machinists to work in all technical areas of preparation, design, processing and manufacture of molds. This course is designed for students in manufacturing disciplines.

CIMM 290 CAPSTONE PROJECT

2 credits. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: CIMM 155, CIMM 200.

The student will work in the lab under the direction of a faculty member to demonstrate the ability to do multiple machining operations with Job Planning, Measurement, Safety, Heat Treatment, Blueprint Reading, Milling, Turning, and Grinding.

COLLEGE

COLL 100 FIRST-YEAR SEMINAR

1 credit. 1 hour. (Lecture 1 HOUR.)

The course is designed to help students adjust to the MCC community, develop a better understanding of the learning process, and acquire essential academic survival skills.

COMMUNICATION STUDIES

MCC-Blue River

Dee Mathison

MCC-Longview

Bill Cue

Keith Townsend

MCC-Maple Woods

Ayanna Bridges

Daniel Wright

MCC-Penn Valley

Kim Wilcox

COMM 100 FUNDAMENTALS OF SPEECH 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S, or appropriate placement test score.

An introductory public speaking course including practical application of speaking and listening skills. The emphasis will be on the organization and delivery of subject matter. (MOTR COMM 110)

COMM 102 FUNDAMENTALS OF HUMAN**COMMUNICATION** 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S, or appropriate placement test score.

An introduction to the process of human communication covering the basic forms of public speaking as well as topics in interpersonal communication. This course will emphasize the practical application of speaking and listening skills. (MOTR COMM 100)

COMM 110 ARGUMENTATION AND DEBATE 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S, or appropriate placement test score.

This course will present the theory, methods, structure and execution of competitive debate. Students will participate in competitive debates with other area debate squads. (MOTR COMM 220)

COMM 112 INTRODUCTION TO MASS**COMMUNICATION** 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 90 with a grade of S, or appropriate placement test score.

This course provides a historical study of the content, structure and control of modern communications in the United States. Students will learn criteria for evaluating media content relative to the nature and consequences of news, entertainment, and advertising. (MOTR SBSC 100).

COMM 128 INTRODUCTION TO FILM 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 90 with a grade of S, or appropriate placement test score.

This course consists of viewing and analyzing films from a historical and technical perspective. It will examine various aspects of film as visual language art form by examining its genres and theoretical perspectives. (MOTR FILM 100)

COMM 130A DIRECTED STUDIES IN COMMUNICATIONS

1 credit. 1 hour. (Independent Study 1 HOUR.)

Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of communications. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 130B DIRECTED STUDIES IN COMMUNICATIONS

2 credits. 2 hours. (Independent Study 2 HOURS.)

Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of communications. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 130C DIRECTED STUDIES IN COMMUNICATIONS

3 credits. 3 hours. (Independent Study 3 HOURS.)

Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of communications. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 131A DIRECTED STUDIES IN DEBATE

1 credit. 1 hour. (Independent Study 1 HOUR.)

Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of debate. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 131B DIRECTED STUDIES IN DEBATE

2 credits. 2 hours. (Independent Study 2 HOURS.)

Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of debate. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 131C DIRECTED STUDIES IN DEBATE

3 credits. 3 hours. (Independent Study 3 HOURS.)
Prerequisites: COMM 100.

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of debate. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

COMM 198A SERVICE-LEARNING IN COMMUNICATIONS

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisites: COMM 100.

This is an experiential learning opportunity that links concepts and principles of communications 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 communications course topic and learning objectives.

COMM 198B SERVICE-LEARNING IN COMMUNICATIONS

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisites: COMM 100.

This is an experiential learning opportunity that links concepts and principles of communications 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 communications course topic and learning objectives.

COMM 198C SERVICE-LEARNING IN COMMUNICATIONS

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisites: COMM 100.

This is an experiential learning opportunity that links concepts and principles of communications 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 communications course topic and learning objectives.

COMM 223 INTERPERSONAL COMMUNICATION



3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: ENGL 90 with a grade of S, or appropriate placement test score.

An overview of the processes and practices of interpersonal communication. Topics include the role of self-concept, perception, language, diversity, conflict, and listening. This course examines various forms and contexts of verbal and non-verbal communication. (MOTR COMM 120)

COMM 233 INTERCULTURAL COMMUNICATION



3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisites: ENGL 90 with a grade of S, or appropriate placement test score.

This course will examine how cultural variables and practices impact communication. It will emphasize achieving cultural communication competence and reducing cultural conflict by examining the role of identity, ethnicity, gender, perception, values, beliefs, and attitude within and outside one's culture. (MOTR SBSC 101).

COMM 263 DIGITAL VIDEO PRODUCTION

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)
Prerequisites: ENGL 90 with a grade of S, or appropriate placement test score.

This course provides students with the skills to shoot, edit, and produce digital video content. Students will use modern video lighting, recording, digitizing, and editing equipment to create video productions suitable for broadcast or distribution via optical disc or the web.

CRIMINAL JUSTICE

<i>MCC-Blue River</i> Douglas Thompson	<i>MCC-Longview</i> Rick Turner	<i>MCC-Penn Valley</i> Karen Curls
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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. (MOTR CRJS 101).

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 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 167A SPECIAL TOPICS IN CRIMINAL JUSTICE

1 credit. 1 hour. (Lecture 1 HOUR.)

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 167B SPECIAL TOPICS IN CRIMINAL JUSTICE

2 credits. 2 hours. (Lecture 2 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 167C SPECIAL TOPICS IN CRIMINAL JUSTICE

3 credits. 3 hours. (Lecture 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 DELIQUENCY

3 credits. 3 hours. (Lecture 3 HOURS.)

Definitions of delinquent behavior. Theories of causation. Development of the juvenile court. Function of detention, intake, and probation. Community-based and institutional programs. Procedures for processing juveniles and treatment trends.

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 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 trial preparation.

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 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 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 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.

COMPUTER SCIENCE INFORMATION SYSTEMS

MCC-Blue River

Brian Hurley
Melissa Napper

MCC-Business & Technology

Jerin Schreiber

MCC-Longview

Cynthia Herbert
Dennis Jirkovsky

MCC-Maple Woods

Gary May
Dempsey Yearry

MCC-Penn Valley

Edward Durant

CSIS 100 DIGITAL LITERACY

2 credits. 2.5 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)
This course provides a basic introduction to personal computing. Through the use of lecture, demonstration, and hands-on experience, the student will be introduced to microcomputer hardware, operating systems, several software applications. The internet, internet safety, and internet-based applications are also covered. A keyboarding component is included.

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 110 INFORMATION TECHNOLOGY FUNDAMENTALS

3 credits. 3 hours. (Lecture 3 HOURS.)

Introduces Information Technology vocabulary and fundamentals related to computer hardware, software, networking, security, and basic IT literacy. This course helps prepare students for the CompTIA IT Fundamentals certification exam.

CSIS 111 COMPUTER HARDWARE, MAINTENANCE, AND TROUBLESHOOTING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110 with a grade of C or better.

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. This course helps students prepare for the first of two tests required for the current CompTIA A+ Certification.

CSIS 112 INTRODUCTION TO NETWORKS CCNA 1

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 110.

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a model Internet_i to allow students to analyze real data without affecting production networks. Packet Tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN topologies by applying basic principles of cabling, performing basic configurations of network devices such as routers and switches, and implementing IP addressing schemes.

CSIS 113 ROUTING AND SWITCHING ESSENTIALS CCNA 2

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 112.

This course describes the architecture, components and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of the course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs and inter-VLAN routing in both IPv4 and IPv6 networks. Students complete hands-on labs, virtual labs and interactive media activities. These labs and other activities reinforce new concepts and allow students to model and analyze routing and switching processes that may be difficult to visualize or understand.

CSIS 115 COMPUTER CONCEPTS AND APPLICATIONS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

This course provides basic technology skills needed for success in college-level coursework and career preparation. Topics include file management on local, network and cloud-based storage media. Additional topics include word processing, spreadsheet, database, and presentation software as well as navigation of web-based information, data security and personal information assurance. Test out option available upon request.

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 119 SCRIPTING FUNDAMENTALS

3 credits. 3 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110 with a grade of C or higher.

This course offers an in-depth introduction to the Bash, PowerShell, and Python scripting languages. Students will explore the command line interface and learn scripting fundamentals and strategies for each language while constructing scripts for systems administration and task automation. Students will also explore security concepts related to scripting.

CSIS 123 PROGRAMMING FUNDAMENTALS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: MATH 31 or higher (excluding MATH 100), or appropriate score on the math 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 or CSIS 115.

Introduction to Electronic Commerce introduces students to both the theory and practice of conducting business over the Internet and World Wide Web. Students will examine business strategies for electronic commerce, technologies for electronic commerce, and integration of business and technology strategies used in electronic commerce. create site-wide navigation links and publish a store.

CSIS 143 DATABASE DESIGN AND MANAGEMENT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 115 with a grade of C or higher.

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 151 MICROSOFT OPERATING SYSTEM

CONCEPTS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110 with a grade of C or better.

This course introduces students to the concepts, features, and important functions of an operating system. Students will install and configure the Microsoft Windows Operating System (OS). Students will use a variety of tools and techniques to explore post-installation and ongoing maintenance activities such as updating, securing, optimizing, monitoring, and troubleshooting a Windows OS. Students will also explore environmental and safety concepts, as well as professionalism and customer service. This course helps students prepare for the second of two tests required for the current CompTIA A+ Certification.

CSIS 152 LINUX OPERATING SYSTEM

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110 with a grade of C or higher.

This course will introduce students to the Linux operating System. Using command-line and graphical user interface tools and techniques, students will explore and learn to manage the operating system from the perspective of a systems administrator and an end user.

CSIS 161 NETWORKING FUNDAMENTALS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110.

This course introduces students to the knowledge and skills required to troubleshoot, configure, and manage common network wireless and wired devices, establish basic network design and connectivity, understand and maintain network documentation, identify network limitations and weaknesses, and implement network security, standards, and protocols. Students will also explore emerging technologies including unified communications, mobile, cloud, and virtualization technologies. This course helps prepare students for the current CompTIA Network+ certification exam.

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 170 PRINCIPLES OF INFORMATION SECURITY

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 110 with a grade of C or better.

This course introduces the field of information security and assesses the information security environment within which organizations function.

CSIS 175 SERVICE AND SUPPORT OF LOCAL AREA NETWORKS

3 credits. 3.5 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 230.

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 180A CURRENT TOPICS

1 credit. 1 hour. (Lecture 1 HOUR.)

Technical and applicational implications of innovations in hardware and software. Approval of instructor.

CSIS 180B CURRENT TOPICS

2 credits. 2 hours. (Lecture 2 HOURS.)

Technical and applicational implications of innovations in hardware and software. Approval of instructor.

CSIS 180C CURRENT TOPICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Technical and applicational implications of innovations in hardware and software. Approval of instructor.

CSIS 180D CURRENT TOPICS

4 credits. 4 hours. (Lecture 4 HOURS.)

Technical and applicational implications of innovations in hardware and software. Approval of instructor.

CSIS 182 ENTERPRISE SECURITY MANAGEMENT

3 credits. 3 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 170.

This course examines managerial aspects of computer security and risk management for enterprises. The student will acquire knowledge for accreditation, procurement, extension and operation principles for secure computing systems.

CSIS 208 SECURE E-COMMERCE

3 credits. 3 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 112.

An in-depth study of secure electronic commerce, cryptography, passwords, certification authorities, public key infrastructure, biometrics, and digital signatures. Legal and national policy secure electronic commerce issues will be discussed.

CSIS 212 SCALING NETWORKS CCNA 3

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 113.

This course describes the architecture, components and operations of routers and switches in larger more complex networks. Students learn how to configure router and switches for advanced functionality. By the end of the course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP and STP in both IPv4 and IPv6 networks. Students also develop the knowledge and skills necessary to implement WLAN in a small-to-medium network.

CSIS 213 CONNECTING NETWORKS CCNA 4

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 212.

This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement virtual private network (VPN) operations in a complex network.

CSIS 215 ADVANCED COMPUTER APPLICATIONS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 115 with a C or higher.

Implementation and in-depth use of computer software packages. Specific hands-on work with

word processor, spreadsheet, database, and presentation software applications.

CSIS 216 IMPLEMENTING CISCO IP ROUTING: CCNP 1

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: CSIS 213.

This course teaches students how to implement, monitor, and maintain routing services in an enterprise network. Students will learn how to plan, configure and verify the implementation of complex enterprise LAN and WAN routing solutions, using a range of routing protocols in IPv4 and IPv6 environments. The course also covers the configuration of secure routing solutions to support branch offices and mobile workers. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills.

CSIS 217 IMPLEMENTING IP SWITCHING: CCNP 2

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 213.

This course teaches students how to implement, monitor, and maintain switching in converged enterprise campus networks. Students will learn how to plan, configure, and verify the implementation of complex enterprise switching solutions. The course also covers the secure integration of VLANs, WLANs, voice, and video into campus networks. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills.

CSIS 218 MAINTAINING AND TROUBLESHOOTING IP NETWORKS: CCNP 3

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 216 and 217.

This course teaches students how to monitor and maintain complex, enterprise routed and switched IP networks. Skills learned include the planning and execution of regular network maintenance, as well as support and troubleshooting using technology-based processes and best practices, based on systematic and industry recognized approaches. Extensive labs emphasize hands-on learning and practice to reinforce troubleshooting techniques.

CSIS 221 INTRODUCTION TO COMPUTER ARCHITECTURE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: CSIS 123 & 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 222 OBJECT-ORIENTED PROGRAMMING WITH JAVA

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 123 with grade of C or higher.

This course introduces object-oriented programming (OOP) using the Java language. Course topics include a review of structured programming concepts, use of a Java Integrated Development Environment (IDE), and an introduction to object-oriented design and coding methodology. The object-oriented approach to Java programming emphasizes data encapsulation, data abstraction, inheritance, polymorphism, use of built-in classes and libraries, class hierarchies, reusable design, applets incorporating graphical user interfaces, and event-driven programming.

CSIS 223 OBJECT-ORIENTED PROGRAMMING WITH C++

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 123 Programming Fundamentals with C or better.

Introduction to object-oriented programming for students with procedural programming 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 XHTML 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 230 WINDOWS SERVER AND ACTIVE DIRECTORY FUNDAMENTALS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: (CSIS 112 or 161 with a grade of C or better) and (CSIS 151 or 152 with a grade of C or better).

Fundamental skills necessary to effectively manage, monitor, and maintain a Microsoft network including installation of Windows Server, configuration of Active Directory, management of user accounts, file shares, group policies, and network printing.

CSIS 232 VIRTUALIZATION AND CLOUD COMPUTING CONCEPTS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 230 with a grade of C or better (or concurrent enrollment).

This course covers a variety of technologies found on modern networks. Topics include data center infrastructure, cloud computing, virtualization, virtual networks, remote management, and network troubleshooting. Students will gain experience implementing and managing virtual data center components using industry standard tools. Students will also gain exposure to current and advanced topics in cloud computing.

CSIS 233 WEB-CENTRIC PROGRAMMING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 223 & MATH 95 with a grade of C or better or appropriate placement test score.

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 250 ASSEMBLY LANGUAGE PROGRAMMING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 123.

Introduction to assembly language coding for computer programs, subprograms, procedure calls, and macros. Use of instruction syntax and various instruction types to implement arithmetic operations, assignment, comparison, branching, and repetition. Manipulation of basic data formats, including binary and hexadecimal values, strings, and arrays. Effective use of the assembler, the linking process, and debugging techniques.

CSIS 261 ADVANCED NETWORKING I

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 152 and CSIS 161 with a grade of C or better.

This course is a continuance of the networking fundamentals course and introduces more advanced concepts, while helping students prepare for the current Cisco CCENT certification. Students will learn WAN technologies, basic security, wireless concepts, routing and switching fundamentals, and configuring simple networks.

CSIS 262 ADVANCED NETWORKING II

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 261 with a grade of C or better.

This course continues to build upon knowledge gained in Advanced Networking I by focusing on skills required to deploy, operate, and troubleshoot network layers 1-3. This course helps prepare students for the current Cisco CCNA Routing and Switching certification.

CSIS 265 .NET WEB PROGRAMMING WITH C#

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 222 or CSIS 223.

Programming techniques to develop Web-based interfaces for the World-Wide Web or for use within an Intranet environment. Topics include Web interface concepts, event-driven architecture, Web database programming, server side and client-side scripting, Web site architecture and configuration, E-commerce applications, and security. The course presents these subjects from an Object-Oriented design perspective using the C# programming language in ASP.NET and ADO.NET applications development.

CSIS 270 NETWORK AND SYSTEMS SECURITY

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 112 or CSIS 161 with a grade of C or better, and CSIS 170 with a grade of C or better (or concurrent enrollment).

This course will introduce to students to network and systems security by exploring vulnerabilities, threats, attacks, and countermeasures. Students will also learn fundamental security design principles and implementation techniques. This course helps students prepare for the current CompTIA Security+ certification exam.

CSIS 271 DATA STRUCTURES AND ALGORITHM ANALYSIS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: CSIS 223 & MATH 141.

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 113.

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 279 WEB DATABASE PROGRAMMING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 123, 128, and 143.

This course will teach web site developers who perform architectural planning, technology selection, or web site programming tasks how to create web sites that use current web database technology components on both the client workstation and the web server. The course will show students how to create a multi-tiered web site that accesses a database using current web database programming tools.

CSIS 280 PENETRATION TESTING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 270 with a grade of C or better (or concurrent enrollment).

This course introduces students to the fundamental concepts of penetration testing. Students will learn how to utilize a variety of industry-standard tools and techniques for all phases of penetration testing. Students will also gain an understanding for the importance of proper planning, communication, and report writing. This course helps prepare students for the current CompTIA Pentest+ certification exam.

CSIS 281 CYBER ANALYTICS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 270 with a grade of C or better.

This course introduces students to the fundamental concepts of cyber analytics. Students will explore and use threat detection tools, perform data analysis, and interpret the results to identify vulnerabilities, threats, and risks to an organization. This course helps prepare students for the current CompTIA Cybersecurity Analyst (CySA+) certification exam.

CSIS 285 DIGITAL FORENSICS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: CSIS 272.

Digital crime scene investigation practices and digital evidence capture, documentation, validation and preservation techniques are taught through in-depth participatory exercises. Steganography, mobile data acquisition, network monitoring, decryption, manual and automated file and password recovery techniques are taught.

CSIS 290 FIELD COMPETENCIES AND EMPLOYMENT STRATEGIES

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: Approval of Instructor required.

This course prepares the student for entry into the computer science workforce. It includes strategies for successful career goal setting, job seeking, and obtaining employment in the industry. Topics will include verbal communication, written communication, problem solving and decision making, professionalism, teamwork and team building. Participation in actual or simulated job interview and technical content pertinent to the program assessment being delivered. Instructor approval required to enroll in the course.

CONSTRUCTION MANAGEMENT

MCC-Business and Technology

Mark Gardner

CSMG 101 INTRODUCTION TO CONSTRUCTION MANAGEMENT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Overview of construction as a profession and of the construction industry, including safety, types of construction, professional organizations, contract delivery systems, ethics, communication and software applications within construction.

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 and 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 215 CONSTRUCTION PLANNING & SCHEDULING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: CSIS 115.

Introduction to commonly used techniques and computer applications for the planning, scheduling, monitoring, and controlling of construction projects. Topics include key scheduling techniques such as Gantt Chart, Critical Path Method (CPM), Program Evaluation Review Technique (PERT), Linear Scheduling Method (LSM), and Earned Value Method (EVM); practical scheduling practices such as tracking, controlling, and forecasting trends of schedules, cost control, and reporting.

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 225 CONSTRUCTION METHODS & MATERIALS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: CSMG 101 w/ C grade or higher.

This course is an introduction to the basic building materials, components, methods, and sequences in residential construction. The class is organized around the Construction Specifications Institute (CSI) Format. We will use a simple set of building prints and specifications to structure our discussion of the building process, and learn about the materials specified for use in that structure, along with possible alternatives.

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 235 LEED GA

3 credits. 3 hours. (Lecture 3 HOURS.)

The purpose of this course is to provide students with an introductory knowledge and understanding of the basic aspects of street and roadway design, construction and maintenance.

CSMG 245 INTRODUCTION TO INDUSTRIAL PROCESS CONSTRUCTION

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: CSMG 101 w/ C grade or higher.

This course introduces students to the terminology and functional details of mechanical and electrical systems common to process and industrial plant projects. Installation methods and management techniques specific to industrial construction for mechanical and electrical systems are discussed.

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 255 PROJECT COST ESTIMATING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: CSIS 115 & CSMG 101 with a minimum grade of C.

Principles of construction estimating. Topics include estimating quantities of material using reference books, tables and the Construction Specifications Institute (C.S.I.) format and preparing estimating reports.

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 265 PUBLIC WORKS CONSTRUCTION

1 credit. 1 hour. (Lecture 1 HOUR.)

The purpose of this course is to provide students with an introductory knowledge and understanding of the basic aspects of street and roadway design, construction and maintenance.

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.

CSMG 285 CONSTRUCTION CONTRACTS & DOCUMENTS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: CSMG 101 w/ C grade or higher.

Principles of construction contracts and documents, based on the Construction Specifications Institute format, covering various contract methods, document precedent, phases of the design process and how documents relate to that process. This course will present the value and importance of how construction documents define the rights of, responsibilities of and relationships among all the parties that are necessary for the successful completion of any project.

CSMG 295 BUILDING CODES AND CODE ADMINISTRATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: CSMG 101.

Study of national, state, and local regulations applicable to specification and performance of building construction standards. The International Building Code is utilized as the primary reference resource.

DANCE

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
Hema Udupa

DENA 100 INTRODUCTION TO DENTAL ASSISTING

1 credit. 1 hour. (Lecture 1 HOUR.)
This course introduces students to basic dental terminology, roles of the dental assistant and members of dental health team, scope of dentistry as well as the legal and ethical responsibilities of a dental health care worker.

DENA 101 BODY STRUCTURE AND FUNCTION

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisites: Formal Admission into the Dental Assisting Program, DENA 100, ENGL 101.
This course provides students with an overview of basic structure and function of the various systems of the human body and on inflammation and healing.

DENA 102 HEAD AND NECK ANATOMY

2 credits. 2.5 hours. (Lecture 1.5 HOURS.
Laboratory 1 HOUR.)
Prerequisites: Formal Admission into the Dental Assisting Program, DENA 100, ENGL 101.
This course utilizes a systems approach to the gross anatomy of the head and neck with emphasis on the maxilla, mandible and supporting structures of the oral cavity, oral tissues, temporomandibular joint, neuromuscular and circulatory function.

DENA 103 DENTAL ANATOMY

2 credits. 2.5 hours. (Lecture 1.5 HOURS.
Laboratory 1 HOUR.)
Prerequisites: Formal Admission into the Dental Assisting Program, DENA 100, ENGL 101.
This course introduces students to various dental science topics such as a detailed study of crown and root morphology of both primary and permanent dentition, supporting oral structures, eruption schedule and numbering system. It also provides an understanding of the embryonic development of the orofacial structures, tooth development (oral embryology) and histology.

DENA 104 DENTAL, MEDICAL EMERGENCIES AND PHARMACOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisites: Formal admission to the Dental Assisting Program, DENA 100, ENGL 101.
This course provides an overview of emergencies common to the dental office settings. 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 practice, different types of anesthesia used in the dental office, the methods of administration and precautions during their use.

DENA 105 DENTAL MATERIALS I

2.5 credits. 5 hours. (Laboratory 5 HOURS.)
Prerequisites: Formal Admission into the Dental Assisting Program, DENA 100, ENGL 101.
This course is designed to provide students with basic knowledge of various dental materials and manipulation of alginate materials, impression materials, bite registration materials, cements and gypsum products and their role in making dental models. Students will gain laboratory experience in the handling, practical application, safe use of dental materials and laboratory equipment in addition to following infection control procedures in accordance with OSHA and CDC.

DENA 108 ORAL MICROBIOLOGY AND INFECTION CONTROL

1.5 credits. 2 hours. (Lecture 1 HOUR. Laboratory 1 HOUR.)

Prerequisites: DENA 101, DENA 102, DENA 103, DENA 104, DENA 105, and EMS 100.

This course provides an overview of microbiological aspects with emphasis on practical infection and hazard control, sterilization and monitoring, chemical disinfectants, aseptic techniques, infectious disease, HIPPA and OSHA Standards.

DENA 110 CHAIRSIDE ASSISTING I

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisites: DENA 101, DENA 102, DENA 103, DENA 104, DENA 105, and EMS 100.

The course introduces the students to various dental terminologies and responsibilities as a dental assistant in the dental operator which includes patient preparation, record keeping, delivery of pre and post-op instructions, methods of oral evacuation, utilization of rubber dam, matrix, anesthetic, fluoride, wedge, assisting with amalgam and composite procedures, coronal polishing techniques and assisting during dental and medical emergencies. The above responsibilities will be performed using standard considerations for infection control.

DENA 115 DENTAL RADIOLOGY I

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: DENA 101, DENA 102, DENA 103, DENA 104, DENA 105, and EMS 100.

This course is an introduction to 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: DENA 101, DENA 102, DENA 103, DENA 104, DENA 105, and EMS 100.

This course is the practical clinical experience in operative and oral hygiene procedures utilizing four-handed dentistry in the clinics. Current federal, state and local regulatory mandates related to infection control and hazardous waste management will be discussed. Additionally, ethical dilemmas in dentistry as well as medical emergencies will be examined in detail.

DENA 205 DENTAL MATERIALS II

3 credits. 6 hours. (Laboratory 6 HOURS.)

Prerequisites: DENA 101, DENA 102, DENA 103, DENA 104, DENA 105, and EMS 100.

This course provides instruction in advanced manipulation of dental cements, amalgam, esthetic restorations (composites), alginates, gypsum products, sealants and various specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory, cements, varnishes, bases and liners.

DENA 210 CHAIRSIDE ASSISTING II

5 credits. 9 hours. (Lecture 1 HOUR. Laboratory 8 HOURS.)

Prerequisites: DENA 108, DENA 110, DENA 115, DENA 125, DENA 205.

This course primarily emphasizes on various dental specialties such as theories of orthodontics, periodontics, prosthodontics, oral surgery, endodontics, and pedodontics. As well as the application of different procedures, instruments and current concepts of chairside assisting.

DENA 215 DENTAL RADIOLOGY II

2 credits. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: DENA 108, DENA 110, DENA 115, DENA 125, DENA 205.

This course emphasizes radiographic techniques, procedures and infection control methods as well as on 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.)

Prerequisites: DENA 108, DENA 110, DENA 115, DENA 125, DENA 205.

Students will learn 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 application and use as well as learn Eaglesoft practice management software. Hands-on experience in private practice offices and/or clinic DENA 250.

DENA 230 ORAL PATHOLOGY

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisites: DENA 108, DENA 110, DENA 115, DENA 125, DENA 205.

This course provides an overview of diseases of the human body, including basic cell tissues, with specific emphasis on diseases of the oral and maxillofacial region.

DENA 250 CLINICAL EXPERIENCE II

4 credits. 16 hours. (Clinical 16 HOURS.)

Prerequisite: DENA 108, DENA 110, DENA 115, DENA 205.

This course is a continuation of the student's clinical experience with emphasis placed on the application of principles and procedures of four-handed dentistry in general and specialty private practices as well as laboratory and clinical support functions.

DENA 260 DENTAL ASSISTING SEMINAR

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: DENA 108, DENA 110, DENA 115, DENA 125, DENA 205.

This course provides an overall review and clarification of all and any of the materials covered within the academic year by discussion, dialogue between students and instructor as a step towards the preparation for the Dental Assisting National Board Examination. Further emphasis is placed on preparation of personal resume, interviewing techniques and job applications for successful employment.

EARLY CHILDHOOD EDUCATION AND DEVELOPMENT

MCC-Penn Valley

Jennifer Copeland

Meghan Nichols

ECED 101 FUNDAMENTALS OF EARLY CARE AND EDUCATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S 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 is 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.

ECED 110 CHILD HEALTH, SAFETY AND NUTRITION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 and READ 11/31 with a minimum grade of S or appropriate placement 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.

ECED 113 CHILD GROWTH AND DEVELOPMENT I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 101 with a grade of C or higher or concurrent enrollment.

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.

ECED 115 TEACHING INFANTS AND TODDLERS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ECED 113 with a grade of C or higher.

Students will gain an understanding of the unique characteristics of the growth and development of children from birth through 36 months. Emphasis will be placed on brain research, attachment relationships with caregivers as well as implementing developmentally appropriate activities and learning environments for infants and toddlers. The 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.

ECED 117 PRINCIPLES OF YOUTH WORK & DEVELOPMENT I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a minimum grade of S or appropriate placement score.

This course introduces students to the field of working with children/youth (ages 5-17) in out-of-school program settings. This course covers competencies related to child development, the physical environment, curriculum, and observation and assessment. This course is aligned to the MO Youth Development credential competency goals I and II as well as the Standards of the National Afterschool Association, Level III, content areas 1-3.

ECED 121 ISSUES, ADVOCACY AND TRENDS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 101 with a grade of C or higher or concurrent enrollment.

This course explores current topics and trends in the early care and education field. Advocacy will be emphasized as it relates to professionalism, children, families and the communities. 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.

ECED 127 PRINCIPLES OF YOUTH WORK & DEVELOPMENT II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a minimum grade of S or appropriate placement score.

The course continues studies pertinent to the field of working with children/youth (ages 5-17) in out-of-school program settings. This course covers competencies related to effective interactions between teachers and children/youth, youth engagement, cultural competency and responsiveness, and appropriate guidance practices. This course is aligned to the MO Youth Development Credential competency goals III and V as well as the Standards of the National Afterschool Association, Level III, content areas IV-VI.

ECED 128 CURRICULUM IN EARLY CHILDHOOD EDUCATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ECED 113 with a C or higher or concurrent enrollment.

This course will examine developmentally appropriate practices and the teacher's 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 activity 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.

ECED 132 LEARNING ENVIRONMENTS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S 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.

ECED 149 OBSERVATION AND ASSESSMENT

3 credits. 5 hours. (Lecture 2.5 HOURS. Field Studies 30 HOURS.)

Prerequisites: ECED 113 with a C or higher.

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.

ECED 201 LANGUAGE DEVELOPMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 113 and ENGL 101 with a grade of C or higher.

This course is an in-depth study of the basic use of tools and materials that stimulate imagination, reasoning, concept formation and communications through language development. 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 are followed in this course.

ECED 213 CHILD GROWTH DEVELOPMENT II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 113 with a grade of C or higher.

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.

ECED 217 LITERATURE FOR YOUNG CHILDREN

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S or appropriate placement test score.

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.

ECED 220 CHILD CARE MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 113 with a C or better.

This course is a survey of early-care and education programs. Students will study planning, developing and operating an 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.

ECED 227 BEST PRACTICES IN YOUTH WORK & DEVELOPMENT

3 credits. 3 hours. (Lecture 2.5 HOURS. Field Studies 30 HOURS.)

Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement score, ECED 117 or concurrent enrollment.

This course includes a minimum 30 hours of youth work field experience in an approved out-of-school program setting working with children/youth (ages 5-17). This course covers competencies related to youth engagement, family, school and community relationships, and program planning and development. This course is aligned to the MO Youth Development Credential competency goals V and VI as well as the Standards of the National After School Association, Level III, content areas V, VII, XIV, and X.

ECED 236 CHILD GUIDANCE

3 credits. 3 hours. (Lecture 2.5 HOURS. Field Studies 30 HOURS.)

Prerequisites: ECED 113 with a grade of C or higher.

In this course students will gain knowledge of developmentally appropriate, research based, practices of positive child guidance and effective classroom management strategies in the early childhood classroom. Students will learn how to build relationships with children and families, how to guide children directly and indirectly and implement effective conflict resolution techniques. 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.

ECED 255 CAPSTONE PRACTICUM EXPERIENCE

3 credits. 5 hours. (Lecture 1 HOUR. Field Studies 120 HOURS.)

Prerequisites: ECED 149 and ECED 236 with a grade of C or higher or concurrent enrollment.

This course is a supervised field experience designed for students to apply their knowledge of teaching young children. In their approved practicum classroom, students will practice health and safety guidelines, observation and positive interactions with young children, plan developmentally appropriate activities, implement positive guidance and plan learning environments that reflect intentional teaching and best practices in the field. The student will spend a minimum of 6 hours per week (a total of 120 clock hours) in the practicum classroom. 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.

ECED 260 EDUCATION OF THE EXCEPTIONAL CHILD

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ECED 113 with a C or higher.

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.

ECED 262 FAMILIES, EARLY CARE, AND COMMUNITIES

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ECED 101 with a C or better.

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 teacher's 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.

ECED 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.

ECONOMICS

MCC-Longview

MCC-Maple Woods

Hossein Bahmaie

Jill Kingsbury

ECON 110 INTRODUCTION TO ECONOMICS

3 credits. 3 hours. (Lecture 3 HOURS.)

General education approach to the study of economics. Economics as a description of economic life. The economic problem. Economic systems. The market economy and its operations. That national economy. Fiscal policy. The role of money and banking. Monetary policy. Standard economic theory. Dissenting economic theory. (MOTR ECON 100)

ECON 210 MACROECONOMICS



3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 85 or MATH 95 with a grade of C or better or appropriate placement test score.

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. (MOTR ECON 101)

ECON 211 MICROECONOMICS



3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 85 or MATH 95 with a grade of C or better or appropriate placement test score.

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. (MOTR ECON 102)

EDUCATION

MCC-Longview
Russell Powlas

MCC-Maple Woods
Kyle Anderson

MCC-Penn Valley
Carrie Pickernel-
Brooks

EDUC 200 FOUNDATIONS OF EDUCATION IN A DIVERSE SOCIETY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 101 with a grade of C or better.

This course is designed to examine educational practice from diverse historical, philosophical, sociological, economic, and legal perspectives. The course will address issues of educational equity, sociocultural influences on teaching and learning, and how teachers and schools can contribute to interpersonal and intercultural understanding and respect, social justice, and democratic citizenship. Students will explore the nature of school environments, the fundamental goals of education in the American public school, English Language Learners, the relationship between school and a diverse society, the organization of school curricula, and characteristics of effective schools and instruction in grades P-12.

EDUC 201 TEACHING PROFESSION WITH FIELD EXPERIENCE

3 credits. 2.5 hours. (Lecture 2.5 HOURS. Field Studies 30 HOURS.)

Prerequisite: ENGL 101 with a grade of C or better.

This course includes an introductory, minimum 30 hours of school field experience in accredited P-12 classroom(s) that provide opportunities to observe and contribute to teaching and learning. This course allows preservice teachers to connect firsthand school experience with an emerging professional knowledge base. The course develops professional knowledge of diverse educational settings through observation, instruction, experience, and reflection. This course is designed to assist students in determining if a career in teaching is an appropriate goal. Requirements for teacher preparation and certification are reviewed.

EDUC 212 CREATIVITY AND MOVEMENT FOR ELEMENTARY TEACHERS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 101 with a grade of C or better.

This course provides an overview of the curriculum and methods necessary to teach art, music, and physical education/health at the elementary level. This course will incorporate state learning standards, related content vocabulary, critical thinking, and lesson planning/implementation within each of these disciplines as well as information about integrating each of these subjects into the core curriculum instruction.

EDUC 215 CHILDREN'S LITERATURE FOR ELEMENTARY TEACHERS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 101 with a grade of C or better.

Through extensive reading of children's literature students will study techniques for selecting and evaluating books to meet the developmental needs of children. Selections of reading material will allow for exploration of multiple genres and a wide range of diverse representations in children's books. Students will practice integrating literature across the curriculum and creating literature related activities for use in the classroom.

EDUC 235 MULTICULTURAL EDUCATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 101 with a grade of C or better.

This course is designed to examine the multicultural context of education and prepare students to understand and teach learners from diverse backgrounds, with diverse characteristics, and with differing social identities. The course will address issues of educational equity, sociocultural influences on teaching and learning, and how teachers and schools can contribute to interpersonal and intercultural understanding and respect, social justice, and democratic citizenship.

EDUC 270 EDUCATIONAL PSYCHOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 101 and PSYC 140 with grades of C or better.

This course is designed to help students relate theories and principles of educational psychology to teaching, learning, and assessment. This course focuses on the diversity of learners and learning processes, as well as teacher characteristics, classroom strategies, and data analysis in P-12 classrooms. Appropriate strategies for increasing motivation, multi-dimensional development, and academic achievement for all learners are introduced.

EDUC 280 EDUCATIONAL TECHNOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 101 with a grade of C or better.

In this course students will learn how to integrate instructional technology into P-12 classrooms. Students will study a variety of software programs, presentation technology, telecommunication tools, and assistive technology. 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 2.75 HOURS. Field Studies 0.25 HOUR.)

Prerequisite: EDUC 270 with a grade of C or better.

This survey course is an introduction to exceptional learners and their education in grades P-12. Students will gain a comprehensive understanding of the characteristics of people with special needs in addition to strategies of educating and including all learners in general education and special education settings. Students will research and discuss complex issues related to compliance with state and federal education laws, such as the Individuals with Disabilities Educational Act (IDEA) and the Americans with Disabilities Act (ADA) as well learn to navigate special education processes, such as referral, eligibility, re-evaluation, and IEPs. This course requires a 15-hour special education field experience component.

ENVIRONMENTAL HEALTH AND SAFETY

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. This course emphasizes hazard identification, avoidance, control, and prevention. The topics will include clean air, clean water, hazardous waste, hazard communication, fall protection, confined space, respiratory protection, and personal protective clothing. Passing students meeting the attendance requirement will receive an OSHA 30-hr Outreach Card for General Industry.

EHSS 101 HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE (HAZWOPER)

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 techniques, air monitoring equipment, hazardous waste documentation, and incident command system (ICS) will be covered. This course meets the requirements of OSHA's HAZWOPER regulation (29 CFR 1910.120(e)). Upon satisfactory completion students will receive a 40-hr HAZWOPER certificate.

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, chemical and health hazards of hazardous materials based on the nine DOT hazard classes, NIOSH Pocket Guide and EPA's definition of characteristic hazardous waste. Included are toxic, corrosive, reactive, flammable and combustible liquids, compressed gases, LP-gases and cryogenic liquids. Upon satisfactory completion students will receive an OSHA 2015 (Hazardous Materials) certificate.

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-hr 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-hr 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 walking and working surfaces, hazard communication (hazcom), confined spaces, personal equipment, electrical, machine safeguarding, exit routes/fire protection, lockout/tagout, welding, and recordkeeping. In addition, hazard recognition and safe work practices will be covered. Upon satisfactory completion students will receive certificates in OSHA 511 (OSHA Standards Course for General Industry) and OSHA7845 (OSHA Recordkeeping).

EHSS 202 TRANSPORTATION AND STORAGE OF HAZARDOUS MATERIALS

3 credits. 3 hours. (Lecture 3 HOURS.)

A presentation of detailed information required for the handling, transportation, and storage of hazardous materials. Procedures for safe handling, storing, and preparing hazardous materials for shipment by all modes of transport as required by applicable Department of Transportation (DOT) regulations will be covered. Students will use reference materials, labeling, and preparing materials for shipment. Students will also learn the critical competencies required for properly responding to hazardous material emergencies. Upon satisfactory completion students will receive a 40-hour HAZMAT certificate in 49 CFR 171-180.

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. Subjects included in this course are: EPA history, specific regulations regarding surface water (CWA), air (CAA), drinking water (SDWA), hazardous waste (RCRA), Superfund (CERCLA), Endangered Species (ESA) and Community Right-to-Know (EPCRA).

EHSS 204 EMERGENCY PREPAREDNESS AND PLANNING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 101.

This course will cover a broad range of proactive and regulatory approaches to emergency planning. Analysis techniques, methods of auditing and conducting hazard assessments are covered. Subject materials are presented for students working in industry as well as the public sector of emergency planning and incident response. Upon satisfactory completion students will receive certificates in FEMA IS 100, IS 200 and OSHA 7105 (Evacuation and Emergency Planning).

EHSS 205 PRINCIPLES OF INDUSTRIAL HYGIENE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 200 with a grade of C or higher or concurrent enrollment.

This course is presented to provide the fundamentals of hazard identification and control related to industrial applications and worker health exposures. Information is given in key areas that cover recognition, evaluation, and control of toxic materials and the effects on the body, radiation, noise, ventilation, thermal stress and ergonomics. Upon satisfactory completion students will receive a certificate in OSHA 521 (Guide to Industrial Hygiene).

EHSS 210 INCIDENT AND ACCIDENT INVESTIGATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 200 with a grade of C or higher or concurrent enrollment.

This course provides an introduction to basic accident investigation procedures and describes accident analysis techniques. This course will provide students with the basic skills necessary to conduct an effective accident investigation at their workplace and make recommendations for incident reduction. Upon satisfactory completion, students will receive a certificate in OSHA 7505 (Introduction to Accident Investigation).

EHSS 211 WORKERS COMPENSATION LEGISLATION FOR EHS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 200.

This course provides strategies for tracking, monitoring, managing, and avoiding Workers' Compensation incidents. This course reviews which employees are covered, when they are covered, the requirements for benefits and compensation, and the recordkeeping requirements.

EHSS 218 INDUSTRIAL HAZARD CONTROL

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 200 with a grade of C or higher or concurrent enrollment.

This course presents methods to conduct hazard assessments to identify common health, mechanical, electrical and chemical hazards in industry. Students will identify common problems and hazards, locate a supporting regulation or consensus standard and make recommendations to eliminate or control the hazard.

EHSS 230 WASTE MANAGEMENT AND RESOURCE CONSERVATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 203 with a grade of C or better.

Intense coverage of EPA's Resource Conservation and Recovery Act (RCRA) including pollution prevention, underground storage tanks, treatment options, EPA inspections and hazardous waste manifesting. Special emphasis on hazardous waste determination, accumulation, storage, and related generator issues.

EHSS 275 ANALYTICAL APPLICATIONS FOR EHS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 103 or higher.

The course covers some of the everyday problems and questions EHS professionals are faced with, such as ergonomics, ventilation, noise, abatement, radiation, thermal stress, hazardous material concentrations, and environmental sampling.

EHSS 290 EHS PROGRAM CAPSTONE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: EHSS 200 & EHSS 203.

This capstone course is designed to merge the skills and lessons learned into cohesive and comprehensive applications for the discipline. This course will cover the principles of program development and implementation for all types of EHS programs, discusses management styles, and connects students with current professionals to hear the realities of the profession. Students will develop and deliver training, create a written EHS program, and sit for the Occupational Health and Safety Certification (OHST) examination. Upon satisfactory completion, students will receive a certificate for OSHA 7500 (Introduction to Safety and Health Management)

EMERGENCY MEDICAL SERVICES

MCC-Penn Valley
Lisa McGuire

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 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. Clinical observations. Successful completion makes student eligible to take the National Registry of Emergency Medical Technicians examination for EMT-Basic. (State licensure as an EMT-Basic is the responsibility of the student after successful completion of the Nation Registration.)

EMS 154 FOUNDATIONS

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: Missouri licensed EMT or equivalent from another state and formal acceptance to the paramedic program.
This course introduces the roles, wellness, safety, and responsibilities of the paramedic. Introduction to the legal and ethical issues for the paramedic. Overview of public health and lifespan development

EMS 159 ADVANCED PATIENT ASSESSMENT

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisites: Missouri licensed EMT or equivalent from another state and formal acceptance to the paramedic program.
This course builds on the foundation of the Emergency Medical Technician assessment techniques. Students will gain knowledge necessary to perform various assessment techniques and obtain history pertinent to formulating a patient diagnosis.

EMS 168 PARAMEDIC LABORATORY I

3 credits. 6 hours. (Laboratory 6 HOURS.)
Prerequisite: Missouri licensed EMT or equivalent from another state and formal acceptance to the paramedic program.
This course develops the student's ability to perform basic and advanced pre-hospital emergency medical procedures.

EMS 176 AIRWAY AND RESPIRATORY MANAGEMENT

1 credit. 1hour. (Lecture 1 HOUR.)
Prerequisites: Missouri licensed EMT or equivalent from another state and formal acceptance to the paramedic program.
This course integrates a complex knowledge of anatomy, physiology, and pathophysiology into the patient assessment to develop and implement a treatment plan.

EMS 192 PHARMACOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: Missouri licensed EMT or equivalent from another state and formal acceptance to the paramedic program.
This course introduces the student to the medications used in the prehospital management of medical and traumatic emergencies.

EMS 201 CLINICAL RESEARCH AND DOCUMENTATION

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192 with a grade of C or better.
This course introduces the student to the clinical setting through orientation and research principles to interpret literature and advocate evidence-based practice. The student is also introduced to the principles of medical document writing and report writing.

EMS 212 CARDIOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192 with a grade of C or better.
This course provides an in depth review of cardiac anatomy and physiology. Students will gain knowledge in advanced cardiac assessment, electrocardiographic monitoring, and appropriate patient management techniques.

EMS 214 PARAMEDIC LABORATORY II

3 credits. 6 hours. (Laboratory 6 HOURS.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192 with a grade of C or better.
This course transitions the students ability to implement basic and advanced pre-hospital emergency procedures into scenario-based treatments.

EMS 216 ADVANCED CARDIAC LIFE SUPPORT (ACLS)

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisites: EMS 212 with a grade of C or better.
This American Heart Association (AHA) course prepares the student to treat and manage cardiovascular emergencies. Upon successful completion of this course students will receive certification as an Advanced Cardiac Life Support (ACLS) provider.

EMS 218 MEDICAL EMERGENCIES

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192 with a grade of C or better.
This course provides an in-depth review of human anatomy and physiology. Students will gain knowledge in pathophysiology within the human body and management of non-traumatic medical emergencies.

EMS 224 TRAUMA MANAGEMENT

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192 with a grade of C or better.
This course provides an in depth review of human anatomy and physiology. Students will gain knowledge in pathophysiology within the human body and management of traumatic injuries.

EMS 230 SPECIAL PATIENT POPULATIONS

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, EMS 154, 159, 168, 176, 192.
This course prepares the student to assess and treat the pregnant patient as well manage emergency childbirth. The student will also develop the knowledge and skills necessary to manage gynecological, pediatric, geriatric, and other patients with special challenges.

EMS 236 PARAMEDIC LABORATORY III

3 credits. 6 hours. (Laboratory 6 HOURS.)
Prerequisite: EMS 212, 214, and 216 with a grade of C or better.
This course integrates all preceding didactic and laboratory emergency medical services courses into the patient care setting. Students are challenged to think critically about patient assessment and to develop patient management and leadership skills.

EMS 254 PARAMEDIC CLINICAL

6 credits. 18 hours. (Clinical 18 HOURS.)
Prerequisite: EMS 212, 214, 216 with a grade of C or better.
This course provides the student a supervised experience in a clinical setting. Students learn the practical application of assessment and procedure techniques while working with interdisciplinary healthcare professionals in various clinical settings.

EMS 258 PARAMEDIC FIELD INTERNSHIP

10 credits. 30 hours. (Field Studies 30 HOURS.)
Prerequisite: EMS 236, EMS 254 with a grade of C or better.
This course offers a supervised clinical experience in a field setting. Students implement the practical application of assessment and procedure techniques while developing professional team leadership abilities in a prehospital setting.

EMS 280 ADVANCED MEDICAL LIFE SUPPORT (AMLS)

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisites: EMS 218 with a grade of C or better.
This National Association of EMT's (NAEMT) course prepares the student to treat and manage complex medical patients in the prehospital setting. Upon successful completion of this course students will receive certification as a Advanced Medical Life Support (AMLS) provider.

EMS 284 PREHOSPITAL TRAUMA LIFE SUPPORT (PHTLS)

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisites: EMS 224 with a grade of C or better.
This National Association of EMT's (NAEMT) course prepares the student to treat and manage trauma patients in the prehospital setting. Upon successful completion of this course students will receive certification as a Prehospital Trauma Life Support (PHTLS) provider.

EMS 286 PEDIATRIC EMERGENCY CARE

1 credit. 1hour. (Lecture 1 HOUR.)

Prerequisites: EMS 230 with a grade of C or better.

This course will provide the student the opportunity to learn advanced pediatric assessment and skills. The students will use different assessment skills, and learn how to access, treat, and package the pediatric patient. The course will follow the national standards. Upon successful completion of the program, the students will receive certification as a pediatric provider.

ENGLISH

MCC-Blue River

David Collins
Theresa Hannon
Rich Higgason
Katherine Melles
William Soloy

MCC-Longview

Zoe Albright
Anne Dvorak
Robyn McGee
Pat McKeown
Jan Rog
Susan Satterfield
Aisha Sharif
Eric Sullivan

MCC-Penn Valley

Craig Bartholomaus
Thomas Black
Anita Leverich
Cindy Maxey-Droege
Ashley Meyer
Lisa Spaulding

ENGL 80 FOUNDATIONS OF COLLEGE WRITING I

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisite: Appropriate placement score.

Students will practice writing clear paragraph and multi-paragraph documents that utilize the conventions of written standard English and develop critical thinking skills by writing about reading. The course culminates in a required satisfactory-unsatisfactory exit portfolio.

ENGL 90 FOUNDATIONS OF COLLEGE WRITING II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 80 with a grade of S or appropriate placement test score.

Students will practice writing thesis-support multi-paragraph documents that utilize the conventions of written standard English and develop critical thinking skills by writing about reading. The course culminates in a required satisfactory-unsatisfactory exit portfolio.

ENGL 101 COMPOSITION & READING I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S, High School GPA of 2.

5 or higher, 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. (MOTR ENGL 100)

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. (MOTR ENGL 200)

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 111A VOCABULARY

1 credit. 1 hour. (Lecture 1 HOUR.)

Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

ENGL 111B VOCABULARY

2 credits. 2 hours. (Lecture 2 HOURS.)

Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

ENGL 111C VOCABULARY

3 credits. 3 hours. (Lecture 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

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 198A SERVICE-LEARNING IN ENGLISH

1 credit. 1 hour. (Lecture 1 HOUR.)
 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 198B SERVICE-LEARNING IN ENGLISH

2 credits. 2 hours. (Lecture 2 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 198C SERVICE-LEARNING IN ENGLISH

3 credits. 3 hours. (Lecture 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. (MOTR PERF 106)

**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, and 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 newsroom 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. (MOTR PERF 106D)



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. (MOTR LITR 100F)

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. (MOTR LITR 100D)

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. (MOTR LITR 100)

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. (MOTR LITR 102A)

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. (MOTR LITR 102B)

ENGL 222 AMERICAN LITERATURE TO 1860 

3 credits. 3 hours. (Lecture 3 HOURS.)
Survey of American literary works to the Civil War. (MOTR LITR 101A)

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. (MOTR LITR 101B)

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. (MOTR LITR 201).

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. (MOTR LITR 200A)

ENGL 255 WORLD LITERATURE II  

3 credits. 3 hours. (Lecture 3 HOURS.)
May be taken without ENGL 254. 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. (MOTR LITR 200M)

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. (MOTR LITR 105AA)

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. (MOTR LITR 106)

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 Chicanos 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 Latino communities and the American mainstream. (MOTR LITR 105L)

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. (MOTR LITR 105NA)

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. (MOTR LITR 106)

ENGL 270A SPECIAL TOPICS

1 credit. 1 hour. (Lecture 1 HOUR.)

Selected topics of current interest. Available to individual students or to small groups through arrangement with an instructor.

ENGL 270B SPECIAL TOPICS

2 credits. 2 hours. (Lecture 2 HOURS.)

Selected topics of current interest. Available to individual students or to small groups through arrangement with an instructor.

ENGL 270C SPECIAL TOPICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Selected topics of current interest. Through arrangement with an instructor, students or small groups of students can develop and conduct an independent research study of a special topic.

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.

ENGINEERING

MCC-Longview

Carol Pflum

MCC-Penn Valley

Dan Justice

ENGR 101 INTRODUCTION TO THE ENGINEERING PROFESSION

1 credit. 1 hour. (Lecture 1 HOUR.)

Designed to help engineering students understand the learning process, acquire essential academic survival skills, and to learn the necessary study skills for engineering. This course is an equivalent for COLL 100 for students in Engineering and Engineering Technology.

ENGR 111 GENERAL ENGINEERING DRAWING

2 credits. 5 hours. (Laboratory 5 HOURS.)

Lettering and geometrical construction. Orthographic, isometric, and oblique projections and their engineering applications. Section, drafting conventions, simple dimensions, working drawings, tracing, and a limited amount of inking.

ENGR 113 ENGINEERING DESIGN MICROCOMPUTER APPLICATIONS

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: MATH 95 with a grade of C or better or appropriate placement test score.

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.

ENGR 204 PROGRAMMING FOR ENGINEERS AND SCIENTISTS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: MATH 180 with a grade of C or better.

This course includes analysis and synthesis of structured computer algorithms in MATLAB and Python. These tools will be used to solve engineering problems and present data graphically.

ENGR 215 ENGINEERING STATISTICS AND COMPUTATION

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

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.

ENGR 223 THERMODYNAMICS AND HEAT TRANSFER

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisite: MATH 190 & 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.

ENGR 229 STATICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 190 & 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.

ENGR 230 DYNAMICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGR 229.

Principles of kinematics, kinetics, and moments of inertia. Engineering applications and vector methods.

ENGR 233 CIRCUIT ANALYSIS I

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisite: 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.

ENGR 234 CIRCUIT ANALYSIS LABORATORY

1 credit. 1 hour. (Laboratory 2 HOURS.)

Prerequisite: Concurrent enrollment in ENGR 233.

This course covers lab safety, basic measurements and meters, oscilloscopes, resistor networks, measurement of capacitors and inductors, and RLC circuit response.

ENGR 240 MECHANICS OF MATERIALS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGR 229.

Introduction to the techniques of determining stresses and strains in mechanical and structural components.

ENGLISH AS A SECOND LANGUAGE

MCC-Penn Valley

Melissa Jaquish

Ashley Lynd

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: Departmental 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: Departmental Approval.

The study and practice of survival level sentence structures and words. Basic level sentences, questions, 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: Departmental 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: Departmental 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 I: 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 I: 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.)

Prerequisites: ESL 009 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 20 ESL COMPOSITION II

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisites: ESL 10.

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 identification of topics and main ideas, skimming, scanning, prediction, and inference.

ESL 26 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 27 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 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 intermediate level verb tenses and related adverbs and adverb phrases. The study and practice of function words including modals and coordinating conjunctions.

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 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 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 ENGLISH PRONUNCIATION

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: ESL 20 or appropriate ESL placement test score.

This course offers instruction on English pronunciation and a variety of practice and production opportunities designed to improve overall intelligibility in spoken English.

ESL 36 INTERMEDIATE II: LISTENING AND SPEAKING

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 37 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 through prediction and inferences.

ESL 38 INTERMEDIATE II: GRAMMAR

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ESL 028 or appropriate ESL placement test score.

The study and practical application of complex sentence structures, including some perfect and perfect progressive tenses. Understanding and use of all parts of speech, basic conditionals, and some modals.

ESL 39 INTERMEDIATE II: COMPOSITION

3 credits. 3 hours. (Lecture 3 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: Departmental 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 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 structure are addressed.

ENGINEERING TECHNOLOGY

MCC-Business & Technology

James Cline

Robert Dumler

Kelsey Merrigan

Marcus Million

ETEC 114 DC CIRCUIT ANALYSIS

4 credits. 4 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: MATH 120, MATH 120R or higher with a C grade or higher.

This course covers Ohm's Law as applied to series and parallel circuits, and introduces Kirchoff's voltage and current laws. Theorems such as Norton's, Thevenin's, Superposition, and maximum power transfer are presented, as well as mesh and nodal analysis.

ETEC 118 AC CIRCUIT ANALYSIS

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: MATH 130 or higher or concurrent enrollment.

This course covers AC circuits, complex numbers, inductance, capacitance, RL and RC circuits, RC time constants and transients, resonance, transformers, relays and switches. Introduction to Solid State Principles and filters as they relate to electrical and electronic power supplies.

ETEC 130 DIGITAL ELECTRONICS

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: MATH 95 with a grade of C or better or appropriate placement test score.

This 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.)

Prerequisite: MATH 95 with a grade of C or better or appropriate placement test score.

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

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 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 MICROSTATION

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 152 with a grade of C or higher.

An introduction to computer aided drafting/design (CADD) using Microstation. Topics will include creating basic and complex geometry, CADD standards, dimensioning, cells and cell libraries, plotting and reference files.

ETEC 199A SPECIAL PROJECTS IN ETEC

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: ETEC 152.

Independent study in Engineering Technology or related areas under supervision of the faculty member.

ETEC 199B SPECIAL PROJECTS IN ETEC

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: ETEC 152.

Independent study in Engineering Technology or related areas under supervision of the faculty member.

ETEC 199C SPECIAL PROJECTS IN ETEC

3 credits. 3 hours. (Lecture 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 130 with grade of C or higher.

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.)

Prerequisite: ETEC 152.

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 REVIT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 152 or satisfactory completion of Project Lead the Way, Introduction to Engineering Design.

An introduction to Building Information Modeling using Revit. Building design, layout and components of residential and commercial buildings will be created. Topics will also include levels, views, detailing, scheduling, elevations and sections.

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 213 REVIT MEP (MECHANICAL ELECTRICAL AND PLUMBING)

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 211 with a C grade or higher.
This course is intended to introduce students to the software user's interface and the basic HVAC, electrical and piping/plumbing components.

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, clippers, 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 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 INTRODUCTION TO STRUCTURAL STEEL DESIGN

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 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. Basic operations of three-dimensional wire frames, surface models, solid models. An introduction to 3D scanning through ReCAP and AutoCADD.

ETEC 270 INVENTOR

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 152 or Project Lead the Way Introduction to Engineering Design (with a C grade or higher).

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 SOLIDWORKS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 152 with a grade of C or higher.

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 272 ADVANCED INVENTOR

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 270 with a grade of C or higher.

Advanced parametric modeling using Inventor. Topics include advanced part modeling, sheet metal models and flat patterns, weldments, plastic parts, drawing standards, adaptive parts and assemblies, iParts, iMates and iFeatures.

ETEC 273 ADVANCED SOLIDWORKS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: ETEC 271 with a grade of C or higher.

Advanced parametric modeling using Solidworks. Topics include advanced part modeling, sheet metal models and flat patterns, weldments, drawing standards, library features and library parts.

ETEC 274 TEKLA STRUCTURES

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: ETEC 152 or 169.

Tekla Structures is 3D building information modeling (BIM) software used in the building and construction industries for steel and concrete detailing. The software enables users to create and manage 3D structural models in concrete or steel and guides them through the process from concept to 2D buildable documents.

ETEC 290 INTERNSHIP IN ENGINEERING TECHNOLOGY

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 295 CAPSTONE PROJECT IN ENGINEERING

3 credits. 3hours. (Lecture 1 HOUR. Laboratory 3 HOURS.)

Prerequisites: ETEC 152, ETEC 269, ETEC 270 or ETEC 271.

Capstone design/build project for engineering technology. This project will include the design and fabrication of a project of suitable complexity and scope. The project will include a comprehensive production document set and a functional prototype.

FOREIGN LANGUAGE INTERPRETING

FLIN 100 INTRODUCTION TO INTERPRETING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Appropriate proficiency test score.

This course is a general introduction to the field of interpreting in the legal and medical settings. Coursework will focus on the role of the interpreter, cultural competency and ethics, modes of interpretation, and legal issues that affect the profession and organization of a free-lance business.

FLIN 105 FUNDAMENTALS OF INTERPRETING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: FLIN 100 or concurrent enrollment.

This course is the study and practice of the basic theory and techniques of language interpretation. This course will develop students' skills in consecutive and simultaneous interpreting and sight translation. Emphasis is placed on activities that are designed to develop oral/aural skills, memory, basic note-taking techniques, public speaking, and language-switching skills for interpreting in legal and health care settings.

FLIN 110 MEDICAL INTERPRETING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: FLIN 105, BIOL 150 with a minimum grade of C.

Instruction will focus on the terminology of medical conditions, procedures, devices, and courses of treatment in a variety of settings such as: hospitals, clinics, doctor's offices, mental health and psychiatric facilities. Ethical and cultural issues will be discussed in relation to the oral discourse patterns used by health care providers when talking to patients and family members. Additional instruction will center on sight translation, consecutive and simultaneous interpreting in medical settings.

FLIN 115 LEGAL INTERPRETING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: FLIN 105.

This course introduces students to the trial process common to all American courts by examining fundamental courtroom procedures, the hierarchy of courts, the legal process, and the divisions of the legal system of the United States, Missouri, and Kansas. Students will analyze legal and civil documents and focus on the characteristics of legal English: its terminology, its linguistic structures, and its social and psychological functions. Additional instruction will focus on sight translation, consecutive and simultaneous interpreting in legal settings.

FLIN 120 INTERPRETING PRACTICUM

3 credits. 3 hours. (Field Studies 3 HOURS.)

Prerequisite: FLIN 110 and FLIN 115.

The student will interpret at a practicum site under the supervision of a mentor.

FRENCH

MCC-Penn Valley

Ruth Heath

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. (MOTR LANG 101)

Requirement Designation: MOTR LANG 101

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. (MOTR LANG 102) Requirement Designation: MOTR LANG 102

FREN 203 INTERMEDIATE FRENCH I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: FREN 102.

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.

FIRE SCIENCE TECHNOLOGY

MCC-Blue River

David Johnson

Charles Perry

FSTE 109 FIRE SERVICE PHYSICAL FITNESS

3 credits. 3 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: This course will prepare students to meet the physical demands of the fire service through a variety of advanced health and wellness techniques, culminating in the completion of the C-PAT test in the allotted time.

FSTE 161 FIRE INVESTIGATION I

3 credits. 3 hours. (Lecture 3 HOURS.)

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes.

FSTE 169 FIRE PREVENTION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Enrollment in Fire Academy or Successful Completion of prior FSTE course with a grade of C or higher or Instructor Approval.

This course provides fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation.

FSTE 170 HAZARDOUS MATERIALS AWARENESS AND OPERATIONS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Enrollment in MCC Fire Academy or instructor approval.

This course provides instruction related to emergency response incidents involving hazardous materials. Course topics include the chemistry, recognition, identification, and reactivity of hazardous materials and the health hazards of encountered by emergency responders to incidents involving these materials. Upon successful completion of this course, students will be eligible to test for Missouri Division of Fire Safety Hazardous Materials Awareness & Operation certification.

FSTE 172 FIREFIGHTING STRATEGY AND TACTICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: Prior FSTE course with a C or better or instructor approval.

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

FSTE 179 PRINCIPLES OF EMERGENCY SERVICES

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: Enrollment in MCC Fire Academy.

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. Upon successful completion of this course, students will be eligible to test for Missouri Division of Fire Safety Fire Fighter I certification.

FSTE 189 FIRE FIGHTER II

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: FSTE 179.

This course is designed to instruct the student in all phases of advanced firefighting 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 FIRE PROTECTION SYSTEMS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Successful completion of prior FSTE course with a grade of C or better or instructor approval.

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

FSTE 193 LEGAL ASPECTS OF THE FIRE SERVICE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Successful completion of prior FSTE course with a grade of C or better or instructor approval.

This course will address the Federal, State, and local laws that regulate emergency services and include a review of national standards, regulations, and consensus standards.

FSTE 202 PRINCIPLES OF FIRE AND EMERGENCY SERVICES ADMINISTRATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Successful completion of prior FSTE course with a grade of C or higher or instructor approval.

This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer.

FSTE 204 PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Enrollment in MCC Fire Academy.

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

FSTE 205 FIRE BEHAVIOR AND COMBUSTION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: Prior FSTE course with a C or better or instructor approval.

This course explores the theories and fundamentals of how and why fires start, spread, and are controlled.

FSTE 206 FIRE INVESTIGATION II

3 credits. 3 hours. (Lecture 3 HOURS.)

This course is intended to provide the student with advanced technical knowledge on the rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and court-room testimony.

FSTE 208 OCCUPATIONAL SAFETY AND HEALTH FOR EMERGENCY SERVICES

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: Prior FSTE course with a C or higher or instructor approval.

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations.

FSTE 209 BUILDING CONSTRUCTION FOR FIRE PROTECTION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: Enrollment in the MCC Fire Academy or successful completion of prior FSTE course with a grade of C or higher or instructor approval.

This course provides the components of building construction that relate to fire and life safety. The elements of construction and design of structure are shown to be key factors when inspecting buildings, preplanning fire operations and operating at emergencies.

GRAPHIC DESIGN

MCC-Penn Valley

Darlene Town

GDES 110 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 are the software applications used. (MOTR PERF 105GA)

GDES 115 INTRODUCTION TO GRAPHIC ARTS

3 credits. 3 hours. (Lecture 3 HOURS.)

Recommended for majors and non-majors interested in the Graphic Arts field. Introduction to the graphic arts industry, historical aspects, trends, process, production methods from design through bindery, expectations and careers in the field.

GDES 150 DIGITAL DESIGN APPLICATIONS II

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 110 with a minimum grade of C. Students develop advanced skills within layout, drawing, and image-editing software, according to best practices of the Graphic Design field. Students hone their visual communication design skills through the creation of graphics and designs while employing the tools within Photoshop, InDesign, Illustrator, in a Mac OS environment, and other technologies as time allows.

GDES 160 GRAPHIC DESIGN I

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 150 or concurrent enrollment, READ 11 or higher or appropriate placement, ENGL 90 or higher or appropriate placement, and formal acceptance into program.

Enrollment in this course requires formal acceptance into the Graphic Design program. This course focuses on using images and type to communicate visually. It builds upon the typographic, compositional, and imaging skills that students have started to develop in their prerequisite Graphic Design courses. This course covers the history of typographic forms, principles of composition, and the expressive potential of type, explored through reading, research, exercises, and design production. Applications will include the study of typography, layout, promotion, production methods, and creative problem-solving using hand tools and the tools of the computer.

GDES 210 GRAPHIC DESIGN II

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 160 with a minimum grade of C.

This course is a further investigation of effective visual communications. Students will execute projects that demonstrate a higher understanding of design problem-solving and production skills than in previous courses. This course continues the analysis of client visual communication needs, idea and execution processes, defining successful elements of effective visual communication, defining and analyzing trends of the graphic design industry. Exploration of these concepts will be through advanced design projects utilizing traditional and computer tools typically used in the field.

GDES 220 GRAPHIC DESIGN FILE PREPARATION

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: GDES 150 or concurrent enrollment.

Recommended for majors and non-majors interested in the Graphic Arts field. Introduction to the graphic arts industry, historical aspects, trends, process, production methods from design through bindery, expectations and careers in the field.

GDES 245 WEB DESIGN I

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 150 or concurrent enrollment.

This course introduces students to basic Web design principles using HTML and CSS and the use of both text-editing and web-authoring applications. Students will be introduced to planning and designing Web pages that meet coding standards and client needs. The course also covers concept and message development, visual design and production, publishing, strategic use of color, graphics and text formatted for the Web.

GDES 250 GRAPHIC DESIGN III

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 210 or concurrent enrollment.

This course will focus on advanced design problems that involve the crossover of print media into digital/electronic media, interactive media, and other non-traditional formats in campaigns for communicating and/or promoting a message or idea. Students will use the technology and studio skills covered in previous courses in the development and production of their design solutions.

GDES 255 WEB DESIGN II

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 245 with a minimum grade of C.

This course continues to cover Web design principles using HTML and CSS using web-authoring applications. Students will also be introduced to time-based and interactive design for digital media. The course also covers advanced concept and message development, visual design and production, publishing, strategic use of color, graphics and text formatted for the Web. Text-editing, web-authoring, motion graphic, and image-editing software are implemented.

GDES 264 GRAPHIC DESIGN PORTFOLIO AND PRACTICE

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 210 with a minimum grade of C.
This is the capstone course for the graphic design curriculum and students should be in their last semester of the Graphic Design program. During the course, students will refine a body of design work and publish their portfolio in both print and web formats. Students will design and develop their own personal brand—including visual identity, resume, cover letter, business cards, and other collateral—while developing employment search skills and interviewing techniques in preparation for job interviews and/or transfer.

GDES 280 ADVANCED COLOR CORRECTION

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)

Prerequisite: GDES 150 or concurrent enrollment.
Advanced color correction techniques that will render any image into quality artwork ready for print production. Focus on color theory, image quality, and color calibration to achieve predictable, high quality results. Proper scanning and image capture techniques for line-art, grayscale and color originals.

GDES 290 GRAPHIC DESIGN INTERNSHIP

3 credits. 15 hours. (Field Studies 15 HOURS.)

Prerequisite: GDES 210.

Instructor Permission Required: Students will learn job-searching 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.

GEOGRAPHY

MCC-Longview

MCC-Maple Woods

Victor Mèledge-Adé

John Horn

Carl Priesendorf

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. (MOTR GEOG 100)

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. (MOTR GEOG 101)

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. (MOTR PHYS 110LAS)

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. (MOTR GEOG 101)

GEOG 120 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

3 credits. 3 hours. (Lecture 3 HOURS.)

Fundamental concepts of Geographic Information Systems (GIS), elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

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 230A GEOGRAPHIC INFORMATION SYSTEMS INTERNSHIP

1 credit. 63 hours. (Field Studies 0 HOUR.)

Prerequisites: GEOG 120 & GEOG 220.

Internship in a Geographic Information Systems setting. Experience real-workplace requirements, complete assigned tasks by host organization such as GIS data entry, data retrieval, GPS field work, documentation, or general GIS setting duties. Arranged meetings with instructor to discuss work ethics, expectations, challenges, and evaluation.

GEOG 230B GEOGRAPHIC INFORMATION SYSTEMS INTERNSHIP

2 credits. 126 hours. (Field Studies 0 HOUR.)

Prerequisites: GEOG 120 & GEOG 220.

Internship in a Geographic Information Systems setting. Experience real-workplace requirements, complete assigned tasks by host organization such as GIS data entry, data retrieval, GPS field work, documentation, or general GIS setting duties. Arranged meetings with instructor to discuss work ethics, expectations, challenges, and evaluation.

GEOG 230C GEOGRAPHIC INFORMATION SYSTEMS INTERNSHIP

3 credits. 188 hours. (Field Studies 0 HOUR.)

Prerequisites: GEOG 120 & GEOG 220.

Internship in a Geographic Information Systems setting. Experience real-workplace requirements, complete assigned tasks by host organization such as GIS data entry, data retrieval, GPS field work, documentation, or general GIS setting duties. Arranged meetings with instructor to discuss work ethics, expectations, challenges, and evaluation.

GEOLOGY

MCC-Longview

MCC-Maple Woods

Victor Mèledge-Adé

John Horn

Carl Priesendorf

GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING 
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. (MOTR GEOL 100L)

GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING
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.

GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING 
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. (MOTR GEOL 100L)

GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING 
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. (MOTR PHYS 110LO)

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. (MOTR GEOL 101LEV)

GEOL 199A SPECIAL TOPICS

1 credit. 1 hour. (Lecture 1 HOUR.)

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 199B SPECIAL TOPICS

2 credits. 2 hours. (Lecture 2 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 199C SPECIAL TOPICS

3 credits. 3 hours. (Lecture 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 214A GEOLOGY FIELD STUDY IN THE MIDWESTERN U.S.

1 credit. 1 hour. (Field Studies 1 HOUR.)

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 214B GEOLOGY FIELD STUDY IN THE MIDWESTERN U.S.

2 credits. 2 hours. (Field Studies 2 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 214C GEOLOGY FIELD STUDY IN THE MIDWESTERN U.S.

3 credits. 3 hours. (Field Studies 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.

GERMAN

GERM 101 ELEMENTARY GERMAN 

5 credits. 5 hours. (Lecture 5 HOURS.)

Introduction to speaking, reading, and writing German. (MOTR LANG 105)

GERM 102 GERMAN II 

5 credits. 5 hours. (Lecture 5 HOURS.)

Prerequisite: GERM 101.

Grammar essentials. Introduction to German culture and history. (MOTR LANG 106)

GERM 203 INTERMEDIATE GERMAN I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: GERM 102.

Advanced grammar. Continued development of communication skills with emphasis on reading, writing and speaking. Germ is the language of instruction.

GERM 204 INTERMEDIATE GERMAN II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: GERM 203.

Continuation of Germ 203. Advanced grammar. Continued development of communication skills with emphasis on reading, writing and speaking. German is the language of instruction.

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 styles(s) and preference(s), and learning strategies to enhance their learning and study skills. Based on their own self-assessment of their learning styles(s), preference(s), and needs, students will examine and learn to use various types of technologies and software programs to enhance their language.

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.)

Examination of sources of personal stress in a changing world. Self-assessment of external and internal stressors and useful coping strategies. Application and evaluation of new coping strategies/life choices to more effectively manage stress.

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.)

Overview of the job search process. Research techniques for exploring employment opportunities. Identification of personal criteria for job satisfaction. Development of job search strategies including resumes, cover letters and interviewing techniques.

GUID 199A SPECIAL TOPICS IN GUIDED STUDIES

1 credit. 1 hour. (Lecture 1 HOUR.)

Guided readings, discussions, and activities related to college adaptation, resilience, and success. Topics and material will vary by instructor each semester. Specific readings and activities to be determined by instructor.

GUID 199B SPECIAL TOPICS IN GUIDED STUDIES

2 credits. 2 hours. (Lecture 2 HOURS.)

Guided readings, discussions, and activities related to college adaptation, resilience, and success. Topics and material will vary by instructor each semester. Specific readings and activities to be determined by instructor.

GUID 199C SPECIAL TOPICS IN GUIDED STUDIES

3 credits. 3 hours. (Lecture 3 HOURS.)

Guided readings, discussions, and activities related to college adaptation, resilience, and success. Topics and material will vary by instructor each semester. Specific readings and activities to be determined by instructor.

HEALTH INFORMATION MANAGEMENT

MCC-Penn Valley

Patricia Elliott

Matthew Patterson

HIM 100 MEDICAL TERMINOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)

This course introduces elements of medical terminology, such as the etymology of words used to describe the human body. Students learn to apply proper terminology and spelling for major pathological conditions. This course identifies and explains the terms used for the integumentary, respiratory, nervous, reproductive, endocrine, urinary, digestive, lymphatic, hematic, immune, and musculoskeletal systems.

HIM 101 INTRODUCTION TO HEALTH INFORMATION MANAGEMENT

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: HIM 100, ENGL 101, (HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210) and Formal Admittance to the Health Information Management Program.

This course is an introduction to the health information management profession addressing its history and structure of the national association and ethical values. The course explores the history of healthcare delivery systems and external factors that influence, impact and change the healthcare industry to include key accrediting bodies, and state and federal regulatory agencies. Introduction to health record content, structure, and origin of clinical information for various healthcare settings and providers are addressed.

HIM 107 MEDICAL BILLING

2 credits. 2 hours. (Lecture 2 HOURS.)

The course familiarizes students to the medical billing cycle introducing the major types of medical insurance, payers, and regulators. Discusses the general procedures for calculating reimbursement, compliant billing, and preparing and transmitting claims.

HIM 108 LEGAL ASPECTS OF HEALTH INFORMATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: HIM 100, ENGL 101, (HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210) and Formal Admittance to the Health Information Management Program.

Legal aspects surrounding the maintenance, use, disclosure, medical identity theft, and protection of health information. Understand the use of the medical record as a legal document, response to subpoena and testimony. Familiarization with federal regulations and statutes, including the Federal Privacy Rule of the Health Insurance Portability and Accountability Act (HIPAA) and the American Recovery and Reinvestment Act (ARRA).

HIM 110 PHARMACOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: Formal admission into the HIM program, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, ENGL 101, HIM 100.

This course introduces pharmacology as the study of drugs through the explanation of therapeutic and adverse effects of drugs, and effects to the body systems.

HIM 112 DATABASE FOR HEALTH INFORMATION

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisites: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210, ENGL 101, HIM 100, and Formal Admittance to the Health Information Management Program.

Students will become familiarized with database concepts and the ability to store, retrieve, and process information. This course is designed to familiarize the student with entry level database models commonly used in healthcare. The course will be presented on three levels: concepts, procedures and activities.

HIM 115 HEALTHCARE STATISTICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: HIM 101, HIM 108, HIM 110, HIM 112, CSIS 115, and Formal Admittance to the Health Information Management Program.

This course focuses on the computation, interpretation and reporting with the use of graphs of healthcare statistics within the organization.

HIM 120 QUALITY IMPROVEMENT IN HEALTHCARE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: HIM 101, HIM 108, HIM 110, HIM 112, CSIS 115, & Formal Admittance to the Health Information Management Program.

This course focuses on continuous performance improvement methods and effective use of teamwork for improving quality in healthcare settings. Compliance with guidelines of regulatory and accrediting agencies.

HIM 130 HEALTH DATA SYSTEMS

3 credits. 3.5 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)

Prerequisites: HIM 101, HIM 108, HIM 110, HIM 112, CSIS 115, and Formal Admittance to the Health Information Management Program.

The role of health information management and the electronic health record that includes computer hardware, operating systems, networking concepts, and user interfaces. Emphasis is placed on the practical application of database management principles, data security, and information retrieval and reporting inherent in electronic health records management.

HIM 135 ORGANIZATIONAL MANAGEMENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: HIM 101, HIM 108, HIM 110, HIM 112, CSIS 115, and Formal Admittance to the Health Information Management Program.

Students analyze the challenges and rewards of managing personnel and processes in the healthcare setting. Students apply human resource management practices to personnel in healthcare organizations to include budget development and control, personnel, recruitment and retention, performance.

HIM 202 CLINICAL CLASSIFICATION SYSTEMS - DIAGNOSTIC

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210 with a grade of C or better, and Formal Admittance to the Health Information Management Program.

The course teaches students nomenclatures and use of the International Classification of Disease (ICD) system using ICD coding guidelines as they relate to body systems. Students develop an understanding for the need of quality information and standards of ethical coding by utilizing codes as they apply to the Prospective Payment Systems.

HIM 207 CLINICAL CLASSIFICATION SYSTEMS - PCS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: HIM 100, HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210 with a grade of C or better, and Formal Admittance to the Health Information Management Program.

This course addresses the nomenclatures and classification systems for coding and indexing of procedures for inpatient healthcare environment. Coding compliance, ethical coding practices, and application of procedure-based payment systems will be reinforced.

HIM 214 HEALTHCARE REIMBURSEMENT METHODOLOGIES

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: HIM 115, 120, 130, 135, and Formal Admittance to the Health Information Management Program.

Analyze revenue cycle from the perspective of the HIM professional, payer, patient, and the needs of the healthcare organization. Emphasis is on clinical documentation needs for coding, reimbursement, claims management, and revenue cycle.

HIM 215 CLINICAL PROFESSIONAL PRACTICE

3 credits. 9 hours. (Clinical 9 HOURS.)

Prerequisite: HIM 115, 120, 130, 135, and Formal Admittance to the Health Information Management Program.

Students are placed in a didactic supervised learning environment related to the health information management field in both a traditional and non-traditional healthcare setting. Students are expected to perform job responsibilities as supervised by a credentialed HIM professional.

HIM 218 AMBULATORY CARE CODING - CPT

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: HIM 202 and HIM 207 with a grade of C or better, and Formal Admittance to the Health Information Management Program.

Coding of medical services and procedures using the Current Procedural Terminology (CPT) classification system and use of HCPCS coding system applicable to ambulatory settings. Validation of codes adhering to coding compliance, ethical guidelines, and utilize health information systems for data collection through coding and abstracting.

HIM 221 CODING PROFESSIONAL PRACTICE

2.5 credits. 5 hours. (Laboratory 5 HOURS.)
Prerequisite: HIM 202 and HIM 207 with a grade of C or better, and Formal Admittance to the Health Information Management Program.
Virtual experience in health information coding processes.

HIM 222 HEALTH INFORMATION MANAGEMENT COMPETENCY REVIEW

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisites: BIOL 137, HIM 202, HIM 207, HIM 214, HIM 215, and Formal Admittance to the Health Information Management Program.
This course offers a review HIM competencies, skills and knowledge pertinent to the technology and relevant to the professional development of the student. They prepare for job seeking through resumes, mock job interviews and professional conduct. Students take mock registration exams for self-evaluation of the domains, subdomains and tasks.

HISTORY

MCC-Blue River Patrick Kirkwood William Worley	MCC-Longview Diane Boldt Patricia McGovern Randall Moore
MCC-Maple Woods Crystal Johnson Crystal Moore William Young	MCC-Penn Valley Lyle Gibson Courtney Hanway

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. (MOTR HIST 101)

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. (MOTR HIST 102)

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.

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. (MOTR WCIV 101)

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 Reformation, 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. (MOTR WCIV 102)

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.

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

HIST 199A SPECIAL TOPICS IN HISTORY

1 credit. 1 hour. (Lecture 1 HOUR.)

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 199B SPECIAL TOPICS IN HISTORY

2 credits. 2 hours. (Lecture 2 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 199C SPECIAL TOPICS IN HISTORY

3 credits. 3 hours. (Lecture 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.

HEALTH SCIENCES

HLSC 100 INTRODUCTION TO HEALTH PROFESSIONS

2 credits. 2 hours. (Lecture 2 HOURS.)

The course is designed to help students adjust to the MCC community, develop a better understanding of the learning process, and acquire essential academic survival skills while exploring healthcare and health careers through readings, discussions and experiential activities.

HLSC 108 ANATOMY AND PHYSIOLOGY FOR HEALTH PROFESSIONS

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Fundamentals of anatomy and physiology are taught with emphasis on relevance to individuals in health care fields. This course is intended for students enrolling in an allied health program requiring this course. It is not intended for any nursing program.

HONORS

HONR 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

HUMANITIES

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. Requirement Designation: Global Diversity

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. Requirement Designation: Global Diversity

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: Global 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: Global 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: Global Diversity

HUMAN SCIENCES

HUSC 120 COMPETENCY DOCUMENTATION

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: Students must have evidence of completing the 120-clock hour formal training required to receive the Child Development Associate (CDA) credential.

The CDA Competency Documentation Course prepares students for the National Child Development Associate (CDA) examination. Methods of documenting competencies in the eight concept areas required by National CDA Office. The guidelines of Kansas and Missouri Core Competencies for Early Care and Education Professionals (K&MCC) and the National Association for the Education of Young Children (NAEYC) standards are followed in this course.

HEATING, VENTILATION AND AIR CONDITIONING

MCC-Business & Technology

Cecil Davis, Jr.

George Schmitt

Mike Thorne

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, psychometrics, 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 HVAC/R. Development of basic skills required for installation, maintenance and servicing HVAC/R equipment. This course prepares students for the EPA 608 refrigeration certification test.

HVAC 135 RESIDENTIAL HEATING A/C I

4 credits. 5.5 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: HVAC 111 & 120; HVAC 109 or concurrent enrollment.

Students will develop a basic understanding of residential heating and cooling systems, operation and maintenance.

HVAC 136 RESIDENTIAL HEATING AND COOLING II

4 credits. 5 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: HVAC 135.

Maintenance, servicing and troubleshooting of high efficiency residential equipment.

HVAC 201 STATIONARY ENGINEERING

3 credits. 3 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)

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 221 COMMERCIAL REFRIGERATION

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: HVAC 109, 120 and 136.

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 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: HVAC 136 & HVAC 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.

Operation, servicing and troubleshooting of Geo-Thermal and Air Source heat pump systems.

HVAC 250 HVAC INTERNSHIP

3 credits. 7 hours. (Lecture 1 HOUR. Field Studies 6 HOURS.)

Prerequisites: Program Coordinator approval; HVAC 109, 111, 120, 135 and GPA of 3.

0 or higher. This course is designed to give the student real world experience in the HVAC/R industry. The student will enhance HVAC/R skills learned in prior courses under the direction of a mentor in the industry. Student is responsible for securing internship employment.

HVAC 291A SPECIAL TOPICS

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisites: HVAC 109, 111, 120 & 135.

Independent study in HVAC/R related areas under the supervision of the faculty member.

HVAC 291B SPECIAL TOPICS

2 credits. 2hours. (Lecture 2 HOURS.)

Independent study in HVAC/R related areas under the supervision of the faculty member.

HVAC 291C SPECIAL TOPICS

3 credits. 3hours. (Lecture 3 HOURS.)

Independent study in HVAC/R related areas under the supervision of the faculty member.

INDUSTRIAL TECHNOLOGY

MCC-Business & Technology

Roger Claypool

James Frevert

Eric Wehmuller

INTE 101 INTRODUCTION TO TECHNICAL CAREERS

3 credits. 3 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: MATH 103 with a grade of C or better, or satisfactory score on the math placement test.

Course focuses on the process of applying engineering, technological, scientific and mathematical principles in the design, production, and operation of products, structures, and systems. This is a hands-on course designed to provide students interested in engineering and industrial technology careers opportunities to explore experiences related to specialized fields such as industrial, manufacturing, and mechanical designs.

INTE 102 COMMUNICATION FOR INDUSTRY

2 credits. 2.5 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)

This course will introduce the student to the requirements needed for good communication in the workplace environment. It will include the development of verbal, nonverbal, written and electronic communication skills. Students will practice communication in a simulated environment.

INTE 103 ENVIRONMENTAL SERVICES FOR THE HEALTH FIELD

4 credits. 5 hours. (Lecture 2 HOURS. Laboratory 3 HOURS.)

This course will introduce the student to the requirements needed for work in the environmental services housekeeping for the health industry. The student will learn general housekeeping skills, the proper safety and handling of biohazard materials and chemicals, basic Health Insurance Portability and Accountability (HIPAA) policies, and how safety and OSHA standards apply in the workplace.

INTE 107 INDUSTRIAL ELECTRICAL SAFETY

2 credits. 3 hours. (Lecture 1.75 HOURS. Laboratory 0.5 HOUR.)

This course will introduce the student to electrical safety rules and procedures in the industrial arena. The student will learn the NFPA 70E requirements, meter safety and how to safely work around electrical circuitry in the workplace. Student will complete CPR certification.

INTE 112 INDUSTRIAL ELECTRICAL DC PRINCIPLES

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisite: Concurrent enrollment or completion of MATH 103 or higher with a grade of C or higher.

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 Watt's laws in DC circuits. The student will learn basic concepts in direct current circuits and applications.

INTE 113 INDUSTRIAL ELECTRICAL AC PRINCIPLES

2 credits. 2.5 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisite: INTE 112 or equivalent.

This course is an introductory course for the individual who is moving into an industrial maintenance or related activity. This course will build on the concepts learned in INTE 112 and expand into alternating circuit concepts including introduction to transformers and 3 phase power distribution.

INTE 115 ELECTRICAL PRINT READING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: INTE 113 with a C grade or higher.

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 124 EMPLOYMENT STRATEGIES FOR TECHNICAL CAREERS

2 credits. 2.5 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)

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 131A SPECIAL PROBLEMS AND PROJECTS

1 credit. 1 hour. (Lecture 1 HOUR.)

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

INTE 131B SPECIAL PROBLEMS AND PROJECTS

2 credits. 2 hours. (Lecture 2 HOURS.)

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

INTE 131C SPECIAL PROBLEMS AND PROJECTS

3 credits. 3 hours. (Lecture 3 HOURS.)

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

INTE 140 FUNDAMENTALS OF INDUSTRIAL MACHINE REPAIR

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 hand and power tools. Basic motor alignment including laser alignment will be introduced.

INTE 142 NATIONAL ELECTRIC CODE (NEC)

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: INTE 113 with a C grade or higher.

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 FLUID POWER FUNDAMENTALS OF HYDRAULICS AND PNEUMATICS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

An introduction to fluid power and pneumatic concepts. Topics include the physics of fluid power, safety, hydraulic pumps, air compressors, actuators, pressure and flow measurement and regulation, basic maintenance, motors, coolers, and operation of hydraulic and pneumatic systems.

INTE 151 INDUSTRIAL RIGGING

3 credits. 3 hours. (Lecture 3 HOURS.)

This course is designed to demonstrate to the student safe and correct means of rigging and hoisting equipment. Topics will include wire rope, synthetic and chain slings. The student will learn the fundamentals of wire rope maintenance, center of gravity calculations and safe crane operation.

INTE 165 WIRING METHODS AND MATERIALS INSTALLATION

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisites: INTE 113, INTE 115, and INTE 142 as a co-requisite.

The course is designed to teach the fundamentals of installing panels and equipment, running conduit, and then wiring the different components together. It will cover reading both mechanical and electrical prints used in the installation and modification of equipment. It will also cover the installation of this equipment and how the NEC National Electric Code and building codes apply. There will be labs that cover power distribution, control wiring, transformer installation, and other applicable equipment.

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 185 SOLAR/PHOTOVOLTAIC SYSTEMS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: INTE 112 with a grade of C or higher.

Solar radiation as applied to photovoltaic technology, photovoltaic system component selection, and introduction to safe design and installation of photovoltaic systems.

INTE 219 INTE INTERNSHIP & CO-OP

3 credits. 8 hours. (Laboratory 0.5 HOUR. Field Studies 7.5 HOURS.)

Prerequisites: INTE 124.

The student will get on-the-job work experience as an Industrial Maintenance worker. The student will attend class and work on specific skill development related to maintenance duties in industry.

INTE 221 INTE INTERNSHIP & CO-OP II

3 credits. 8 hours. (Laboratory 0.5 HOUR. Field Studies 8 HOURS.)

Prerequisites: INTE 219.

The student will get on-the-job work experience as an Industrial Maintenance worker. The student will attend class and work on specific advanced skills related to maintenance duties in industry.

INTE 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.

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, PLC prints, and P&ID's (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 230 SOLAR/PHOTOVOLTAIC DESIGN AND INSTALLATION

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: INTE 142, INTE 185 & (HVAC 109 or INTE 110 or INTE 112&113).

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.

INTE 235 SOLAR PHOTOVOLTAIC SITE ASSESSMENT

3 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisites: INTE 185.

This course covers how to perform a PV (photovoltaic) site assessment to determine whether a potential location for a solar PV array is suitable for maximum energy production. The array size will be calculated for the desired energy needs. Students will use common industry tools to determine load requirements, energy efficiency recommendations, options for placement of a PV array and resources to determine financial incentives.

INTE 240 ADVANCED INDUSTRIAL MACHINE REPAIR

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: INTE 140 with a C grade or higher.

This course is designed to present advanced principles of the industrial maintenance on a wide range of industrial equipment and procedures, including proper selection of bearings, seals, gears. Topics include replacement of seals, bearings, proper installation and setup. Correct application and selection of tools. This course will also cover alignment and vibration analysis.

INTE 242 MASTER & JOURNEYMAN ELECTRICAL EXAM PREPARATION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: INTE 142 or instructor approval.

The course is designed to present a review of electrical principles, the requirements of the National Electric Code for safe, code compliant electrical installations. Topics include: NEC (National Electrical Code) Overview, electrical math as it relates to electrical theory, conductor sizing, conductor box fill, conduit wire fill, electrical services, motor calculations and protection requirements. Service calculations and overcurrent protection, hazardous locations, overcurrent protection, single and multifamily dwelling, and commercial occupancies, single-phase and three-phase transformer calculations.

INTE 260 INDUSTRIAL PIPEFITTING AND PLUMBING FUNDAMENTALS

3 credits. 3.5 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)

Prerequisites: INTE 140.

This course will teach the basic fundamentals of pipefitting and plumbing. The historical importance of these trades will be covered, as well as their modern day significance. Plumbing hardware and piping will be identified. Safety will be emphasized.

INTE 270 INSTRUMENTATION AND PROCESS CONTROLS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: HVAC 201 or INTE 271.

This course is designed to introduce the individual to various types of instrumentation and control schemas. This course will primarily cover 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 113 and INTE 175 with a C grade or higher.

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 & INTE 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 & INTE 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 AND PLC TROUBLESHOOTING

4 credits. 5.5 hours. (Lecture 2.5 HOURS. Laboratory 3 HOURS.)

Prerequisite: INTE 275 and INTE 271, both co-requisites.

The course is designed to present the systematic approaches to electrical and PLC troubleshooting. An emphasis is placed on electrical, PLC, and electromechanical controls. Discussions of trouble analysis will be followed by the student analyzing various introduced troubles into control systems. Replacements of components are covered.

INTE 277 PROGRAMMABLE LOGIC CONTROLLER TROUBLESHOOTING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: INTE 115 & INTE 271.

This course is designed to provide the individual the skills needed to troubleshoot and repair Programmable Logic Controllers in the workplace. Topics include: Hardware, searching, documentation, fault routines, Preventative maintenance, wiring and schematic diagrams and communication problems.

INTE 279 NETWORKING FOR AUTOMATED SYSTEMS

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: INTE 271. This course gives students the tools and resources to design and maintain industrial communications systems used in industrial and automated building facilities. Underlying principles behind industrial communication systems will be discussed for protocols such as Modbus, Data Highway Plus, Ethernet, and TCP/IP. Basic IT concepts and technology relating to industrial and building automation such as networking, switches, routers, servers, firewalls and wireless Ethernet will be covered. The student will learn to effectively communicate with IT personnel as needed for day to day plant maintenance operations..

INTE 280 HMI FOR THE PLC

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: INTE 272.

There is a strong demand for advanced programmable logic controller skills in the workplace. This class enables the student to enhance their skills in human machine interfacing with graphics design and networking it to a PLC.

INTE 281 INDUSTRIAL ROBOTICS

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: INTE 271 or concurrent enrollment.

This course is an introduction to various types of robot anatomy. Topics include drive systems, control systems and components, motion analysis, end-effectors, sensors and machine vision. The course also covers robot classifications, geometry and path control techniques, end-of-arm tooling, gripper selection system intelligence and compliance, programming, safety and safeguarding considerations and operator training, acceptance and problems. Laboratory experiments focus on interfacing lab robots to I/O devices using industrial grade PLCs of the major manufacturers and programming the lab robots to perform basic tasks.

INTE 290 PROGRAMMABLE LOGIC CONTROLLER CAPSTONE

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: INTE 277 or concurrent enrollment.

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 PLC's.

INTE 291 PROCESS CONTROLS CAPSTONE

4 credits. 4 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: INTE 270 and 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 different control schemas, pressure, temperature, level and flow detection and calculations. Lab activities will include calibration, designing and implementing different control loops with hands-on labs. Using PLC and stand-alone control devices.

INTE 299A ADVANCED SPECIAL PROBLEMS, PROJECTS, AND CAPSTONES

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisites: Instructor approval.

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

INTE 299B ADVANCED SPECIAL PROBLEMS, PROJECTS, AND CAPSTONES

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: Instructor approval.

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

LIBRARY AND INFORMATION STUDIES

MCC-Blue River

Jared Rinck

MCC-Longview

Sarah Ekey

Diane Martin

MCC-Maple Woods

Linda Carter

Erin Niederberger

MCC-Penn Valley

Michael Korklan

LIBR 100 INTRODUCTION TO LIBRARY & ONLINE RESEARCH

1 credit. 1 hour. (Lecture 1 HOUR.)

This is a library course designed to familiarize students with the variety of information resources available to them to satisfactorily complete college assignments and to enhance the skills necessary to locate, manage and evaluate these resources.

LINEMAN

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 the proper and safe methods of wood pole climbing. The student must master climbing wood pole structures with the use of fall 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.)

Prerequisites: INTE 113 with a C grade or higher.

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 210 POLE FRAMING AND CONSTRUCTION SPECIFICATIONS

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisites: LINE 104 & LINE 105 or concurrent enrollment.

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 & LINE 105 or concurrent enrollment.

The student will learn the basic principles in setting and replacing poles. There will be an emphasis on 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: LINE 104 & LINE 105 or concurrent enrollment.

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.

LINE 241 CONDUCTOR INSTALLATION AND METERING

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

Prerequisite: LINE 104 & LINE 105 or concurrent enrollment.

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 210 & LINE 237 or concurrent enrollment.

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 applicaton/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 215 & LINE 241 or concurrent enrollment.

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.)

Prerequisites: LINE 104 & LINE 215 or concurrent enrollment.

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.

LINE 253 SAFETY AND ACCIDENT PREVENTION

4 credits. 4 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisites: LINE 215 & LINE 237 with C grade or higher (or concurrent enrollment.)

) 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.

LAW ENFORCEMENT

MCC-Blue River

Douglas Thompson

LWEN 101 INTRODUCTION TO LAW ENFORCEMENT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: POST Compliance Review.

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.)

Prerequisites: POST Compliance Review, LWEN 101 with a grade of C or higher.

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.)

Prerequisites: POST Compliance Review.

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.)

Prerequisites: POST Compliance Review.

History and practical examination of law enforcement report writing, including familiarity with various report forms and how they are used. Development of successful interviewing skills. Construction of accurate, complete reports which can be utilized for crime analysis and prosecution in court.

LWEN 122 PROCEDURAL LAW FOR LAW ENFORCEMENT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisites: POST Compliance Review, LWEN 101 with a grade of C or higher.

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 143 DEFENSIVE TACTICS FOR LAW ENFORCEMENT

3 credits. 5.5 hours. (Lecture 0.5 HOUR. Laboratory 5 HOURS.)

Prerequisite: POST Compliance Review, LWEN 101 with a grade of C or higher.

This course is designed to instruct students in basic physical fitness and defensive tactics for law enforcement.

LWEN 144 PHYSICAL TRAINING AND WELL BEING FOR LAW ENFORCEMENT

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisite: POST Compliance Review.

This course is designed to instruct students in basic physical fitness and well-being for law enforcement. Emphasis will be given to the individuals muscle strength and endurance, cardiovascular endurance, flexibility and body composition. Includes assessment, planning and participation in a fitness program designed to develop the student's level of physical fitness. The student will develop a nutritional plan, develop the skills for physical agility and stress management in law enforcement.

LWEN 200 LAW ENFORCEMENT SKILLS

5 credits. 8 hours. (Lecture 2 HOURS. Laboratory 6 HOURS.)

Prerequisite: POST Compliance Review, LWEN 101 with a grade of C or higher.

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.)

Prerequisites: POST Compliance Review, LWEN 101 with a grade of C or higher.

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.)

Prerequisites: POST Compliance Review, LWEN 101, and LWEN 203 with a grade of C or higher.

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.)

Prerequisites: POST Compliance Review.

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.

MATHEMATICS

MCC-Blue River

Jenny Beck
Michele Bilton
George Green
Cheryl Winter

MCC-Business and Technology

Jennifer Butler

MCC-Longview

Beth Bletscher
Breanne Dustin
Jennifer Johnson
LeAnn Lotz-Todd
Kristi Reid
Diane Sweet
Zouhair Tamsamani

MCC-Maple Woods

Carol Cordova
Terry Hobbs
Berg Heskin
Saeeda Irfan
Bill Morgan
Andrea Vorwark

MCC-Penn Valley

Christopher Hacker
Nic LaHue
Gregory Mitchell
Ansa Naseeb
Dondi Walker

MATH 31 PRE-COLLEGE MATHEMATICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Review of all basic mathematical operations.

Fractions, decimals, proportions, percentages and real numbers. Elementary geometry (perimeter, area and volume). Review of all operations in real numbers. Solutions of linear equations in one variable, using and manipulating formulas. Properties of exponential numbers, definition and basic operations with polynomials. Graphing linear equations in two variables.

MATH 85 MATHEMATICAL LITERACY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.

Math Literacy for College Students is a one-semester preparatory course for Statistics or Mathematical Reasoning and Modeling intended for students whose programs do not require Precalculus, College Algebra, or Calculus. The emphasis is on active learning, applications, and context. Topics include utilizing a spreadsheet tool, numeracy, notation, formula manipulation, data analysis, pattern recognition, mathematical reasoning, linear and exponential models, and basic statistics. The successful student will be well-prepared for MATH 115 and MATH 119 and can also continue into MTH 95 if a switch to a science, technology, engineering, or math related field is desired.

MATH 95 ALGEBRA PRINCIPLES

5 credits. 5 hours. (Lecture 5 HOURS.)

Prerequisite: MATH 31 with a grade of S or satisfactory score on the math placement test.

The study of Algebraic principles including: Operations with polynomials, rational expressions, properties of exponents; solutions of linear equations and inequalities and solutions of absolute value equations and inequalities with applications; solutions of quadratics by factoring, completing the square, and quadratic formula; ratios and proportions; solutions of linear systems of equations with applications; rational exponents and radicals; introduction to functions and graphs; graphing linear equations in two variables.

MATH 99 COLLEGE ALGEBRA SUPPORT

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: MATH 95 with a C or higher or appropriate placement scores.

College Algebra Support is a corequisite course for Math 120 - College Algebra and is an option for students who scored close to, but below the recommended placement score for college-level mathematics. Students must enroll concurrently in Math 99 and Math 120. Math 99 offers coaching on foundational skills necessary for student success in Math 120. The content of Math 99 is directly aligned to the course objectives and content of Math 120 but allows for flexibility to fit individual student needs. Enrollment in Math 99 provides students an opportunity to receive immediate support.

MATH 100 MATHEMATICS FOR BUSINESS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: MATH 31 with a grade S or satisfactory score on the 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 31 with a grade of S or satisfactory score on the math placement test.

Applications of unit conversions, ratios, percents, algebra, geometry to basic electricity, mixture ratios, 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 31 with a grade of S or satisfactory score on the math placement test.

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 104 TECHNICAL MATHEMATICS II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 31 with a grade of S.

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 115 STATISTICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 85 or MATH 95 with a grade of S or appropriate placement test score.

Descriptive statistics, ungrouped and grouped data, elementary probability, discrete and continuous statistical inference, significance and distribution measures, regression and correlation analysis. (MOTR MATH 110)

MATH 119 MATHEMATICAL REASONING AND MODELING

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 85 or MATH 95 with a grade of S or appropriate placement test score.

The purpose of this course is to provide a comprehensive overview of the skills required to navigate the mathematical demands of modern life and prepare students for a deeper understanding of information presented in mathematical terms. Emphasis is placed on drawing conclusions, making decisions, and communicating effectively in mathematical situations that depend upon multiple factors. To that end, students will develop critical thinking and problem-solving skills to solve open-ended problems with multiple solutions. (MOTR MATH 120)

MATH 120 COLLEGE ALGEBRA

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 95 with a grade of C or higher or appropriate placement test score.

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. (MOTR MATH 130)

MATH 130 TRIGONOMETRY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: MATH 120 with a grade of C or better or appropriate placement test score.

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, and solution of triangles. Plane geometry is strongly recommended.

MATH 141 DISCRETE STRUCTURES FOR COMPUTER SCIENCE I

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: MATH 120 or higher with a minimum grade of C or appropriate placement test scores.
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 95 with a grade of C or better or appropriate placement test score.
A study of various types of algebraic equations and inequalities, functions and their inverses, theory of higher degree polynomial equations, systems of equations and inequalities, 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. (MOTR MATH 150)

MATH 175 CALCULUS FOR BUSINESS AND SOCIAL SCIENCE

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: MATH 120 or higher with a grade of C or higher or 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' Hospital'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 196A SPECIAL TOPICS I

1 credit. 1 hour. (Lecture 1 HOUR.)
Mathematical topics of special interest.

MATH 196B SPECIAL TOPICS I

2 credits. 2 hours. (Lecture 2 HOURS.)
Mathematical topics of special interest.

MATH 196C SPECIAL TOPICS I

3 credits. 3 hours. (Lecture 3 HOURS.)
Mathematical topics of special interest.

MATH 210 ANALYTIC GEOMETRY AND CALCULUS III

5 credits. 5 hours. (Lecture 5 HOURS.)
Prerequisite: MATH 190.
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: CSIS 223 & MATH 141.
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.

MUSIC

MCC-Blue River

Rebecca Johnson

MCC-Longview

Cathy Hardy-Parcell

MCC-Maple Woods

Jim Murray III

MCC-Penn Valley

Clarence Smith

MUSI 101 CHOIR I

1 credit. 3 hours. (Laboratory 3 HOURS.)

Prerequisite: Consent of Instructor.

Choir I is designed to introduce students to choral literature and provide the tools to develop excellent ensemble singing skills and techniques through rehearsal and performance. This course is open to students who have had previous choir experience and who pass an audition to demonstrate proficiency in music reading. (MOTR PERF 102C)

MUSI 102 CHOIR II

1 credit. 3 hours. (Laboratory 3 HOURS.)

Prerequisites: MUSI 101 Choir I with the grade of a C or higher.

Choir II is designed to introduce students to choral literature and provide the tools to develop excellent ensemble singing skills and techniques through rehearsal and performance. This course is open to students who have had previous choir experience and who pass an audition to demonstrate proficiency in music reading.

MUSI 103 CONCERT BAND I

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: Consent of Instructor.

Concert Band I is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for winds and percussion. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard concert band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument. (MOTR PERF 102B)

MUSI 104 CONCERT BAND II

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: MUSI 103 Concert Band I with the grade of a C or higher.

Concert Band II is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for winds and percussion. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard concert band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 105 ORCHESTRA I

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: Consent of Instructor.

Orchestra I is a full orchestra serving as an educational and musical outlet through the performance of standard orchestra literature. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play the violin, viola, cello and bass. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument. (MOTR PERF 102O)

MUSI 106 ORCHESTRA II

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: MUSI 105 Orchestra I with the grade of a C or higher.

Orchestra II is a full orchestra serving as an educational and musical outlet through the performance of standard orchestra literature. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play the violin, viola, cello and bass. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

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. (MOTR MUSC 101)

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. (MOTR MUSC 100)

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. (MOTR MUSC 100J)

MUSI 117A SPECIAL PROBLEMS IN MUSIC

1 credit. 1 hour. (Lecture 1 HOUR.)

Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

MUSI 117B SPECIAL PROBLEMS IN MUSIC

2 credits. 2 hours. (Lecture 2 HOURS.)

Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

MUSI 117C SPECIAL PROBLEMS IN MUSIC

3 credits. 3 hours. (Lecture 3 HOURS.)

Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

MUSI 119 JAZZ IMPROVISATION

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: MUSI 110, performance ability on an instrument, & approval of the instructor.

Systematic approach for the instrumental performer to the improvisation.

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 134 JAZZ BAND I

1 credit. 3 hours. (Laboratory 3 HOURS.)
Prerequisites: Consent of Instructor.
Jazz Band I is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for jazz ensemble. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard jazz band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument. (MOTR PERF 102B)

MUSI 135 JAZZ BAND II

1 credit. 3 hours. (Laboratory 3 HOURS.)
Prerequisites: MUSI 134 Jazz Band I with the grade of a C or higher.
Jazz Band II is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for jazz ensemble. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard jazz band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 150 MIDI MUSIC PRODUCTION ON THE COMPUTER

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)
Prerequisite: MUSI 107 or MUSI 112 or MUSI 130 or MUSI 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. (MOTR MUSC 102)

MUSI 201 CHOIR III

1 credit. 3 hours. (Laboratory 3 HOURS.)
Prerequisite: MUSI 102 Choir II with the grade of a C or higher.
Choir III is designed to introduce students to choral literature and provide the tools to develop excellent ensemble singing skills and techniques through rehearsal and performance. This course is open to students who have had previous choir experience and who pass an audition to demonstrate proficiency in music reading.

MUSI 202 CHOIR IV

1 credit. 3 hours. (Laboratory 3 HOURS.)

Prerequisites: MUSI 201 Choir III with the grade of a C or higher.

Choir IV is designed to introduce students to choral literature and provide the tools to develop excellent ensemble singing skills and techniques through rehearsal and performance. This course is open to students who have had previous choir experience and who pass an audition to demonstrate proficiency in music reading.

MUSI 203 CONCERT BAND III

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: MUSI 104 Concert Band II with the grade of a C or higher.

Concert Band III is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for winds and percussion. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard concert band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 204 CONCERT BAND IV

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisites: MUSI 203 Concert Band III with the grade of a C or higher.

Concert Band IV is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for winds and percussion. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard concert band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 205 ORCHESTRA III

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisite: MUSI 106 Orchestra II with the grade of a C or higher.

Orchestra III is a full orchestra serving as an educational and musical outlet through the performance of standard orchestra literature. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play the violin, viola, cello and bass. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 206 ORCHESTRA IV

1 credit. 4 hours. (Laboratory 4 HOURS.)

Prerequisite: MUSI 205 Orchestra III with the grade of a C or higher. Orchestra IV is a full orchestra serving as an educational and musical outlet through the performance of standard orchestra literature. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play the violin, viola, cello and bass. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 210 MUSIC THEORY III

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: MUSI 111.

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 keyboard 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 chromatic alterations of secondary chords, transposition, and analysis of 20th 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.

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.

MUSI 234 JAZZ BAND III

1 credit. 3 hours. (Laboratory 3 HOURS.)

Prerequisites: MUSI 135 Jazz Band II with the grade of a C or higher.

Jazz Band III is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for jazz ensemble. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard jazz band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

MUSI 235 JAZZ BAND IV

1 credit. 3 hours. (Laboratory 3 HOURS.)

Prerequisites: MUSI 234 Jazz Band III with the grade of a C or higher.

Jazz Band IV is an instrumental ensemble, serving as an educational and musical outlet through the performance of classical, 20th century, and modern works for jazz ensemble. The course is designed to build excellent musicianship and ensemble playing skills through rehearsal and performance. This course is open to students who play standard jazz band instruments. Students will need to pass an audition to demonstrate proficiency on their respective instrument and music reading abilities. Students will need to provide their own instrument.

OCCUPATIONAL THERAPY ASSISTANT

MCC-Penn Valley

Amber Jenkins

Elisabeth Koch

OTHA 100 INTRODUCTION TO OCCUPATIONAL THERAPY

2 credits. 2 hours. (Lecture 2 HOURS.)

This course provides an introduction to the history, philosophy, theory and practice of occupational therapy. Exploration of diversity and sociopolitical climate and the role they play in health care are presented.

OTHA 102 DOCUMENTATION GUIDELINES

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: Formal admission to the Occupational Therapy Assistant program.

This course presents guidelines for documentation and reimbursement of occupational therapy services.

OTHA 103 CLINICAL CONDITIONS

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: Formal admission to the Occupational Therapy Assistant program.

This course covers the etiology, clinical process, and prognosis of common diseases and illnesses. Content includes the 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.

This course covers basic therapeutic interventions, techniques, applications and legislation pertinent to OT practice. Students will learn Occupational Therapy's role in promoting health and wellness.

OTHA 114 INTRODUCTION TO FIELDWORK

0.5 credit. 0.5hours. (Lecture 0.5 HOUR.)

Prerequisite: Formal admission into the Occupational Therapy Assistant Program.

This course introduces students to the role, policies and procedures of fieldwork.

OTHA 116 LEVEL I FIELDWORK I

0.5 credit. 1.5 hours. (Clinical 1.5 HOURS.)

Prerequisite: 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 ASSESSMENT AND INTERVENTION

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: HLSC 108 or BIOL 109 or BIOL 110 & BIOL 210 with a grade of C or higher, and OTHA 102, OTHA 103, OTHA 106, OTHA 114, OTHA 116 with a grade of C or higher.

Therapeutic interventions, techniques, technology and assessments pertinent to OT practice with specific populations are addressed in this course.

OTHA 120 PEDIATRICS

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116; HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210) with a grade of C or higher.

This course addresses Occupational Therapy practice as it relates to individuals from birth to early adolescence. Study of typical growth and development is included.

OTHA 121 LEVEL I FIELDWORK II

1 credit. 3 hours. (Clinical 3 HOURS.)

Prerequisite: HLSC 108, OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116 with a grade of C or higher.

This course consists of directed experiences in clinical and/or community settings.

OTHA 130 KINESIOLOGY: APPLIED ANALYSIS OF MOVEMENT

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116; HLSC 108 or BIOL 109 or BIOL 110 & BIOL 210 with a grade of C or higher.

This course introduces the 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: HLSC 108 or BIOL 109 or BIOL 110 & BIOL 210 with a C or higher.

Admission to OTHA or PTHA programs.

Foundations of neuroscience for practice as a rehabilitation professional. Anatomy and function of the nervous system. Correlation of clinical problems with pathology of the nervous system. Cross-listed with PTHA 154.

OTHA 200 ACTIVITY ANALYSIS/POSITIONING

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130, OTHA 154, PSYC 140 & SPDR 100 & Admission to the Occupational Therapy program. Analysis and teaching of activities for therapeutic intervention. Tool use and basic wheelchair management and positioning.

OTHA 201 MENTAL HEALTH

2.5 credits. 3 hours. (Lecture 2 HOURS. Laboratory 1 HOUR.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 with a grade of "C" or higher & Admission to the Occupational Therapy program.

Occupational therapy assessment and treatment techniques in the mental health setting.

**OTHA 202 PHYSICAL DYSFUNCTION:
APPLICATIONS FOR PRACTICE**

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 with a grade of "C" or higher & Admission to the Occupational Therapy program.

This course addresses the application of occupational therapy treatment for populations with physical/neurological challenges.

OTHA 203 GERONTOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 with a grade of "C" or higher & Admission to the Occupational Therapy program.

Concepts and process of aging. The role of occupational therapy with the elderly.

OTHA 208 THERAPEUTIC INTERVENTIONS II

4 credits. 5.5 hours. (Lecture 2.5 HOURS.

Laboratory 3 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154.

Advanced therapeutic interventions and techniques used to enhance functional ability and independence in daily life tasks and occupations are addressed in this course.

OTHA 212 LEVEL I FIELDWORK III

2 credits. 6 hours. (Clinical 6 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 with a grade of "C" or higher & Admission to the Occupational Therapy program.

This course consists of directed experiences in specified clinical and/or community settings.

OTHA 217 OCCUPATIONAL THERAPY CAPSTONE

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 with a grade of "C" or higher & Admission to the Occupational Therapy program.

Preparation for full-time clinical practice, the national certification process, state licensure, and future employment.

OTHA 222 LEVEL II FIELDWORK

12 credits. 40 hours. (Clinical 40 HOURS.)

Prerequisite: OTHA 201, OTHA 202, OTHA 203, OTHA 208, OTHA 212 & OTHA 217 with a "C" or higher & Admission to the Occupational Therapy program.

Directed clinical experience in different practice areas of occupational therapy.

PARALEGAL

MCC-Penn Valley

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 104 PRINCIPLES OF LEGAL TECHNOLOGY

3 credits. 3.5 hours. (Lecture 2.5 HOURS.

Laboratory 1 HOUR.)

Prerequisites: CSIS 115 & PARA 100.

This course will provide an overview of the primary types of technology and related skills utilized regularly by practicing paralegals. The course offers a broad understanding of legal technology and the need for paralegals to be proficient with computers, software, and other forms of technology. The material will address how various technologies are utilized both in the office and in the courtroom. Students will study challenges associated with technology such as ethics and security. Various software applications will be studied, including document management, timekeeping, spreadsheets, and presentation graphics. This is a hands-on course conducted in the computer lab and allows the student to apply the course material through a variety of activities.

PARA 126 CRIMINAL LAW AND PROCEDURES

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: PARA 100.

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 199A SPECIAL TOPICS IN LEGAL STUDIES

1 credit. 1 hour. (Lecture 1 HOUR.)

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 199B SPECIAL TOPICS IN LEGAL STUDIES

2 credits. 2 hours. (Lecture 2 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 199C SPECIAL TOPICS IN LEGAL STUDIES

3 credits. 3 hours. (Lecture 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.)
Prerequisite: PARA 100.

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, testate 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 290 INTERNSHIP IN PARALEGAL PRACTICE

3 credits. 15 hours. (Field Studies 15 HOURS.)
Prerequisite: PARA 100, PARA 104, PARA 176, PARA 177 and PARA 185.

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 rules. 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 299A SPECIAL TOPICS IN LEGAL STUDIES

1 credit. 1 hour. (Lecture 1 HOUR.)
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 299B SPECIAL TOPICS IN LEGAL STUDIES

2 credits. 2 hours. (Lecture 2 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 299C SPECIAL TOPICS IN LEGAL STUDIES

3 credits. 3 hours. (Lecture 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.

PHYSICAL EDUCATION

PHED 105 BODY BUILDING I

1 credit. 2 hours. (Laboratory 2 HOURS.)
Designed for the student wanting to develop muscular strength and endurance. Emphasis will be on proper training technique and program development. Includes assessment, planning, and participation in an individual fitness program based on the student's needs.

PHED 106 BODY BUILDING II

1 credit. 2 hours. (Laboratory 2 HOURS.)
Prerequisite: PHED 105.
A continuation of PHED 105. This course will expand on the concepts introduced in PHED 105, in addition to offering a variety of advanced techniques. Emphasis is given to the individual program of each student.

PHED 107 PHYSICAL FITNESS I

1 credit. 2 hours. (Laboratory 2 HOURS.)
First in a series of classes designed to develop the student's level of physical fitness. Emphasis will be given to the individual's muscle strength and endurance, cardiovascular endurance, flexibility, and body composition. Includes assessment, planning, and participation in an individual fitness program based on the student's needs. The student will have access to free weights, weight machines, and a variety of cardiovascular equipment.

PHED 108 PHYSICAL FITNESS II

1 credit. 2 hours. (Laboratory 2 HOURS.)
Prerequisite: PHED 107.
Second in a series of classes designed to develop the student's level of physical fitness. This course will expand on the concepts introduced in PHED 107, in addition to offering a variety of advanced techniques and programming ideas. Emphasis is given to the individual program of each student.

PHED 109 PHYSICAL FITNESS III

1 credit. 2 hours. (Laboratory 2 HOURS.)
Prerequisite: PHED 108.
A continuation of PHED 107 and 108.

PHED 110 PHYSICAL FITNESS IV

1 credit. 2 hours. (Laboratory 2 HOURS.)
Prerequisite: PHED 109.
A continuation of PHED 107, 108, and 109.

PHED 117 GOLF I

1 credit. 2 hours. (Laboratory 2 HOURS.)
Fundamental techniques and skills, rules, terminology, playing courtesies, and etiquette of golf.

PHED 118 GOLF II

1 credit. 2 hours. (Laboratory 2 HOURS.)
Prerequisite: PHED 117.
Advanced theory. Techniques of golf. Rhythm and swing, golf errors, and individual corrections and adjustments.

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 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 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 (aerobics) 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 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.)
Principles of healthful living. Physical, emotional, and social health. Contemporary health problems.

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 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 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.

PHILOSOPHY

*MCC-Maple Woods**MCC-Longview**MCC-Blue River*

Doug Fishel

Michael Connelly

Brandon Gillette

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. (MOTR PHIL 100)

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. (MOTR RELG 100)

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.

PHIL 148 CRITICAL THINKING

3 credits. 3 hours. (Lecture 3 HOURS.)
 An introduction to the theory and practice of logical analysis. Special emphasis is placed upon the logical appraisal of everyday arguments, increasing critical evaluation of sources, and recognizing subtle and not-so-subtle bias. The end will be that students increase their powers of rational thought, including the application of general principles and specific cases. This course is recommended for all general education students. (MOTR PHIL 101)

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. (MOTR PHIL 101)

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. (MOTR PHIL 102)

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.

PHYSICS

*MCC-Longview*D.J. Box
Anne Nienhueser*MCC-Penn Valley*

Plarenta Bredehoft

PHYS 101 INTRODUCTORY PHYSICS

4 credits. 4 hours. (Lecture 4 HOURS.)
Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.
 A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics. (MOTR PHYS 100)

PHYS 101L INTRODUCTORY PHYSICS WITH LAB

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)
Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.
 A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics. (MOTR PHYS 100L)

PHYS 104 FOUNDATIONS OF PHYSICAL SCIENCE

4 credits. 4 hours. (Lecture 4 HOURS.)
Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.
 Fundamental principles and concepts of classical and modern physics, astronomy, chemistry and earth science, and their relationships. (MOTR PHYS 110)

PHYS 104L FOUNDATIONS OF PHYSICAL SCIENCE

WITH LAB

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.

Fundamental principles and concepts of classical and modern physics, astronomy, chemistry and earth science, and their relationships. Includes a lab component. (MOTR PHYS 110L)

PHYS 106 GENERAL ASTRONOMY

4 credits. 4 hours. (Lecture 4 HOURS.)

Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.

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. (MOTR ASTR 100)

PHYS 106L GENERAL ASTRONOMY WITH LAB



5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)

Prerequisites: MATH 31 with a grade of S or satisfactory score on the math placement test.

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. Includes a laboratory component. (MOTR ASTR 100L)

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. (MOTR PHYS 150L)

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 180 with a minimum grade of C and a co-requisite of 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. (MOTR PHYS 200L)

PHYS 221 ENGINEERING PHYSICS II

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisite: PHYS 220 (C or higher) and a co-requisite 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.

PRACTICAL NURSING

MCC-Penn Valley

Meskerem Desta

Helina Kebede

PNUR 100 PERSONAL AND VOCATIONAL CONCEPTS

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisites: Chemistry 105, Biology 109 (or BIOL 110 and BIOL 210) with a "C" or higher and admission to the practical nursing program.

Introduction to the role of the practical nurse

PNUR 103 FUNDAMENTALS OF PRACTICAL NURSING

7 credits. 10.5 hours. (Lecture 5 HOURS. Laboratory 1 HOUR. Clinical 4.5 HOURS.)

Prerequisites: Chemistry 105, Biology 109 (or BIOL 110 and BIOL 210) with a C or higher & Admission to the practical nursing program.

Introduction to the role of the practical nurse in the provision of basic nursing care to diverse populations across the lifespan. Clinical experiences provide knowledge and skills.

PNUR 110 APPLIED PHARMACOLOGY I

2.5 credits. 3.5 hours. (Lecture 3 HOURS. Clinical 1.5 HOURS.)

Prerequisite: Chemistry 105, Biology 109 (or BIOL 110 and BIOL 210) with a C or higher & Admission to the Practical Nursing program.

Introduction of basic pharmacology information for safe administration of medications by the practical nurse for the following body systems: cardiovascular, respiratory, reproductive, and immune.

PNUR 128 MENTAL HEALTH NURSING

4 credits. 5 hours. (Lecture 3.5 HOURS. Clinical 1.5 HOURS.)

Prerequisite: PNUR 100, PNUR 103, PNUR 110, and PNUR 138 with a grade C or higher.

Introduces the role of the practical nurse in caring for patients with mental illness including treatment addressing psychosocial needs.

PNUR 132 THE CHILDBEARING FAMILY

4 credits. 5 hours. (Lecture 3.5 HOURS. Clinical 1.5 HOURS.)

Prerequisites: PNUR 100, PNUR 103, PNUR 110, and PNUR 138 with a C or higher.

An introduction to maternity and pediatric nursing including: prenatal development, prenatal care, nursing care during labor, and birth with a focus on the family after birth.

PNUR 136 IV THERAPY

1.5 credits. 2 hours. (Lecture 1 HOUR. Laboratory 1 HOUR.)

Prerequisites: PNUR 100, PNUR 103, PNUR 110, and PNUR 138 with a grade C or higher.

Principles of IV therapy and pharmacology including the initiation, monitoring, regulation, and maintenance of an intravenous access device, site, and flow rate, administration of IV fluids, and administration of IV medications included in the scope of practice for the practical nurse. Students will be certified in intravenous therapy as allowed by the Missouri Nurse Practice Act.

PNUR 138 MEDICAL SURGICAL CARE OF ADULT PATIENT I

8 credits. 12 hours. (Lecture 6 HOURS. Clinical 6 HOURS.)

Prerequisite: Chemistry 105, Biology 109 (or BIOL 110 and BIOL 210) with a grade of "C" or higher and admission to the practical nursing program.

Introduction to concepts of medical surgical nursing with emphasis on meeting the needs of the whole client. Addressing the following body systems: respiratory, cardiovascular, urinary and renal, integumentary, and reproductive.

PNUR 144 MEDICAL SURGICAL CARE OF THE ADULT PATIENT II

8 credits. 12 hours. (Lecture 6 HOURS. Clinical 6 HOURS.)

Prerequisite: PNUR 100, PNUR 103, PNUR 110, and PNUR 138 with a grade of C or higher.

Continuation of medical surgical nursing with emphasis on meeting the needs of the whole client and providing the foundation for understanding identified pathophysiological disorders. Addressing the following body system: musculoskeletal, neurovascular, sensory, gastrointestinal, endocrine, and metabolic.

PNUR 146 LEADERSHIP

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: PNUR 100, PNUR 103, PNUR 110, and PNUR 138 with a grade of C or higher.

Introduces leadership principles needed for the practical nurse to function in an effective manner in any setting.

POLITICAL SCIENCE

MCC-Longview

MCC-Maple Woods

MCC-Penn Valley

John Shively

Perri Lampe

Deborah Scott

POLS 135 INTRODUCTION TO POLITICAL SCIENCE

3 credits. 3 hours. (Lecture 3 HOURS.)

An introduction to the theory of politics, government, and administration, with emphasis on the United States and Missouri constitutional systems.

Comparison of governmental systems, institutions, ideologies and participation among nations and states.

POLS 136 INTRODUCTION TO U.S. 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. (MOTR POSC 101)

POLS 139 URBAN POLITICS AND POLICY 

3 credits. 3 hours. (Lecture 3 HOURS.)

This course provides an introduction to issues and challenges confronting American cities and metropolitan areas and the policy remedies and options available to government and the private sector. The course will examine political, social, and economic, and cultural explanations for the origin and evolution of urban environments. The course will trace the historical development of local government institutions, analyze urban coalitions, and investigate distributions of power. Finally, the course also analyzes urban policies in the areas of growth, education, culture wars, housing, and poverty particularly in the postwar period. Requirement Designation: Global Diversity

POLS 153 THE MISSOURI CONSTITUTION

1 credit. 1 hour. (Lecture 1 HOUR.)

Directed study of the Missouri Constitution. This course fulfills the state constitution requirement.

POLS 199A SPECIAL TOPICS IN POLITICAL SCIENCE

1 credit. 1hour. (Lecture 1 HOUR.)

Prerequisites: ENGL101, and POLS 135 or 136 or 137.

Topics and material will vary by instructor each semester. Specific research topics and writing assignments to be determined by instructor. This course is intended to go into detail and research beyond the material covered in American National Government, Introduction to Political Science and State and Local Government.

POLS 199B SPECIAL TOPICS IN POLITICAL SCIENCE

2 credits. 2hours. (Lecture 2 HOURS.)

Prerequisites: ENGL101, and POLS 135 or 136 or 137.

Topics and material will vary by instructor each semester. Specific research topics and writing assignments to be determined by instructor. This course is intended to go into detail and research beyond the material covered in American National Government, Introduction to Political Science and State and Local Government.

POLS 199C SPECIAL TOPICS IN POLITICAL SCIENCE

3 credits. 3hours. (Lecture 2 HOURS.)

Prerequisites: ENGL101, and POLS 135 or 136 or 137.

Research and development in Political Science. Topics and material will vary by instructor each semester. Specific research topics and writing assignments to be determined by instructor. This course is intended to go into detail and research beyond the material covered in American National Government, Introduction to Political Science and State and Local Government.

POLS 202 INTRODUCTION TO COMPARATIVE POLITICS

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: POLS 136 or POLS 234 or HIST 134 with a grade of "C" or higher.

Comparative politics examines the diverse government, politics, and culture of nation-states around the world and examines the use of power to explain economic, political, and social outcomes. Comparative politics examines what kinds of institutions and policies support transformative economic growth, how democracies come to be, what maintains authoritarian regimes in power, and how citizens come to identify themselves in terms of particular ethnic groups and nationalities. Comparative politics derives insights not only by studying a specific case in detail, but also by comparing the diverse experiences of many states to identify patterns and test hypotheses. Comparing diverse experiences provides a better understanding of the key factors that explain economic, political, and social outcomes—not just in one case, but across countries. Requirement Designation: Global Diversity

POLS 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. (MOTR POSC 201)

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.

PSYCHOLOGY

MCC-Blue River *MCC-Longview*
Kimberly Glackin Angela Bahner
Matthew Westra

MCC-Maple Woods *MCC-Penn Valley*
Julia Bishop Cebra Sims
Robert Williams

PSYC 140 GENERAL PSYCHOLOGY 

3 credits. 3 hours. (Lecture 3 HOURS.)
Introduction to the scientific study of behavior and mental processes through the exploration of major theories, concepts, methods, and research findings in the field of psychology. Using the foundation of the scientific method, topics cover various sub-disciplines in psychology: biological, cognitive, developmental, social and personality, and mental/physical health. Emphasis on biopsychosocial influences and integration across sub-discipline topics. (MOTR PSYC 100)

PSYC 143 PSYCHOLOGY OF THE AFRICAN-AMERICAN EXPERIENCE 

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: PSYC 140.
Psychological principles as they apply to the development, behavior, and experience of the African-American from colonization through Reconstruction to the present. Special considerations will be given to the impact of racism.

PSYC 144 ADJUSTMENT AND PERSONALITY

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: PSYC 140.
Basic factors in personality development with emphasis on the role of social influences, stress, communication, relationships, and mental health.

PSYC 220 PSYCHOLOGY OF PREJUDICE 

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: PSYC 140 with a grade of C or higher.
This course offers an analysis of psychological theory and research as a mechanism for understanding privilege, prejudice, and discrimination. Various expressions of prejudice and discrimination are addressed, including but not limited to ethnicity, gender, class, religion, physical ability, age, and sexual orientation. Themes will include the development and causes of social perception, reasons for persistence and maintenance of stereotypes and prejudice, and ways to change or reduce stereotypes and prejudice.

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 with a grade of C or higher.
Course covers theories, research, and application associated with the biological, cognitive, affective, and social domains of development during the life of the individual from conception through death. Addresses similarities and differences in development across and within cultures. (MOTR PSYC 200)

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 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.

PHYSICAL THERAPIST ASSISTANT

MCC-Penn Valley

Randall Leighton

Rachel McGraw

Samantha Satterfield

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: Admission to the Physical Therapy 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: HLSC 108 or BIOL 109 or BIOL 110 and BIOL 210 with a grade of C or higher, PTHA 152 with a grade of C or higher, PTHA 160 with a grade of C or higher & Admission to the Physical Therapy program.

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: HLSC 108 or BIOL 109 or BIOL 110 & BIOL 210 with a C or higher. Admission to OTHA or PTHA programs.

Foundations of neuroscience for practice as a rehabilitation professional. Anatomy and function of

the nervous system. Correlation of clinical problems with pathology of the nervous system. Cross-listed with OTHA 154.

PTHA 155 REHABILITATION

4 credits. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Prerequisite: PTHA 162 & Admission to the Physical Therapy program.

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 & Admission to the Physical Therapy program.

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: HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210), PTHA 152 & PTHA 160 & Admission to the Physical Therapy program.

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: Admission to the Physical Therapy 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: HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210), PTHA 152 & PTHA 160 with a grade of C or higher & Admission to the Physical Therapy program.

Introduction to the theory and practical application of documentation, patient care skills, and selected modalities, including indications and contraindications.

PTHA 162 CLINICAL IMMERSION

1 credit. 3 hours. (Clinical 3 HOURS.)
Prerequisite: EMS 100, PTHA 153, PTHA 154, PTHA 159, & PTHA 161 & Admission to the Physical Therapy program.
Supervised clinical immersion into the practical application of techniques and procedures covered in all previous PTHA courses. The student clinician will assist the physical therapist 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 & Admission to the Physical Therapy program.
Specialized information related to the treatment of pediatric and older adult populations.

PTHA 170 CLINICAL EDUCATION I

3 credits. 9 hours. (Clinical 9 HOURS.)
Prerequisite: PTHA 162 & concurrent enrollment in PTHA 155, PTHA 158, PTHA 164 & PTHA 171 & Admission to the Physical Therapy program.
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 & Admission to the Physical Therapy program.
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 272 CLINICAL EDUCATION II

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.

RADIOLOGIC TECHNOLOGY

MCC-Penn Valley

Sara Crosser

Nicole Fuller

RATE 160 FUNDAMENTALS OF RADIOLOGIC TECHNOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisite: Admission to the Radiologic Technology Program.
Overview of the foundations of radiologic technology. Topics related to the health care environment, health information management, basic patient interactions, body mechanics, patient transportation and radiographic terminology will be explored.

RATE 165 PATIENT CARE

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: RATE 160 & Admission to the Radiologic Technology program.
Patient care and management concepts and practice in the radiologic sciences.

RATE 171 PRINCIPLES OF RADIOGRAPHIC IMAGING

2.5 credits. 3 hours. (Lecture 2 HOURS. Laboratory 1 HOUR.)
Prerequisite: RATE 160 & Admission to the Radiologic Technology program.
Exploration of materials and factors that govern the image production process. Film imaging with related accessories is emphasized.

RATE 172 RADIOGRAPHIC PROCEDURES I

3 credits. 3.5 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)
Prerequisite: RATE 160 with a grade of C or better & concurrent enrollment in RATE 165 & RATE 173 & Admission to the Radiologic Technology program.
Anatomy, radiographic procedures, patient positioning and image evaluation of the chest, bony thorax, abdomen, upper extremity, pelvis, hips and lower extremity.

RATE 173 CLINICAL IMMERSION

3 credits. 1 hour. (Clinical 12 HOURS.)
Prerequisite: RATE 160 with a grade of C or better & concurrent enrollment in RATE 165 & RATE 172.
This course will develop the student's understanding of the direct patient care clinical environment.

RATE 175 CLINICAL PRACTICE I

4 credits. 16 hours. (Clinical 16 HOURS.)
Prerequisite: RATE 165, RATE 171, RATE 172 and RATE 173 with a grade of C or better and concurrent enrollment in RATE 176 and RATE 180 & Admission to the Radiologic Technology program.
Performance of patient examinations in a clinical setting under the supervision of a Radiologic Technologist.

RATE 176 RADIOGRAPHIC PROCEDURES II

3 credits. 3.5 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)
Prerequisite: RATE 165, RATE 172, RATE 173 with a grade of C or better and concurrent enrollment in RATE 175 & Admission to the Radiologic Technology program.
Anatomy, radiographic procedures, patient positioning and image evaluation of the vertebral column, exams requiring the use of contrast media and surgical procedures.

RATE 180 DIGITAL IMAGING ENVIRONMENT AND IMAGE ANALYSIS

2.5 credits. 3 hours. (Lecture 2 HOURS. Laboratory 1 HOUR.)
Prerequisite: RATE 171 with a grade of C or better & Admission to the Radiologic Technology program.
This course addresses components, principles and operation of digital imaging systems in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are explored. This course will explore all aspect of the digital imaging environment from the radiology information system to the digital image management or picture archiving and communication system. Content provides a basis for analyzing radiographic images. Included are the importance of optimal imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality.

RATE 185 CLINICAL PRACTICE II

4 credits. 16 hours. (Clinical 16 HOURS.)
Prerequisites: RATE 175, RATE 176 and RATE 180 with a grade of C or better & Admission to the Radiologic Technology program.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

RATE 270 RADIATION BIOLOGY AND PROTECTION

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: RATE 180 & Admission to the Radiologic Technology program.
The principles of radiation biology and techniques used to protect the patient and personnel from the effects of exposure to ionizing radiation.

RATE 278 PATHOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisite: RATE 279 & RATE 280 & Admission to the Radiologic Technology program.
Human disease processes and their relationship to radiographic procedure performance.

RATE 279 RADIOGRAPHIC PROCEDURES III

2 credits. 2 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)
Prerequisite: RATE 176, RATE 180, RATE 185 with a grade of C or better and concurrent enrollment in RATE 280, and RATE 285.
& Admission to the Radiologic Technology program. Anatomy, radiographic procedures, patient positioning and image evaluation of the skull, facial bones, paranasal sinuses and procedural adaptations for trauma patients.

RATE 280 CLINICAL PRACTICE III

6 credits. 24 hours. (Clinical 24 HOURS.)
Prerequisite: RATE 185 with a grade of C or better and concurrent enrollment in RATE 278, RATE 279, and RATE 285 & Admission to the Radiologic Technology program.
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 180, RATE 270, RATE 279, RATE 285 with a grade of C or better and concurrent enrollment in RATE 283 & Admission to the Radiologic Technology program.
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 IV

6 credits. 24 hours. (Clinical 24 HOURS.)
Prerequisite: RATE 278, RATE 279, RATE 280 with a C or better and concurrent enrollment in RATE 281 and 283 & Admission to the Radiologic Technology program.
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, RATE 279 & RATE 280 & Admission to the Radiologic Technology program.
Preparation for the National Registry examination. Simulation of American Registry of Radiologic Technologists examination.

RATE 285 IMAGING MODALITIES

2 credits. 2 hours. (Lecture 2 HOURS.)
Prerequisite: RATE 176 & concurrent enrollment in RATE 279 & RATE 280 & Admission to the Radiologic Technology program.
Exploration of advanced modalities within the radiologic sciences.

READING

<i>MCC-Longview</i>	<i>MCC-Penn Valley</i>
Nicole Baker	Millie Nottingham

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 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.

READ 11 FOUNDATIONS FOR ACADEMIC READING II

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: READ 10/30 or appropriate placement test score.
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 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: 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 21 PHONOLOGY II

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: READ 15, READ 16 or READ 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 100 COLLEGE READING

3 credits. 3 hours. (Lecture 3 HOURS.)
Prerequisite: READ 11/31 or appropriate placement test score.
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 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.

PROFESSIONAL NURSING

MCC-Penn Valley

Amy Abma
Kathy Alford
Robin Bellamy
Roger Bidwell
Christa Gulick
Brenda Kotar
Charlotte Paige
Angela Pons-Sepsis
Gina Taylor
Lee Townsend
Andrea Trejo
LeeJae Wansing
Tammie Willis

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: PSYC 243 (can be taken concurrently) & Admission to the professional nursing program.

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: PSYC 243 (can be taken concurrently) & Admission to the professional nursing program.

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: PSYC 243, RNUR 126, RNUR 131, & BIOL 208 (BIOL 208 can be taken concurrently) & Admission to the Professional Nursing program.

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: BIOL 100 OR CHEM 105, PSYC 140, RNUR 126, RNUR 131, BIOL 109, OR OPITOIN OF BIOL 110 AND BIOL 210, PSYC 243.

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: PSYC 243, RNUR 126, RNUR 131 & BIOL 208 (BIOL 208 can be taken concurrently) & Admission to the Professional Nursing program.

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.)

Prerequisite: ENGL 101, RNUR 234, RNUR 238, SOCI 160 & COMM 100 or 102 (may be taken concurrently) & one of the following: HIST 120, 121, POLS 135, 136 or 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.)

Prerequisite: 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.)

Prerequisite: Admission to nursing program; BIOL 208, RNUR 134, RNUR 138, RNUR 141.

Prerequisites or taken concurrently: ENGL 101, SOCI 160. .

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: ENGL 101, RNUR 234, RNUR 238, SOCI 160, COMM 100 & one of the following: HIST 120, HIST 121, POLS 135, POLS 136, POLS 137.

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.

SIGN LANGUAGE

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.

SOCIOLOGY

MCC-Blue River

Cynthia Heddlesten

MCC-Longview

Patrick Dryden

MCC-Maple Woods

Jessica Halperin

MCC-Penn Valley

Gina Sanders

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 on 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. (MOTR SOCI 101)

SOCI 161 URBAN SOCIOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: SOSC 150, SOSC 152, or SOCI 160.
Social problems of an urban environment and the role of social change relative to race relations education, overpopulation, drug abuse, and other contemporary concerns. (MOTR URBN 202).

SOCI 163 CONTEMPORARY SOCIAL ISSUES



3 credits. 3 hours. (Lecture 3 HOURS.)

The purpose of this course is to acquaint students with a variety of modern social issues, which may include social inequality, violence, educational issues, crime and imprisonment, prostitution, economic inequality and poverty, racial inequality, gender discrimination, environmental issues, illness and the medical care system. To say something is a social issue is not simply to observe negative outcomes, but to make a claim that society in general is concerned about the issue. The goal is to become increasingly aware of the social forces that shape our lives; gaining insight into how our social environments penetrate our thinking and views of the world. Upon completion of this course the student will be able to draw sociological inferences from observations, which is the "sociological imagination." (MOTR SOCI 201).

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.

SOCI 199A SPECIAL TOPICS IN SOCIOLOGY

1 credit. 1 hour. (Lecture 1 HOUR.)

Guided readings, discussions, writing and/or field experience(s) in Sociology. Topics and material will be determined by the instructor.

SOCI 199B SPECIAL TOPICS IN SOCIOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)

Guided readings, discussions, writing and/or field experience(s) in Sociology. Topics and material will be determined by the instructor.

SOCI 199C SPECIAL TOPICS IN SOCIOLOGY

3 credits. 3 hours. (Lecture 3 HOURS.)

Guided readings, discussions, writing and/or field experience(s) in Sociology. Topics and material will be determined by the instructor.

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.

SOCIAL SCIENCE

SOSC 153A READINGS IN SOCIAL SCIENCE

1 credit. 1 hour. (Lecture 1 HOUR.)

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 153B READINGS IN SOCIAL SCIENCE

2 credits. 2 hours. (Lecture 2 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 153C READINGS IN SOCIAL SCIENCE

3 credits. 3 hours. (Lecture 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.

SOCIAL WORK

SOWK 100 INTRODUCTION TO SOCIAL WORK

3 credits. 3 hours. (Lecture 3 HOURS.)

This course provides an introduction and overview of the profession of social work. Students will be introduced to the terms, concepts, people and critical events that shaped the profession. Emphasis is on the structure and functions of the social welfare delivery system. The course focuses on the values, ethics, and methods of generalist social work practice with an emphasis on diversity. Students will learn about basic social welfare policies, community agencies, and at-risk populations. Additional topics that will be covered include: the role of the National Association of Social Workers (NASW) in maintaining and strengthening social work education and profession standards; the importance of human service agencies in fostering and not diminishing the quality of services; and developing an understanding of social justice.

SOWK 160 FOUNDATIONS OF YOUTH WORK

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: SOWK 100.

main components will be stressed in this course. First, students are introduced to the philosophy of and research on the positive youth development perspective. Second, students will learn the principles of adolescent growth and behavior. Third, students will become familiar with social policies related to youth and their families.

SOWK 167 SPECIAL ISSUES IN SOCIAL WELFARE

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: SOWK 100.

Topics related to the field of social welfare that explore areas of concern related to service to particular populations, agency needs, and student professional development.

SOWK 190 COMMUNITY MENTAL HEALTH

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: SOWK 100.

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.

SOWK 220 SOCIAL WELFARE: PAST AND PRESENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: SOWK 100.

This course examines the present and past of Social Welfare locally and nationally, the structure of Social Service Agencies, and the problems of welfare in an industrialized society.

SPANISH

MCC-Blue River

Jennifer Rogers

MCC-Longview

Emily Armstrong

MCC-Maple Woods

Chad Montuori

MCC-Penn Valley

Ruth Heath

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. Develop basic communication skills (listening, reading, writing, and speaking). Study of the culture of Spanish-speaking countries. (MOTR LANG 103)

SPAN 102 ELEMENTARY SPANISH II

5 credits. 5 hours. (Lecture 5 HOURS.)

Prerequisites: Spanish 101 or Spanish 111 or appropriate placement score.

Develop communication skills (listening, reading, writing and speaking). Study of the culture of Spanish-speaking countries. (MOTR LANG 104)

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.

SPAN 203 INTERMEDIATE SPANISH I

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: SPAN 102 or appropriate placement score.

Continued development of communication skills with emphasis on reading, writing and speaking. Study of Spanish-speaking cultures. Spanish is the language of instruction

SPAN 204 INTERMEDIATE SPANISH II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: SPAN 203 or appropriate placement score.

Advanced grammar. Continued development of communication skills with emphasis on reading, writing and speaking. Current topics in the Spanish-speaking world. 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.

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 212 STUDY ABROAD 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 short-term 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.

SPAN 214 STUDY ABROAD II

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 short-term 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.

SPAN 216 STUDY ABROAD III 

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 short-term 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.

SPAN 218 STUDY ABROAD IV 

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: SPAN 216.

Students will broaden their language skills while at the same time experience a new culture through a short-term 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.

LAND SURVEYING

MCC-Longview

David Gann

SRVY 135 ELEMENTARY SURVEYING

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: MATH 130 or MATH 150 with a minimum grade of C or appropriate placement test.

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.

SURGICAL TECHNOLOGY

MCC-Penn Valley

Roger Massey

LeeAnn Motko

SURT 100 INTRODUCTION TO SURGICAL TECHNOLOGY

2 credits. 2 hours. (Lecture 2 HOURS.)

Introduction to the profession of surgical technology. Historical aspects of surgery, roles of the surgical team and ethical, legal and moral issues will be discussed.

SURT 103 CENTRAL SERVICES

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

This course focuses on the preparation of instruments and equipment for surgical procedures. The role of a Central Services Technician will be discussed. Upon successful completion of this course students will be eligible to sit for a central services national certification examination.

SURT 105 CARE OF THE SURGICAL PATIENT

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: CHEM 105, BIOL 109 or BIOL 110 & 210, BIOL 208 & formal acceptance into the Surgical Technology program.

This course covers basic concepts related to preoperative care; both physical and psychosocial needs of the surgical patient will be addressed. The importance of medical language, chart review and documentation will also be discussed in this course.

SURT 109 PHARMACOLOGY FOR THE SURGICAL TECHNOLOGIST

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisites: CHEM 105, BIOL 109 or BIOL 110 & 210, BIOL 208, & formal acceptance into the Surgical Technology program.

This course focuses on the use and stages of anesthesia. Preparation and calculation of drugs and solutions commonly used during surgical procedures will also be discussed.

SURT 120 FUNDAMENTALS OF SURGICAL TECHNOLOGY I

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisites: SURT 100, SURT 103, SURT 105, SURT 109 & formal acceptance into the Surgical Technology 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.

SURT 121 FUNDAMENTALS OF SURGICAL TECHNOLOGY II

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisites: SURT 100, SURT 103, SURT 105 and SURT 109.

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.

SURT 130 SURGICAL PROCEDURES I

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisites: SURT 100, SURT 103, SURT 105, SURT 109, SURT 120, and SURT 121 & Admission to the Surgical Technology program.

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Emphasis on surgical procedures related to General, Minimally Invasive, Obstetrics/Gynecology, Genitourinary, Otorhinolaryngology and Orthopedic surgical specialties. Incorporating instruments, equipment, and supplies required for perioperative case management. Post-operative care and complications of the surgical patient is discussed.

SURT 131 SURGICAL PROCEDURES II

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)

Prerequisite: SURT 100, SURT 103, SURT 105 SURT 109, SURT 120, SURT 121 and SURT 130 &

Admission to the Surgical Technology program.

Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Emphasis on surgical procedures related to Oral Maxillofacial, Ophthalmic, Cardiothoracic, Peripheral Vascular, and Neurosurgery Surgical Procedures. Includes instruments, equipment, and supplies required for perioperative case management and Post-operative care and complications of the surgical patient is discussed.

SURT 140 CLINICAL EXPERIENCE

6 credits. 18 hours. (Clinical 18 HOURS.)

Prerequisites: SURT 120, SURT 121, SURT 130 & Admission to the Surgical Technology program.

Directed practice in a clinical setting.

SURT 150 SURGICAL TECHNOLOGY CAPSTONE

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisites: SURT 120, SURT 121 and SURT 130.

This course will prepare and allow for student completion of the national certification examination. Topics of focus will include maintenance of professional credentials through professional development, employment, additional career pathways and current trends.

THEATER

MCC-Longview

MCC-Maple Woods

Keith Townsend

Daniel Wright

THEA 106 THEATER APPRECIATION 

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 90 with a grade of S or appropriate placement test score.

Theater Appreciation is an overview of theater from the playgoer's perspective. The course will include a discussion of theater as a composite art form, investigate theater 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. (MOTR THEA 100A)

THEA 114 THEATER AND THE WESTERN WORLD

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: ENGL 90 with a grade of S or appropriate placement test score.

The study of the history of theater from ancient Greece to the present. The course will explore the evolution of the many types of theater activities. This course will include the reading and discussion of plays using the elements of theater based on Aristotle's *Poetics*. Exploration of the creation of theater as a profession. The Connection of modern issues with the themes of plays read. Different cultures will be explored through the study of theater of arts.

THEA 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. (MOTR PERF 100)

THEA 121 ELEMENTS OF PLAY PRODUCTION

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: ENGL 90 with a grade of S or appropriate placement test score.

Identify and apply the elements of play production necessary to produce a theatrical performance through reading, observation and practical experience.

THEA 122A THEATER PRACTICUM

1 credit. 2 hours. (Laboratory 2 HOURS.)

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.

THEA 122B THEATER PRACTICUM

2 credits. 4 hours. (Laboratory 4 HOURS.)

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.

THEA 122C THEATER PRACTICUM

3 credits. 6 hours. (Laboratory 6 HOURS.)

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.

THEA 132A DIRECTED STUDIES IN THEATER

1 credit. 1 hour. (Independent Study 1 HOUR.)

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of theater. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

THEA 132B DIRECTED STUDIES IN THEATER

2 credits. 2 hours. (Independent Study 2 HOURS.)

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of theater. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

THEA 132C DIRECTED STUDIES IN THEATER

3 credits. 3 hours. (Independent Study 3 HOURS.)

Students will work independently in a professional environment designed to give them professional work experience in a selected program area within the field of theater. Students may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

THEA 220 ACTING II

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisite: THEA 120.

A continuation and advanced study of the skills taught in THEA 120 Acting I, including various acting exercises and in-depth scene work. More in-depth analysis of the acting process through actual scene work performance from full length plays.

VETERINARY TECHNOLOGY

MCC-Maple Woods

Christopher Morrow

Billi Tiner

VETT 100 VETERINARY PRACTICE MANAGEMENT

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 VETERINARY TECHNICIAN I

4 credits. 5.5 hours. (Lecture 2.5 HOURS.
Laboratory 3 HOURS.)

Prerequisite: Admission to Veterinary Technology Program.

Introduction to veterinary practice animal pathophysiology and pharmacology associated with the cell, immune, nervous, respiratory, and cardiovascular systems. The course covers general animal nursing, principles of handling and restraint, animal husbandry, administration of medications, bathing, and basic laboratory tests.

VETT 108 CLINICAL MATHEMATICS FOR VETERINARY TECHNICIANS

2 credits. 2 hours. (Lecture 2 HOURS.)

Prerequisite: Admission to the Veterinary Technician Program.

Vocabulary. Metric and apothecary conversions. Drug and dosage calculations. Preparation of solutions based on percents, ratios and drugs. Infusion flow rates and constant rate infusion.

VETT 110 VETERINARY TECHNICIAN II

4 credits. 5.5 hours. (Lecture 2.5 HOURS.
Laboratory 3 HOURS.)

Prerequisite: VETT 101 & Admission to the Veterinary Technology program.

This course covers veterinary practice animal physiology, pathology, and pharmacology. Course content includes the renal system, reproductive system, endocrine system, amphibian and reptile care, and pet bird care. Hands-on skills in blood and specimen collection, anesthesia, surgical preparation, intravenous catheterization, surgical monitoring, and radiographic processing.

VETT 111 INFECTIOUS DISEASE MANAGEMENT

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Prerequisite: Admission into the Veterinary Technology Program.

This course will provide medical knowledge of microorganisms, parasites, sanitation, disinfectants, sterilization, zoonotic diseases, and public health problems associated with the veterinary industry. Students will learn standard operating procedures for parasite and vermin control, cleaning and sterilization, and sanitary patient care.

VETT 200 VETERINARY TECHNICIAN III

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisites: VETT 101 & VETT 110 & Admission to the Veterinary Technology program.

This course covers veterinary radiology, electrocardiography, dentistry, and pharmacology. The course provides hands-on education in anesthesia, surgical preparation, surgical assisting, post-operative procedures, bandaging, blood transfusions, intravenous catheterization, radiographic techniques, and parenteral fluid administration.

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 BIOL 106 & VETT 101 & VETT 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, VETT 110 & VETT 201 & Admission to the Veterinary Technology program.

Restraint and handling of laboratory animals and birds. Blood collection, restraint, identification, medicating, anesthesia, and specimen collection. Technical skills for laboratory animal research.

VETT 209 EQUINE MEDICINE AND MANAGEMENT

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

Prerequisite: VETT 212 & Admission to the Veterinary Technology program.

Breeds and types 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 TECHNICIAN IV

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)

Prerequisite: VETT 200 Veterinary Technician III and Admission to the Veterinary Technology program.

This course provides advanced veterinary technician knowledge in wound management, soft tissue surgery, orthopedics, ophthalmology, and dermatology. The course provides hands-on education in anesthesia, surgical preparation, surgical assisting, post-operative procedures, bandaging, blood transfusions, intravenous catheterization, parenteral fluid administration, ultrasonography, and dental radiography.

VETT 211 CLINICAL PATHOLOGY TECHNIQUES II

5 credits. 8 hours. (Lecture 2 HOURS. Laboratory 6 HOURS.)

Prerequisite: VETT 201 & Admission to the Veterinary Technology program.

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 & VETT 110 & Admission to the Veterinary Technology program.

Techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Bovine, porcine, and ovine and 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.

WELDING

MCC-Business & Technology

Kendall Davis

Aaron Gibbs

WELD 100 INTRODUCTION TO WELDING/CUTTING PROCESSES

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Student will develop an awareness of oxy-fuel cutting and of the more common welding processes in the welding industry. An emphasis will be placed on GMAW welding with student experiencing the process in the laboratory setting.

WELD 105 WELDING FOR THE TRADES

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

This course provides an introduction to the flame cutting and plasma cutting processes, brazing, stick (arc) welding and MIG welding. This is not a code welding course but students will learn to identify and correct welding problems.

WELD 110 WELDING INDUSTRY FUNDAMENTALS

3 credits. 3 hours. (Lecture 3 HOURS.)

Student will develop an awareness of the welding industry. Emphasis will be placed on American Welding Society (AWS) welding codes and standards as they relate to the construction, fabrication and maintenance industry.

**WELD 120 THERMAL CUTTING PROCESSES
LECTURE**

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: WELD 110 or concurrent enrollment.

Student will develop the knowledge required of thermal cutting processes. Emphasis will be placed on manual and mechanized oxy-fuel cutting, plasma arc cutting, and air-carbon arc cutting.

WELD 121 THERMAL CUTTING PROCESSES LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 120 or concurrent enrollment.

Student will develop the skills required to be proficient in the thermal cutting processes. The emphasis will be on manual and mechanized oxy-fuel cutting (OFC), plasma arc cutting (PAC), and air-carbon arc cutting (CAC-A).

WELD 130 PRINT READING & WELD SYMBOLS

3 credits. 3 hours. (Lecture 3 HOURS.)

Student will develop an understanding of line interpretation and apply this knowledge to orthographic and isometric drawings. Skill development in recognizing structural shapes from prints and interpreting welding symbols on prints will also be emphasized.

**WELD 140 SHIELDED METAL ARC WELDING I
(SMAW) LECTURE**

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: WELD 121 or concurrent enrollment.

Student will develop an awareness of arc welding safety and the shielded metal arc welding (SMAW) process. This includes acquiring the knowledge of power sources and polarities, principles of operation, welding techniques, electrode identification and use, code welding, and maintenance of SMAW equipment.

**WELD 141 SHIELDED METAL ARC WELDING I
(SMAW) LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 140 or concurrent enrollment.

Student will develop the skills of welding safely and of the shielded metal arc welding (SMAW) process. This includes applying the knowledge of power sources and polarities, principles of operation, welding techniques, and electrode identification and use to code welding procedures in all positions with fillet and groove welds, and maintenance of SMAW equipment.

**WELD 150 GAS METAL ARC WELDING I (GMAW)
LECTURE**

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: WELD 121 or concurrent enrollment.

Student will develop an awareness of arc welding safety and the gas metal arc welding (GMAW) processes. This includes acquiring the knowledge of power sources and polarities, principles of operation, welding techniques, modes of filler metal transfer, filler metal identification and use, code welding, and maintenance of GMAW equipment.

**WELD 151 GAS METAL ARC WELDING I (GMAW)
LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 150 or concurrent enrollment.

Student will develop the skills of welding safely and of the gas metal arc welding (GMAW) processes. This includes applying the knowledge of power sources and polarities, principles of operation, welding techniques, modes of filler metal transfer, filler metal identification and use to code welding procedures in all positions with fillet and groove welds, and maintenance of GMAW equipment.

**WELD 160 GAS TUNGSTEN ARC WELDING I (GTAW)
LECTURE**

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: WELD 121 or concurrent enrollment.

Student will develop an awareness of arc welding safety and the gas tungsten arc welding (GTAW) processes. This includes acquiring the knowledge of power sources and polarities, principles of operation, welding techniques, electrode identification and use, filler metal identification and use, code welding, and maintenance of GTAW equipment and accessories.

**WELD 161 GAS TUNGSTEN ARC WELDING I (GTAW)
LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 160 or concurrent enrollment.

Student will develop the skills of welding safely and the gas tungsten arc welding (GTAW) processes. This includes applying the knowledge of power sources and polarities, principles of operation, welding techniques, electrode identification and use, filler metal identification and use, code welding, and maintenance of GTAW equipment and accessories.

WELD 199A SPECIAL PROJECTS IN WELD

1 credit. 1 hour. (Independent Study 1 HOUR.)

Independent study in Welding under supervision of the faculty member.

WELD 199B SPECIAL PROJECTS IN WELD

2 credits. 2 hours. (Independent Study 2 HOURS.)
Independent study in Welding under supervision of the faculty member.

WELD 199C SPECIAL PROJECTS IN WELD

3 credits. 3 hours. (Independent Study 3 HOURS.)
Independent study in Welding under supervision of the faculty member.

WELD 230 LAYOUT & FABRICATION LECTURE

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: WELD 105 or WELD 150/151; WELD 130.

Student will learn and apply basic rigging operations to material handling. Mathematical formulas, geometrical principles, and charts associated with fabrication will be emphasized. The safe and proper use of fabrication tools and equipment will be stressed.

WELD 231 LAYOUT & FABRICATION LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)
Prerequisite: WELD 105 or WELD 150/151; WELD 230.

Layout and fit-up operations will be presented which include selection and use of shop tools and equipment, processing materials, and fabrication safety. Processed parts will be assembled and welded using shop prints with welding symbols.

WELD 240 SHIELDED METAL ARC WELDING II (SMAW) LECTURE

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: WELD141.

Student will learn the theory and techniques of advanced shielded metal arc welding processes. This will include fillet and groove welds in all positions on mild steel and stainless steel plates with stainless steel electrodes. Pipe techniques will also be addressed for welding fillet and groove welds in all positions on carbon steel pipe.

WELD 241 SHIELDED METAL ARC WELDING II (SMAW) LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)
Prerequisite: WELD 240.

Student will develop skills using the theory and technique associated with advanced shielded metal arc welding processes. This will include fillet and groove welds in all positions on mild steel and stainless steel plates with stainless steel electrodes. Pipe welding skills will also be developed for welding fillet and groove welds in all positions on carbon steel pipe.

WELD 250 GAS METAL ARC WELDING II (GMAW) LECTURE

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: WELD 151.

Student will learn the theory and techniques of advanced gas metal arc welding processes. This will include fillet and groove welds in all positions on carbon steel pipe and aluminum plate with the different modes of wire transfer. The student will also identify and recommend repairs for given weld defects.

WELD 251 GAS METAL ARC WELDING II (GMAW) LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 250.

Student will develop skills using the theory and techniques of advanced gas metal arc welding processes. This will include fillet and groove welds in all positions on carbon steel pipe and aluminum plate with the different modes of wire transfer. The student will also identify and initiate recommended repairs for given weld defects.

WELD 260 GAS TUNGSTEN ARC WELDING II (GTAW) LECTURE

1 credit. 1 hour. (Lecture 1 HOUR.)
Prerequisite: WELD 161.

Student will learn the theory and techniques of advanced gas tungsten arc welding processes. This will include fillet and groove welds in all positions on carbon steel, aluminum, and stainless steel round tubing. The student will also identify and recommend repairs for given weld defects.

WELD 261 GAS TUNGSTEN ARC WELDING II (GTAW) LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 260.

Student will develop skills using the theory and techniques of advanced gas tungsten arc welding processes. This will include fillet and groove welds in all positions on carbon steel, aluminum, and stainless steel round tubing. The student will also identify and initiate recommended repairs for given weld defects.

WELD 270 FLUX CORE ARC WELDING I (FCAW)

LECTURE

1 credit. 1 hour. (Lecture 1 HOUR.)

Prerequisite: WELD 151 or concurrent enrollment.

Student will learn the theory and techniques of flux cored arc welding, both self-shielded and gas-shielded. This will include fillet welds and groove welds in all positions on carbon steel plates and pipe. The student will also identify and recommend repairs for given weld defects.

WELD 271 FLUX CORE ARC WELDING I (FCAW)

LAB

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

Prerequisite: WELD 270 or concurrent enrollment.

Student will develop skills using the theory and techniques of flux cored arc welding, both self-shielded and gas-shielded. This will include fillet welds and groove welds in all positions on carbon steel plates and pipe. The student will also identify and initiate recommended repairs for given weld defects.

WELD 290 MANAGEMENT SKILLS FOR THE TRADES

3 credits. 3 hours. (Lecture 3 HOURS.)

Prerequisites: WELD 231 and one WELD 100 level lecture & one WELD 100 level lab or entry level requirements of other campus departments.

Student will learn and apply different training methods to meet the requirements of different learning styles. Basic principles of management and the psychology associated with working relationships will be emphasized throughout the course material. Skills in project cost estimation and facilities management will also be developed.

Faculty

Amy Dugen Abma, Nursing
MCC-Penn Valley
B.S., University of Memphis
M.S., Webster University

Zoe L. Albright, English
MCC-Longview
A.A., Cottey College
B.S., University of Idaho
B.A., University of Idaho
M.A., University of London

Kathy Alford, Nursing
MCC-Penn Valley
B.S., Boston College
M.B.A., University of Mary
M.S., University of Mary

Kyle Anderson, Education
MCC-Maple Woods
B.S., University of Central Missouri
M.A., University of Central Missouri
M.Ed., University of Missouri-Columbia

Emily Armstrong, Foreign Language
MCC-Longview
B.A., Truman State University
M.A.E., Truman State University

Hossein Bahmaie, Economics
MCC-Longview
B.S., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City

Angela D. Bahner, Psychology
MCC-Longview
B.A., Lindenwood University
M.A., University of Missouri-Kansas City
Ph.D., University of Missouri-Kansas City

Nicole Baker, Reading
MCC-Blue River
B.A., Syracuse University
M.A., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City
E.S., University of Missouri-Kansas City
Ph.D., University of Missouri-Kansas City

Craig Bartholomaus, English
MCC-Penn Valley
B.A., University of Illinois
M.A., The Ohio State University
Ph.D., University of Colorado

Carlos E. Bass, Art
MCC-Maple Woods
B.A., San Diego State University
M.F.A., California State University

Jenny Beck, Mathematics
MCC-Blue River
M.A., University of Missouri-Columbia

Robin Bellamy, Nursing
MCC-Penn Valley
B.S., Rockhurst University
M.S., University of Central Missouri

Roger Bidwell, Practical Nursing
MCC-Penn Valley
B.S., St. Lukes College of Nursing
M.S., University of Kansas

Christine Biel, Biology
MCC-Maple Woods
B.S., State University of New York at Albany
D.C., Cleveland Chiropractic College

Michele Bilton, Mathematics
B.A., Evangel University
M.S., Missouri State University

Julia Bishop, Psychology
MCC-Maple Woods
B.A., University of Nebraska
M.A., University of Nebraska
Ph.D., University of Nebraska

Mahmoud A. Bishr, Biology
MCC-Penn Valley
B.S., Cairo University
M.S., Northwestern State University
Ph.D., Texas Woman's University

Thomas W. Black, English
MCC-Penn Valley
B.A., University of Michigan-Flint
M.A., Eastern Michigan University

Susan Blaser, Lineman
MCC-Business & Technology
A.A.S., Metropolitan Community College

Beth Bletscher, Mathematics
MCC-Longview
B.S., Emporia State University
M.A., Emporia State University

Daniel Blurton, Automotive
MCC-Longview
B.S., Devry University
M.S., University of Central Missouri

Gretchen Blythe, Counselor
MCC-Longview
B.A., Ottawa University
M.S., Drake University

Diane Boldt, History
MCC-Longview
A.A., MCC-Longview
B.A., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City

Mehdi Borhan, Biology
MCC-Blue River
B.A., University of Kansas
M.A., University of Kansas

Donald J. Box, Physics
MCC-Longview
B.S., University of Kansas
M.S., University of Illinois

Dawn B. Brady, Counselor
MCC-Penn Valley
B.A., Missouri Western State College
M.S., Northwest Missouri State College

Plarenta Bredehoff, Physics
MCC-Penn Valley
B.S., University of Tirana
M.S., University of Central Missouri
Ph.D., Northeastern University

Ayanna L. Bridges, Speech
MCC-Maple Woods
B.A., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City
Ph.D., University of Kansas

James Bryan, Chemistry
MCC-Blue River
A.A., Johnson County Community College
B.S., University of Missouri-Kansas City
M.S., University of Missouri-Kansas City

Dachia Busch, Counselor
MCC-Penn Valley
B.S., Wichita State University
M.Ed., Wichita State University
M.S., Avila University

Jennifer Butler, Mathematics
MCC-Business & Technology
A.S., Butler Community College
B.S., Pittsburg State University
M.S., Pittsburg State University

Lynn M. Canaday, Business
MCC-Blue River
B.S., Columbia College
M.S., Friends University
Ph.D., North Central University

Linda Carter, Librarian
MCC-Maple Woods
B.A., Missouri Western State College
M.A., University of Missouri-Columbia

Cindy L. Castillon, Counselor
MCC-Maple Woods
A.A., Crowder Community College
B.S., Southwest Missouri State University
M.S., Southwest Missouri State University

Brian Chasteen, Counselor
MCC-Penn Valley
A.B., William Jewell College
M.S., Emporia State
Ed.D., University of Missouri-Columbia

Shveta Chaudhary, Chemistry
MCC-Longview
B.S., University of Delphi
Ph.D., University of Delphi

Patricia Chemovitz, Chemistry
MCC-Maple Woods
B.A., Southern Connecticut State College
M.S., Southern Illinois University
Ph.D., University of Missouri - St. Louis

Roger Claypool, Industrial Technology
MCC-Business and Technology
Cert. Metropolitan Community College-KC

James M. Cline, Engineering Technology
MCC-Business & Technology
Chair, Technology
B.S., Pittsburg State University
M.S., Pittsburg State University

David B. Collins, English
MCC-Blue River
M.A., Northwest Missouri State University

Michael J. Connelly, Philosophy
MCC-Longview
B.A., Salisbury State University
M.A., University of Delaware

Timothy J. Conway, English
MCC-Maple Woods
B.S., Auburn University
M.A., Auburn University

Jennifer Copeland, Early Childhood Education and Development
MCC-Penn Valley
Chair, Humanities
B.A., University of Kansas
M.A., University of Missouri, Kansas City

Carol Cordova, Mathematics
MCC-Maple Woods
A.A.S., Metropolitan Community College
B.S., University of Missouri – Kansas City
M.S. University of Missouri – Kansas City

Sara Crosser, Radiologic Technology
MCC-Penn Valley
B.S., Fort Hays State University

William Cue, Speech
MCC-Longview
B.A., Iowa State University
B.B.A., Iowa State University
M.A., Central Michigan University

Karen E. Curls, Criminal Justice
MCC-Penn Valley
A.A., MCC-Penn Valley
B.S., Park College
M.A., Central Missouri State University
Ed.S., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

Terrence Davin, Biology
MCC-Penn Valley
B.S., Pennsylvania State University
M.S., Frostburg State University

Kendall C. Davis, Welding
MCC-Business & Technology
MO Educator Welder/Welding Certificate

Cecil K. Davis Jr., Heating, Ventilation, and Air Conditioning
MCC-Business & Technology

Meskerem Desta, Nursing
MCC-Penn Valley
B.S., University of Kansas
M.S., Mid America Nazarene University

Donna Drake, Counselor
MCC-Blue River
B.A., Fort Hays State University
M.S. Fort Hays State University

Patrick Dryden, Sociology
MCC-Longview
M.S., Iowa State University
Ph.D., University of California - Santa Barbara

Paramjit (Rani) K. Duggal, Biology
MCC-Maple Woods
Chair, Science and Technology
B.S., Rajasthan University, India
M.S., Maharaja Sayajirao University
M.S., Bowling Green State University

Richard Dumler, Engineering Technology
MCC-Business & Technology
B.S., University of Central Missouri
M.S., University of Central Missouri

Edward Durant, Computer Science Information Systems
MCC-Penn Valley
B.A., Westminster College
M.B.A., University of Missouri–Kansas City

Breanne Dustin, Mathematics
MCC-Longview
B.S., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City
M.S., University of Missouri-Kansas City

Joyce Anne Dvorak, English
MCC-Longview
B.S., Northern Illinois University
M.A., Northern Illinois University
Ph.D., Northern Illinois University

Melissa Eaton, Anthropology
MCC-Blue River
Chair, Natural and Social Sciences
B.A., University of Missouri-Columbia
M.A., University of Missouri-Columbia
Ph.D., College of William and Mary

Victorie J. Edwards, Counselor
MCC-Blue River
B.S., Central Missouri State University
M.S., Kansas State University
Ed.D., University of Missouri–Kansas City

Sarah Ekey, Librarian
MCC-Longview
B.A., University of Kansas
M.L.S., Emporia State University

Patricia Elliott, Health Information Technology Management
MCC-Penn Valley
A.A.S., Metropolitan Community College
B.S., University of Mary
M.S., University of Mary
M.Ed., Northern Arizona University

Peter Eskew, Automotive Technology
MCC-Longview
A.A.S, Metropolitan Community College

Sheryl Farnan, Business
MCC-Longview
Interim Chair, Business, Arts and Automotive
B.S., University of Missouri-Columbia
M.B.A., Rockhurst University
Ph.D., Iowa State University

Douglas R. Fishel, Philosophy
MCC-Maple Woods
B.C.M., Friends University
M.M., Southwest Baptist Theological Seminary
M.L.A., Oklahoma City University
M.A., University of Kansas

James L. Frevert, Industrial Technology
MCC-Business and Technology
B.S., University of Central Missouri

Nicole Fuller, Radiologic Technology
MCC-Penn Valley
M.B.A., Avila University

David Gann, Land Surveying
MCC-Longview
Chair, Math, Science & Engineering
B.S., Harvey Mudd
M.S., University of Missouri-Kansas City

Leonard Gardner, Construction Management
MCC-Business and Technology
B.A., Kansas State University
M.S., University of Missouri, Kansas City

Todd Geringer, Health Care Simulation
MCC-Penn Valley
Certification in EMT, Medical Center of Independence
A.A., Metropolitan Community College-Kansas City

Aaron A. Gibbs, Welding
MCC-Business and Technology
A.A.S, Metropolitan Community College - Kansas City

Lyle E. Gibson, History
MCC-Penn Valley
Chair, Social Science
B.A., University of Arkansas
M.A., University of Missouri-Kansas City

Brandon Gillette, Philosophy
MCC-Penn Valley
M.A., University of Kansas
Ph.D., University of Kansas

Kimberly Glackin, Psychology
MCC-Blue River
B.A., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

David C. Grady, Computer Integrated Machining & Manufacturing
MCC-Business & Technology
A.E., Metropolitan Community College

George A. Green Jr., Mathematics
MCC-Blue River
B.S., Alcorn State University
M.S., Alcorn State University

Andrew Greene, Biology
MCC-Penn Valley
Ph.D., Texas A&M University

Christa Gulick, Nursing
MCC-Penn Valley HSI
A.A.S., Metropolitan Community College - Kansas City
M.S., University of Mary

Chris Hacker, Mathematics
MCC-Penn Valley
B.S., University of Missouri- Kansas City
M.S., University of Missouri- Kansas City

Jessica R. Halperin, Sociology
MCC-Maple Woods
B.S., Emporia State University
M.A., University of Missouri- Kansas City

Theresa Hannon, English
MCC-Blue River
B.A., Indiana University
M.F.A., Arizona State University

Courtney Hanway, History
A.A., Metropolitan Community College-Kansas City
B.A., Park University
M.A., Emporia State University

Shari Harden, Biology
MCC-Blue River
B.A., University of Northern Colorado
M.S., Utah State University

Cathy K. Hardy-Parcell, Music
MCC-Longview
B.M.E., Wheaton College
M.M., University of Missouri–Kansas City

Alex W. Harris, Biology
MCC-Longview
A.A., Metropolitan Community College - Kansas City
B.A., University of Missouri – Kansas City
M.S., University of Central Missouri

Ruth E. Heath, Foreign Language
MCC-Penn Valley
B.A., Houghton College
M.A., Bowling Green University
M.A., Middlebury College
Ph. D., Indiana University

Cynthia Heddlesten, Sociology
MCC-Blue River
B.A., University of Missouri- Kansas City
M.A., University of Missouri- Kansas City

Monte Helm, Chemistry
MCC-Longview
Ph.D., Colorado University-Boulder

Cynthia A. Herbert, Computer Science Information Systems
MCC-Longview
B.S., Central Missouri State University
M.S., University of Phoenix

Berg S. Heskin, Mathematics
MCC–Maple Woods
B.A., Park University
M.A., University of Missouri–Kansas City

Rich Higgason, English
MCC-Blue River
Chair, Humanities
B.S., University of Missouri-Columbia
M.A., University of Missouri- Kansas City
Ph.D., Indiana University of Pennsylvania

Terry Hobbs, Mathematics
MCC-Maple Woods
B.S., Harding University
M.S., University of Mississippi

John D. Horn, Geology/GIS
MCC-Maple Woods
B.S., Arkansas Technical University
M.S., University of Arkansas
Ph.D., University of Nebraska

Brian Hurley, Computer Science Information Systems
MCC-Blue River
B.S., Park University
M.P.S., Fort Hays University

Saeeda Irfan, Mathematics
MCC-Maple Woods
B.S., Punjab University, Pakistan
M.S., Quad-e-Azam University, Pakistan
M.Phil., Quad-e-Azam University, Pakistan

Julianne Jacques, Counselor
MCC-Penn Valley
B.S., University of Florida
M.Ed., University of Maryland

Melissa Jaquish, English Second Language
MCC-Penn Valley
B.A., Purdue University
M.A., San Francisco State University

Amber L. Jenkins, Occupational Therapy
MCC-Penn Valley
B.S., University of Kansas
M.L.S., Fort Hays State University

Dennis J. Jirkovsky, Computer Science Information Systems
MCC-Longview
A.A.S., MCC-Maple Woods
B.S., Missouri Western College
M.B.A., Rockhurst College

Crystal L. Johnson, History
MCC-Maple Woods
B.A., University of Wisconsin-Madison
M.A., University of Kansas
Ph.D., University of Kansas

David Johnson, Fire Science
MCC-Blue River
A.A.S., Metropolitan Community College

Jennifer B. Johnson, Mathematics
MCC-Longview
B.S., University of Central Missouri
M.A., Avila University

Rebecca L. Johnson, Music
MCC-Blue River
A.A., McCook Community College
B.A., University of Northern Colorado
M.M., University of Nebraska
D.M.A., University of Missouri-Kansas City

Dan Justice, Engineering
Chair, Science, Math, and Engineering
MCC-Penn Valley
B.S., University of Missouri–Rolla
M.S., University of Texas
Ph.D., University of Texas

Helina Kebede, Practical Nursing
MCC-Penn Valley HSI
B.S., University of Kansas
M.S., Fort Hays State University

Randy Kidd, Business
MCC-Longview
B.S., University of Kansas
M.B.A., Central Missouri State University

Jill S. Kingsbury, Economics
MCC-Maple Woods
B.A., University of Missouri-Columbia
M.A., University of Missouri-Columbia
J.D., University of Missouri-School of Law-Columbia

Patrick Kirkwood, History
MCC-Blue River
Ph.D., Central Michigan University

Elisabeth Koch, Occupational Therapy
MCC-Penn Valley
B.A., University of Missouri–Kansas City
M.O.T., Rockhurst University

Keet Kopecky, Biology
MCC-Longview
B.S., University of Missouri–Kansas City
M.S., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

Michael Korklan, Librarian
MCC-Penn Valley
B.Ed., University of Missouri–Columbia
M.A., University of Missouri–Columbia
M.A., University of Missouri–Columbia

Brenda Kotar, Nursing
MCC-Penn Valley
M.S., University of Mary

Heidi K. Kuster, Biology
MCC-Penn Valley
B.S., University of Kansas
M.A., University of Kansas

DaeKeun Kwon, Chemistry
MCC-Maple Woods
B.S., Korea University
M.S., Korea University
Ph.D., University of Michigan

Nic La Hue, Mathematics
MCC-Penn Valley
A.S., Kansas City Kansas Community College
B.S., Kansas State University
M.S., University of Missouri–Kansas City

Perri L. Lampe, Political Science
MCC-Maple Woods
B.A., William Woods College
M.A., University of Missouri–Columbia

Randall E. Leighton, Physical Therapy
MCC-Penn Valley
B.G.S., University of Kansas
M.S., University of Kansas

Anita Leverich, English
MCC-Penn Valley
B.A., Kansas State University
M.A., Kansas State University
M.F.A., University of Montana

Steven W. Lewis, Biology
MCC-Penn Valley
B.A., University of Kansas
B.S., University of Kansas
M.A., University of Missouri–Kansas City

William G. Loftin, Biology
MCC-Longview
B.S., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City

Leann L. Lotz-Todd, Mathematics
MCC-Longview
B.A., William Jewell College
M.A., University of Missouri–Kansas City

Kimberly A. Luken, Accounting
MCC-Maple Woods
A.A., Muscatine Community College
B.A., University of Northern Iowa
M.A., University of Iowa

Ashley Lynd, English Second Language
MCC-Penn Valley
B.A., University of Kansas
M.A., University of Missouri-Kansas City

Edward Makos, Computer Integrated Machining & Manufacturing
MCC-Business and Technology
A.A.S., Southeast Community College

Diane Martin, Reference Librarian
MCC-Longview
B.L.S., Iowa State University
M.S., Iowa State University
M.A., University of Missouri – Columbia

Roger Massey, Surgical Technology
MCC-Penn Valley
A.A., Naval School of Health Sciences

Deanna Mathison, Speech
MCC-Blue River
B.A., Auburn University- Auburn
M.A., Auburn University-Auburn

Cynthia Maxey-Droege, English
MCC-Maple Woods/Penn Valley
B.A., Columbia College
M.F.A., Queens University of Charlotte

Jeffrey Burke Maxted, Counselor
MCC-Longview
B.A., University of Missouri–Kansas City
M.S., Central Missouri State University

Gary D. May, Computer Science Information Systems
MCC-Maple Woods
B.S., School of The Ozarks, Missouri
M.S., Central Missouri State University
M.A., Webster University

Robyn McGee, English
MCC-Longview
B.A., University of Central Oklahoma
M.A., University of Central Oklahoma
Ph.D., University of Southern Mississippi

Patricia McGovern, History
MCC-Longview
B.S., Arkansas State University
M.A., Arkansas State University
SCCT., Arkansas State University

Rachel M. McGraw, Physical Therapy Assisting
MCC-Penn Valley
B.S., Rockhurst University
M.S., Rockhurst University

Lisa McGuire, EMS
MCC-Penn Valley
B.S., Georgia Southwestern State University

Patricia McKeown, English
MCC-Longview
B.A., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City

Zack K. McNeil, Business
MCC-Longview
B.B.A., Mount Mercy College
M.B.A., Penn State University

Victor Meledge-Ade, Geography/GIS
MCC-Longview
A.S., Colorado Technical University
B.S., Colorado Technical University
M.S., South Dakota State University

Katherine Melles, English
MCC-Blue River
B.J., University of Missouri – Columbia
M.S., Baker University
M.A., University of Missouri – Kansas City

Kelsey Merrigan, Engineering Technology
MCC-Business and Technology
B.S., University of Central Missouri
M.B.A., University of Missouri – Kansas City

Amanda Merryman, Biology
MCC-Longview
A.G.S., Mesa Community College
B.S., Arizona State University
M.Ed., Arizona State University
M.S., Texas A&M University-Corpus Christi

Ashley Meyer, English
MCC-Penn Valley
B.A., Eastern Illinois University
M.A., Eastern Illinois University

Marcus Million, Engineering Technology
MCC-Business and Technology
AAS, Metropolitan Community College

Gregory A. Mitchell, Mathematics
MCC-Penn Valley
B.S., University of Missouri–Rolla
M.S., University of Missouri–Columbia

James R. Moes, Business
MCC-Maple Woods
Chair, Social Science, Business
B.A., Coe College-Cedar Rapids
M.S., St. Ambrose University
M.B.A., St. Ambrose University

Chad P. Montuori, Foreign Language
MCC-Maple Woods
B.A., University of New Mexico
M.A., University of Missouri–Columbia
P.h.D., University of Missouri–Columbia

Crystal G. Moore, History
MCC-Maple Woods
B.A., University of North Carolina at Chapel Hill
M.A., University of North Carolina at Matthews

Richard Randall Moore, History
MCC-Longview
Chair, Social Science
B.A., Virginia Wesleyan College
M.A., University of Richmond
Ph.D., University of South Carolina

William P. Morgan IV, Mathematics
Chair, Math, Physics, and Communications
MCC-Maple Woods
B.S., Missouri State University
M.S., University of Arkansas

Christopher C. Morrow, Veterinary Technology
MCC-Maple Woods
D.V.M., University of Missouri-Columbia

LeeAnn Motko, Surgical Technology Instructor
MCC-Penn Valley
A.A.S., Metropolitan Community College

Charissa Motley, English
MCC- Maple Woods
A.A., Springfield College
B.A., University of Illinois
M.A., DePaul University

James J. Murray III, Music
MCC-Maple Woods
B.S., William Jewell College
M.M., University of Denver

Melissa J. Napper, Computer Science Information Systems
MCC-Blue River
A.A., MCC-Longview
B.S., Park College
M.Ed., University of Missouri-Columbia

Ansa Naseeb, Mathematics
MCC-Penn Valley
B.S., University of Punjab
B.E., University of Pakistan
M.S., University of Pakistan

Meghan Nichols, Early Childhood Education and Development
MCC-Penn Valley
B.A., Hollins University
M.A., University of Iowa, Iowa City
M.F.A., University of Iowa, Iowa City

Erin Niederberger, Librarian
MCC-Maple Woods
B.A., University of Missouri–Columbia
M.L.A., University of Missouri–Columbia

Anne E. Nienhueser, Physics
MCC-Longview
B.S., University of Missouri–Columbia
M.S., University of Missouri–Kansas City

Millie Nottingham, Reading
MCC-Penn Valley
B.A., Ottawa University
M.Ed., Rockhurst University

Charlotte Paige, Nursing
MCC-Penn Valley
A.A., Metropolitan Community College
B.S., Graceland University
M.S., Graceland University

Jason R. Pallett, Distance Education
MCC-Administrative Center
B.S., University of Tulsa
M.S., University of Tulsa

David A. Patience, Automotive
MCC-Longview
B.A.S., Sienna Heights University

Matthew Patterson, Health Information Management
MCC-Penn Valley
A.A.S., Concorde

Rory Perrodin, Automotive
MCC-Longview
A.A.S., Dodge City Community College
B.S., Pittsburg State University
M.S.VTE., Pittsburg State University

Charles Perry, Fire Science
MCC-Blue River
M.P.A, Golden Gate University

Carol Pflum, Engineering
MCC-Longview
B.S., University of Missouri- Rolla
M.S., Missouri University of Science & Technology

Carrie L. Pickereel-Brooks, Education
MCC-Penn Valley
B.S., Northwest Missouri State University
M. Ed., University of Hawaii
Ed. D., University of Houston

Angela A. Pons-Sepsis, Health Clinical
MCC-Penn Valley
B.S., University of Kansas
M.S., University of St. Mary
M.B.A., University of St. Mary

Michelle A. Potts, English Chair
MCC-Maple Woods
Chair, Humanities
B.A., Park College
M.A., University of Missouri–Kansas City

Russell T. Powlas, Education
MCC-Longview
B.S., University of Kansas
M.S., University of Kansas

Carl Priesendorf, Geology/Geography
MCC-Longview
A.A., State Fair Community College
B.S., Central Missouri State University
M.S., University of Missouri–Columbia

Scott E. Quinton, Biology
MCC-Maple Woods
B.A., University of Louisville
M.A., University of Arkansas
Ph.D., University of Kentucky

Ann M. Raab, Anthropology
MCC-Longview
B.A., Avila University
M.A., California State University
Ph.D., University of Kansas

Raymundo E. Ramirez, Biology
MCC-Maple Woods
B.A., University of Missouri – Kansas City
M.D., University of Missouri – St. Louis

Kristi K. Reid, Mathematics
MCC-Longview
A.A., Barton County Community College
B.S., Fort Hays State University
M.A., University of Missouri–Kansas City

Daniel L. Reneau, Art
MCC-Longview
B.F.A., Kansas City Art Institute
M.F.A., California College of the Arts

Melissa K. Renfrow, English
MCC-Maple Woods
B.A., University of Missouri–Columbia
M.A., University of Colorado–Denver
Ph. D., University of Kansas

Jared Rinck, Librarian
MCC-Blue River
B.S., Central Missouri State University
M.A., Central Missouri State University
M.A., University of Missouri- Columbia

Deah Robinson, Counselor
MCC-Longview
B.S., Kansas State University
M.S., Kansas State University

Clayton Robinson, Jr., Counselor
MCC-Maple Woods
M.A., Webster University

Jan Rog, English
MCC-Longview
M.A., Arizona State University

Jennifer Rogers, Spanish
MCC-Blue River
B.A., University of Missouri–Columbia
M.A., University of Missouri–Columbia

Je-Anne Rueckert, Building Maintenance and Construction
MCC-Business and Technology
A.A.S., Metropolitan Community College

Gina Sanders, Sociology
MCC-Penn Valley
A.A., Metropolitan Community College
B.A., University of Missouri - Kansas City
M.A., University of Missouri - Kansas City

Samantha Satterfield, Physical Therapy Assistant
MCC-Penn Valley
B.S., University of Kansas
M.S., University of Kansas
D.P.T., University of Kansas

Susan E. Satterfield, English
MCC-Longview
A.A., MCC-Longview
B.A., Central Missouri State University
M.A., Central Missouri State University

George Schmitt, Heating, Ventilation, and Air Conditioning
MCC-Business and Technology
HVAC Technician Certification, EPA

Stephanie Schoening, Counselor
MCC-Longview
B.A., Buena Vista University
M.A., Buena Vista University

Jerin Schreiber, Computer Science
MCC-Business and Technology
B.S., Park University

Deborah A. Scott, Political Science
MCC-Penn Valley
B.A., Columbia College-Columbia Mo.
M.A., American University-Washington D.C.

Aisha Sharif, English
MCC-Longview
B.A., Rhodes College
M.F.A., Indiana University

David Sharp, English
MCC-Maple Woods
B.A., University of Missouri–Columbia
M.A., University of Missouri–Columbia

John F. Shively, Political Science
MCC-Longview
B.A., University of Missouri-Kansas City
M.A., University of Missouri-Kansas City
M.A., Washington University

Cebra Sims, Psychology
MCC-Penn Valley
B.S., University of Kansas
M.A., University of Kansas
M.A., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

DeAnna Skedel, Art
MCC-Blue River
B.F.A., University of Akron
M.F.A., Art Institute of Chicago

Clarence Smith, Music
MCC-Penn Valley
B.Ed., Central Methodist College
M.Ed., Lesley University

Rachel E. Smith, Biology
MCC-Blue River
B.A., University of Missouri–Columbia
B.S.B.A., University of Missouri–Columbia
D.V.M., University of Missouri–Columbia

Kenneth L. Snell, Biology
MCC- Maple Woods
B.S., University of Missouri–Kansas City
M.S., Central Missouri State University

William Soly, English
MCC-Blue River
B.A., Columbia College Chicago
M.F.A., University of Montana, Missoula

Lisa Spaulding, English
MCC-Penn Valley
B.A., Westminster College
M.A., University of Nebraska–Lincoln
Ph. D., University of Nebraska–Lincoln

Eric Sullivan, English
Interim Chair, Communications
MCC-Longview
B.A., University of Michigan
M.A., The California State University

Diane Sweet, Mathematics
MCC-Longview
B.S.Ed., University of Missouri-Columbia
M.S., University of Missouri-Columbia

Michael E. Sweetland, Chemistry
MCC-Penn Valley
B.S., Saint Norbert College
M.S., University of Pittsburg

Zouhair Tamsamani, Mathematics
MCC-Longview
B.S., University of Mohammed
V M.S., Paul Sabtier University
Ph.D., Paul Sabtier University

Gina M. Taylor, Nursing
MCC-Penn Valley HSI
B.S., Webster University
M.S., Webster University
D.N.P., Capella University

Douglas A. Thompson, Criminal Justice
MCC-Blue River
A.A., Metropolitan Community College
Certificate, University of Virginia

Michael R. Thome, Heating, Ventilation, & Air
Conditioning
MCC-Business & Technology
Certificate in Heating and Refrigeration

Jason R. Thornley, Biology
MCC-Longview
B.S., Illinois State University
D.C., Palmer College of Chiropractic

Billi Tiner, Biology
MCC-Maple Woods
D.V.M., Oklahoma State University

Lavon M. Tonga, Biology
MCC-Longview
B.F.A., Kansas City Art Institute
M.F.A., University of Miami
Ph.D., University of Missouri—Kansas City

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

Keith Townsend, Speech and Theater
MCC-Longview
A.A., State Fair Community College
B.S., Eastern Mexico University
M.A., University of Texas-El Paso

Lee Townsend, Nursing
MCC-Penn Valley
B.S.N., Arkansas State University
M.S.N., Arkansas State University

Andrea Trejo, Nursing
MCC-Penn Valley
B.S.N., Rockhurst University
M.S.N., Western Governors University

Rick H. Turner, Criminal Justice
MCC-Longview
B.A., University of Nebraska
M.A., University of South Carolina

Handady H. Udupa, Dental Assisting
MCC-Penn Valley
B.D.S., Bangalore University-Bangalore, India

Andrea L. Vorwerk, Mathematics
MCC-Maple Woods
B.A., William Jewell College
M.S., University of Missouri-Rolla

Dondi Walker, Mathematics
MCC-Penn Valley
M.S., University of Missouri-Columbia

Lee Jae Wansing, Nursing
MCC-Penn Valley
A.A., University of Mary
M.S.N., University of Mary

Michael Warren, English
MCC-Maple Woods
B.A., University of Kansas
M.F.A., University of Montana
M.A., University of Central Missouri

Eric Wehmueller, Industrial Technology
MCC-Business & Technology
A.A.S., Metropolitan Community College-Kansas City
A.E., Metropolitan Community College-Kansas City

Matthew R. Westra, Psychology
MCC-Longview
A.A., Golden West College
B.A., California State University—Fullerton
M.S., California State University—Los Angeles

Floyd Kim Wilcox, Speech
MCC-Penn Valley
B.A., University of Missouri—Kansas City
M.A., University of Missouri—Kansas City
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., Washing University
B.S.N., University of Kansas
M.S.N., University of Kansas

Jeffrey C. Wilt, Counselor
MCC-Maple Woods
B.A., University of North Carolina—Chapel Hill
M.S., University of North Carolina—Greensboro

Cheryl Winter, Mathematics
MCC-Blue River
*Chair, Business Technology, Mathematics
and Public Safety*
A.A., Metropolitan Community College
B.A., Avila College
M.S., Central Missouri State University

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 and Theater
MCC-Maple Woods
B.A., Arkansas State University
M.A., Arkansas State University

Dempsey A. Yearry, Computer Science Information
Systems
MCC-Maple Woods
B.S., DeVry Institute of Technology
M.S., Western Governor's University

William Young, History
MCC-Maple Woods
B.A., Iowa State University
M.A., Iowa State University

Stephanie Zerkel-Humbert, English
MCC-Maple Woods
B.S.E., University of Arkansas-Little Rock
M.A., University of Arkansas -Little Rock

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 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 (AAS) degree prepares students for various career and technical programs.

ASSOCIATE IN ARTS. MCC's Associate in Arts (AA) 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 60 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 (AE) degree is a program that prepares students to transfer to a four-year college or university offering a Bachelor of Science degree in Engineering.

ASSOCIATE IN SCIENCE. The Associate in Science (AS) degree program prepares students to transfer to a four-year college or university to major in biology, chemistry, or pre-professional studies – health sciences emphasis.

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.)

CAREER AND TECHNICAL EDUCATION. Career and Technical Education programs provide students with rigorous preparation for high demand occupations.

CAREER AND TECHNICAL PROGRAMS. MCC offers career and technical programs that prepare students for specific occupations. Options may include an associate in applied science degree, a certificate, or individual courses to build job-related skills.

CATALOG NUMBER. Each course offered by MCC is identified by three or four letters and three numbers. For example, PSYC 140 is 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 completion as well as certificate programs that include only 12 to 20 credits hours.

COLLEGE 100. COLL 100 is a one credit hour course designed to help students adjust to the MCC community, develop a better understanding of the learning process, and acquire essential academic survival skills. The course should be completed during students' first enrolled semester.

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 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.

CORE 42. A statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge and facilitate the transfer of those credits among Missouri's public institutions of higher education.

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 non-college 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 a 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 associates degree at the end of a program requiring a minimum of 60 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, degrees, 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.

GLOBAL DIVERSITY. A Global Diversity course addresses two of the following factors:

- The behavior, ideals, values and beliefs of diverse groups of people, and a cognitive awareness of the student's own perspective as it relates to other groups and societies.
- The sources of emotion, community, commonality, and conflict associated with diversity factors including race, ethnicity, gender, religion, sexual orientation, and political ideology.
- Groups historically excluded from the dominant culture.
- At least 50% of the course content reflects the international nature of the course including international events, current or historical and relevant geographical knowledge.

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.

Grade	Scholarship Points Per Credit Hour
A	4
B	3
C	2
D	1
F	0
W (withdrawal)	0
S (satisfactory)	0
U (unsatisfactory)	0
P (passing)	0
Au (audit)	0

For example, during one semester if a student made the following grades in the following courses, the GPA would be 2.7.

Credit Hours	Grade	Scholarship Points
BIOL 101 5	A	20
ENGL 101 3	C	6
HIST 1203	B	9
MATH 120 3	D	3
TOTAL 14		38
38 divided by 14 = 2.7		

GRADING STANDARDS. These are values assigned to letter grades for the purpose of computing a student’s grade point average. (See Grade Point Average.)

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.

HYBRID. Courses in which some portion of classroom instruction is replaced with online activities. These courses require classroom attendance on campus.

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 colleges provide 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.

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 is comprised of MCC-Blue River, MCC- Longview, MCC-Maple Woods, MCC-Penn Valley, and MCC-Business & Technology. The District's legal name is the Junior College District of Metropolitan Kansas City, Missouri.

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. MCC grants admission and enrollment to students outside the state of Missouri through the National Council for State Authorization Reciprocity Agreements (NC-SARA). To learn more about member states please check www.mhec.org/sara.

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.

PROFESSIONAL EDUCATION. These are both credit and noncredit courses, seminars, workshops and other educational activities offered by MCC that traditionally target adults.

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.

RECOMMENDED ELECTIVES. A student may take any 100 level course or above to satisfy the elective requirements for the AA. Courses designated with * could be used to fulfill the general education requirements, or elective requirements, but the same course cannot be used to fulfill both. Recommended electives are lists of suggested courses designed to help students gain expertise in a specific area of study while pursuing the AA. These courses are not guaranteed to transfer. Students should consult with advisors at MCC and the receiving institutions.

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.

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.

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 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.

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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