

#BeMoreAtMCC

**MORE THAN A  
BRIGHT FUTURE .**



# ACADEMIC CATALOG 2018-2019

Preparing students, serving communities, creating opportunities.



Metropolitan  
Community College



BLUE RIVER  
BUSINESS & TECHNOLOGY  
LONGVIEW  
MAPLE WOODS  
PENN VALLEY  
ONLINE

[mccckc.edu](http://mccckc.edu)

|   |     |
|---|-----|
| Academic Calendar .....                                     | 7   |
| All Roads Lead to MCC .....                                 | 8   |
| MCC Mission .....   | 9   |
| Our History.....  | 10  |
| Scholarships .....  | 11  |
| Admission Information .....                                 | 12  |
| Financial Information.....                                  | 19  |
| Academic Information .....                                  | 21  |
| Student Services.....                                       | 26  |
| General Information .....                                   | 30  |
| Workforce Development & Business Services.....              | 37  |
| Community Education.....                                    | 39  |
| Transfer Degree Programs .....                              | 40  |
| Missouri Higher Education Core Curriculum Transfer Act..... | 42  |
| Career & Technical Degrees & Certificates.....              | 62  |
| Course Descriptions .....                                   | 199 |
| Executive Cabinet.....                                      | 320 |
| Administration .....  | 320 |
| Faculty.....  | 321 |
| Emeriti* .....  | 327 |
| Glossary of Academic Terms.....                             | 338 |

# Letter from the Chancellor

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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 MOVE<sup>2</sup>!**

Sincerely,



Dr. Kimberly Beatty  
Chancellor, Metropolitan Community College

# Board of Trustees

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Sandra Garcia Esq., Chief Legal Officer

(Vacant), President, MCC-Blue River and Business & Technology



Dr. Utpal Goswami, President, MCC-Longview



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

(Vacant) Vice Chancellor of Instruction and Chief Academic Officer

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## Metropolitan Community College Catalog 2019-2020

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 2018-19 academic year and for any Metropolitan Community College student returning in the 2018-19 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 (HLC). HLC is an independent corporation and one of two commission members of the North Central Association of Colleges and Schools (NCA), which is one of six regional institutional accreditors in the United States. The Higher Learning Commission accredits degree-granting post-secondary educational institutions in the North Central region.

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](mailto:info@hlcommission.org)

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# Academic Calendar

| Fall Semester                                  | 2018                           |
|--|--------------------------------|
| New full-time faculty orientation              | Friday, August 17              |
| New adjunct faculty orientation                | Saturday, August 18            |
| Faculty Professional Development Day           | Monday, August 20              |
| District In-service                            | Tuesday, August 21             |
| First date for day and evening classes         | Wednesday, August 22           |
| First date for Saturday classes                | Saturday, August 25            |
| Labor Day holiday, no classes, day and evening | Monday, September 3            |
| On-schedule state aid day                      | Tuesday, September 18          |
| Midterm  | Friday, October 12             |
| Second 8-week classes begin                    | Monday, October 15             |
| Last date to withdraw without assessment       | Wednesday, November 14         |
| Thanksgiving holiday, no classes               | November 21-November 23        |
| Classes resume                                 | Monday, November 26            |
| Last date for Saturday classes                 | Saturday, December 15          |
| Last date for day and evening classes          | Monday, December 10            |
| Final exams, day and evening                   | December 11,12, 13, 14, 15, 17 |
| Grading day                                    | Tuesday, December 18           |
| Grades due 9:00 AM                             | Wednesday, December 19         |
| Holiday break, offices closed                  | December 20- January 2         |

| Spring Semester   | 2019                    |
|---|-------------------------|
| Faculty Professional Development Day                        | Thursday, January 10    |
| Faculty Convocation   | Friday, January 11      |
| New full time faculty orientation                           | Friday, January 11      |
| New adjunct faculty orientation                             | Saturday, January 12    |
| First date for classes, day and evening                     | Monday, January 14      |
| First date for Saturday class                               | Saturday, January 19    |
| On-schedule state aid date                                  | Friday, February 8      |
| Martin Luther King Jr. holiday, no classes, day and evening | Monday, January 21      |
| Midterm   | Friday, March 8         |
| Spring break  | March 11-15             |
| Classes resume  | Monday, March 18        |
| Last date to withdraw without assessment                    | Monday, April 15        |
| Last date for Saturday classes                              | Saturday, May 4         |
| Last date for classes, day and evening                      | Monday, May 6           |
| Final exams, day and evening                                | May 7, 8, 9, 10, 11, 13 |
| Grading date  | Tuesday, May 14         |
| Grades due 9:00 AM  | Wednesday, May 15       |
| Commencement  | Thursday, May 16        |

| Summer Semester                                       | 2019              |
|---|-------------------|
| First date for classes, day and evening               | Monday, June 3    |
| Independence Day holiday, no classes, day and evening | Thursday, July 4  |
| Last date to withdraw without assessment              | Thursday, July 11 |
| Last date for classes, day and evening                | Thursday, July 25 |
| Grades due 9:00 AM                                    | Monday, July 29   |

# 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-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-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 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 and women's volleyball teams.

**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

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The Metropolitan Community College Foundation (MCC Foundation) is a non-profit organization that raises and receives private support for Metropolitan Community College. Through the generosity of individuals, businesses and organizations in our community, the MCC Foundation provides stewardship for more than 200 scholarships, endowments and student support programs that enable our students to achieve the goal of a college education regardless of their financial means.

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](http://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

The MCC Foundation oversees more than 200 scholarships and endowments. General eligibility requirements for scholarships may be found on our website at [www.mcckc.edu/scholarships/](http://www.mcckc.edu/scholarships/).

When applying for scholarships be sure to **apply early** and be sure your application is complete. You can apply online at [www.mcckc.edu/scholarshipsearch](http://www.mcckc.edu/scholarshipsearch). 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 considered. Be sure to check your Student Center "TO DO" list to ensure your application is complete.

You may apply for as many scholarships as you like, and you may be selected for more than one MCC Foundation scholarship. However, the MCC Board of Trustee policy has limits on "Institutional" fee-paying scholarships.

We encourage you to apply and complete your applications and Student Center "TO DO" list by the priority dates:

Summer: May 1  
Fall: May 30  
Spring: November 30

# 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

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](http://www.mcckc.edu/apply). Once MCC processes your application you are admitted to the college. Some MCC 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 <http://www.mcckc.edu/pdf/degrees/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.

### Applied Language Institute

The Applied Language Institute offers comprehensive English as a Second Language instructional programs for academic, personal or professional reasons. Grammar, composition, reading/vocabulary and speaking/listening classes are available at the beginning, intermediate and advanced levels. Day and evening sections are offered. Students wishing to attend ESL classes must take the placement test.

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 2
  - Summer Semester (June-July) May 15

For more information visit [www.mcckc.edu/international](http://www.mcckc.edu/international).

## Placement Testing

To help students succeed, most MCC students must take placement tests in reading, writing, and mathematics.

Placement tests are required for the following groups of students:

1. All first-time students taking six or more credit hours.
2. Students who are not graduates of an accredited secondary school or who do not have a 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 take the Reading placement exam 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 tested previously who plan to enroll in reading, English, or math classes.

### Additional Notes:

- Visiting students who have approval for enrollment from their home college will not be required to take the placement test.
- If a student has taken the ACT examination in the last three years, he or she may be able to use those scores in place of parts of the placement test. The student must submit the ACT scores to MCC. The student may bring an official score report when they come to test.
- It is recommended that all non-native speakers of English contact the Applied Language Institute for further guidance on ESL placement.
- Students with disabilities who need testing accommodations must contact the DSS Office before scheduling their placement tests.

Based on their test scores, all students will be placed in the appropriate reading, English, and math classes. Students with below college-level scores are required to take classes designed to improve their reading, writing, or math skills. The reading, English, and math departments have set MCC's required entry-level standards for students. Students who wish to appeal these standards should contact the appropriate department chair.

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](http://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.<br>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. <a href="http://www.mhec.org/sara">www.mhec.org/sara</a>   |

### 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.<br>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.  |
| <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.<br>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.  |

The following individuals shall be charged a rate of tuition not to exceed the in-state rate for tuition and fees purposes:

- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in Missouri while attending a school located in Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge or release 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 Missouri while attending a school located in Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from 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 release as described above and must be using educational benefits under either chapter 30 or chapter 33, of title 38, United States Code.
- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in Missouri while attending a school located in Missouri (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 G.I. Bill benefits (38 U.S.C. § 3319) who lives in Missouri while attending a school located in Missouri (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty.
- The policy shall be read to be amended as necessary to be compliant with the requirements of 38 U.S.C. 3679(c) as amended.

## 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 the credit bureau reporting.

### 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](http://www.mcckc.edu/pay/paymentoptions).

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 customized plans are available through the Delinquent Accounts department.

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**

Checks returned by the bank due to insufficient funds are deposited a second time. If the check is returned again, your account is placed on restriction and is charged the amount of the check plus a \$25 fee. Students on restriction cannot enroll or receive grades or transcripts. In addition, check-writing privileges on your MCC account are restricted for one year from the point the returned item was paid. Any returned check not paid may involve outside collection actions which includes collection fees and credit reporting.

### **District Residents 65 and Older**

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

### **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 myMCCCKC 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 Alumni Association, by private citizens and civic organizations. See [www.mcckc.edu/financialaid/steps/](http://www.mcckc.edu/financialaid/steps/)

Information is available about student aid programs, their eligibility requirements, how to apply and what expectations and responsibilities recipients must meet. Access the MCC website ([www.mcckc.edu](http://www.mcckc.edu)), visit 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.ed.gov](http://www.fafsa.ed.gov).

To receive financial aid, you are expected to attend all classes on which the financial aid award is based. Award funds may be delayed if you do not attend the first class.

If you stop attending all of your classes before completing 60% of the semester, you will owe money back to federal aid programs.

[www.mcckc.edu/financialaid/faqs/](http://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.<br>(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 [myMCCCKC](http://myMCCCKC).

## 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](http://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 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](http://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. MCC charges no fee for providing transcripts requested.

## **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](http://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 a 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.

## **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 myMCCCKC 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 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](http://www.mcckc.edu/transfers).

### 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](http://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 [mcckcshop.com](http://mcckcshop.com) to see which classes have rental textbooks available.

For more information regarding Follett bookstores and their policies, go to [www.mcckcshop.com](http://www.mcckcshop.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.mcckc.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 MYMCCCKC student portal. A copy of the student e-mail policy is available at [www.mcckc.edu](http://www.mcckc.edu).

## On Campus Wireless Internet Access

All MCC Campuses offer free wifi access to students and guests. Students must complete a one-time set-up process on their wireless device to access their student wifi 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 wifi 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) 604-5491 |
| MCC-Longview              | (816) 604-2254 |
| MCC-Maple Woods           | (816) 604-3192 |
| MCC-Penn Valley           | (816) 604-4293 |

For relay calls, dial 711.

For more information, visit the MCC website at: [www.mcckc.edu/disability](http://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](http://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/](http://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 students a variety of opportunities to participate in intramural and recreational sports. Also, MCC offers intercollegiate athletic teams through the National Junior College Athletic Association (NJCAA). MCC- Blue River is the home of MCC's men's and women's soccer; MCC-Longview: volleyball and women's cross-country; MCC-Maple Woods: baseball and softball; and MCC-Penn Valley: men's and women's basketball.

## **Fitness Centers**

Three of the MCC campuses operate Fitness Centers open to students who pay a small fee to use them each term. All feature cardio and weight equipment, locker rooms, and a variety of fitness, aerobics, and classes.

For more information call:

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

## **Kansas City Area Student Exchange**

If MCC doesn't offer a course a full-time student (one enrolled in at least 12 credit hours) wants to take, then he or she may enroll in that course at another area college without paying additional fees. The following area colleges belong to the Kansas City Area Student Exchange (KCASE): Avila College, Kansas City, Mo.; Kansas City Art Institute, Kansas City, Mo.; Park College, Parkville, Mo.; Rockhurst University, Kansas City, Mo.; and the University of Missouri-Kansas City, Mo. Contact the 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  
Jon Burke, Dean of Student Development,  
20301 E. 78 Highway, Independence, Missouri 64057-2053;  
Telephone (816) 604-6620

MCC-Business & Technology  
Ryan Meador, Dean of Student Development,  
1775 Universal Avenue, Kansas City, Missouri 64120-1318;  
Telephone (816) 604-5229

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

MCC-Penn Valley  
Yvette Sweeney, 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](http://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](http://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](http://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 Office that provides special services for students with documented disabilities. Arrangements can be made for aids and adjustments to help ensure equal access to programs and services. The campus 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,  
2601 NE Barry Road,  
Kansas City, Missouri, 64156-1200  
Telephone: (816) 604-5491

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) 604-3192

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 Development & Business Services

## Short Term Training Programs

MCC is committed to training and developing Kansas City's workforce. Our programs provide job-ready training – whether you are looking to start in a new career or further your skills in your chosen field. We offer convenient, short term schedules throughout the year. MCC focuses on the technical and personal skills that employers want. Our instructors come from industry, providing relevant training that will prepare you for future employment. Here are some highlighted programs (check our website for more information):

### Healthcare

Certified Associate in Healthcare Information and Management Systems (CAHIMS)  
Certified Nurse Assistant (CNA)  
Certified Medication Technician (CMT)  
Community Health Worker  
Healthcare IT Principles  
Level I Medication Aide  
Medical Assistant  
Medical Billing & Insurance  
Pharmacy Technician  
Phlebotomist

### Information Technology

Certified Associate in Healthcare Information & Management Systems  
Comp TIA Strata  
Comp TIA A+  
Comp TIA Net+  
Customer Contact Professional  
Healthcare IT Technician  
Microsoft Office

### OSHA Training Center

All current OSHA Safety Training classes  
Environmental Health and Safety classes  
Career Certifications:

CSHO – Certified Safety & Health Official

- General Industry
- Construction Industry

PSSH – Public Sector Safety & Health

- General Industry
- Construction Industry

SHEP – Safety, Health and Environmental Professional

SSH - Specialist in Safety & Health

- General Industry
- Construction Industry
- Healthcare Industry

## Technical Skills

Electrical Training  
Electronic Assembly and IPC Soldering  
Industrial Electrical/Mechanical Maintenance  
Machining  
Robotics  
Welding

## Transportation and Logistics

CDL-A Truck Driver Training  
CDL-B Truck Driver Training  
CDL-A Refresher  
Warehousing & Forklift Training

## Business Services

### **Customized Training and Services**

For over 30 years, Metropolitan Community College has served Kansas City's workforce needs by directly working with companies to provide customized training programs and consulting services. We are committed to helping companies improve performance in all areas – people, processes, workplace environment – to maximize productivity and ROI. Our performance consultants are experts in their fields, bringing real-world value and relevancy to both front-line workers and executives alike. MCC will customize a solution to meet a company's needs with a variety of delivery options available, including on-site training, online courses or training in any of MCC's state of the art technical labs.

Training and consulting services include but are not limited to:

- Employee Knowledge and Skills Assessment
- Employee and Team Training
- Human Resources
- Leadership
- Learning Management
- Quality Management, including ISO and Lean
- OSHA Training and Safety Management
- Technical Skills, including Machining, Welding, Soldering, Electrical
- Workers Compensation Training and Program Assessment

### **Missouri State Funding**

MCC has partnered with the Missouri Division of Workforce Development to assist companies in applying for state training funds to offer programs designed to meet a company's specific needs. These programs are designed to facilitate training and financially assist employers which are expanding their workforce, locating a new facility in the State of Missouri or relocating a company to Missouri. The training available is as diverse as the companies served. MCC has assisted companies from the following industry sectors to obtain these state funds: healthcare, animal health, manufacturing, energy and green technology, information technology and transportation and logistics. Whether your company is new, expanding or retraining, we have a program that can increase your return on investment and provide you with a skilled workforce.

## Community Education

MCC-Longview

(816) 604-2030; [www.mcckc.edu/lvcommed](http://www.mcckc.edu/lvcommed)

- Adult leisure classes
  - Personal interest
  - Foreign language
  - Computer/technology
  - Health/fitness
  - One-on-One computer training
- ed2go online classes
- Flights of Fancy kite festival
- Reading Horizons (one-on-one reading tutoring)
- College for Kids Summer Programming

MCC-Maple Woods

(816) 604-3022; [www.mcckc.edu/mwcommed](http://www.mcckc.edu/mwcommed)

- College 4 Kids Spring and Summer Programming
- Kansas City Storytelling Celebration first week in November
- Motorcycle Safety basic training and Total Control advanced riding classes March-October
- Ed2Go online community computer and lifelong learning classes

### **Community Education: Leisure and Lifelong Learning**

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

# 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  
816-604-1021

## Scholarship:

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

## 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.

## 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](http://www.mcckc.edu) for more information.

## **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 MyMCCKC.
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!

# Missouri Higher Education Core Curriculum Transfer Act

## 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.

| <b>MOTR #</b>  | <b>MOTR Name of Course</b>        | <b>MCC</b> | <b>MCC Name of Course</b>                  |
|--|-----------------------------------|------------|--|
| <b>Social &amp; Behavioral Sciences &amp; Civics</b>                       |                                   |            |  |
| <b>9 credit hours including at least one American History course</b>       |                                   |            |  |
| MOTR GEOG 101  | World Regional Geography          | GEOG 105   | World Geography                            |
| MOTR GEOG 101  | World Regional Geography          | GEOG 113   | Cultural/Human Geography                   |
| <b>Social &amp; Behavioral Sciences</b>                                    |                                   |            |  |
| MOTR ANTH 101  | General Anthropology              | ANTH 100   | General Anthropology                       |
| MOTR ANTH 201  | Cultural Anthropology             | ANTH 110   | Cultural Anthropology                      |
| 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 PSYC 100  | General Psychology                | PSYC 140   | General Psychology                         |
| MOTR PSYC 200  | Lifespan Human Development        | PSYC 243   | Human Lifespan Development                 |
| MOTR SOCI 100  | General Sociology                 | SOCI 160   | Sociology                                  |
| <b>Civics (American Institutions)</b>                                      |                                   |            |  |
| 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 |
| <b>Written Communications and Oral Communications</b>                      |                                   |            |  |
| <b>9 credit hours (6 Written Communication &amp; 3 Oral Communication)</b> |                                   |            |  |
| <b>Oral Communication</b>  |                                   |            |  |
| MOTR COMM 100  | Fundamentals of Public Speaking   | COMM 100   | Fundamentals of Speech                     |
| MOTR COMM 101  | Introduction to Communications    | COMM 102   | Fundamentals of Human Communication        |
| 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                   |
| <b>Written Communication</b>   |                                   |            |  |
| MOTR ENGL 100  | Composition I                     | ENGL 101   | Composition & Reading I                    |
| MOTR ENGL 200  | Composition II                    | ENGL 102   | Composition & Reading II                   |
| <b>Mathematics</b>   |                                   |            |  |
| <b>3 credit hours</b>  |                                   |            |  |
| MOTR MATH 130  | Statistical Reasoning             | MATH 115   | Statistics                                 |
| MOTR MATH 120  | Mathematical Reasoning & Modeling | MATH 119   | Mathematical Reasoning & Modeling          |
| MOTR MATH 110  | Pre-Calculus Algebra              | MATH 120   | College Algebra                            |
| MOTR MATH 150  | Pre-Calculus                      | MATH 150   | PreCalculus                                |

| <b>MOTR #</b>   | <b>MOTR Name of Course</b>                  | <b>MCC</b> | <b>MCC Name of Course</b>           |
|---|---|------------|-------------------------------------|
| <b>Humanities &amp; Fine Arts</b>                           |   |            |                                     |
| <b>9 credit hours minimum from at least two disciplines</b> |   |            |                                     |
| <b>Western Civilization</b>                                 |   |            |                                     |
| MOTR WCIV 101   | Western Civilization I                      | HIST 133   | Foundations of Western Civilization |
| MOTR WCIV 102   | Western Civilization II                     | HIST 134   | Modern Western Civilization         |
| <b>Humanities</b>   |   |            |                                     |
| MOTR AMLT 101   | American Literature I                       | ENGL 222   | American Literature to 1860         |
| MOTR AMLT 102   | American Literature II                      | ENGL 223   | American Literature 1860-Present    |
| MOTR BRLT 101   | British Literature I                        | ENGL 220   | British Literature to 1750          |
| MOTR BRLT 102   | British Literature II                       | ENGL 221   | British Literature 1750-Present     |
| MOTR LITR 100   | Introduction to Literature                  | ENGL 218   | Introduction to Literature          |
| MOTR LITR 100   | Introduction to Literature – Fiction        | ENGL 214   | Introduction to Fiction             |
| MOTR LITR 100   | Introduction to Literature – Poetry/Drama   | ENGL 216   | Introduction to Drama and Poetry    |
| MOTR LITR 105   | Multicultural Literature – African American | ENGL 260   | African American Literature         |
| MOTR LITR 105   | Multicultural Literature – Latino/Latina    | ENGL 264   | U.S. Latino and Latina Literature   |
| MOTR LITR 105   | 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 200   | World Literature I                          | ENGL 254   | World Literature I                  |
| MOTR LITR 200   | World Literature II                         | ENGL 255   | World Literature II                 |
| MOTR PHIL 100   | Introduction to Ethics                      | PHIL 203   | Ethics                              |
| MOTR PHIL 100   | Introduction to Philosophy                  | PHIL 100   | Introduction to Philosophy          |
| MOTR PHIL   |   | PHIL 148   | Critical Thinking                   |
| MOTR PHIL 101   | Introduction to Logic                       | PHIL 200   | Logic                               |
| <b>Humanities Appreciation</b>                              |   |            |                                     |
| MOTR ART 100  | Art Appreciation                            | ART 108    | Survey of Art                       |
| MOTR ARHS 101   | Art History I                               | ART 150    | History of Art I                    |
| MOTR ARHS 102   | Art History II                              | ART 151    | History of Art II                   |
| MOTR DRAW 100   | Introduction to Drawing                     | ART 110    | Drawing I                           |
| MOTR FILM 100   | Introduction to Film Studies                | COMM 128   | Introduction to Film                |
| MOTR FREN 101   | French I                                    | FREN 101   | Elementary French I                 |
| MOTR LANG 102   | French II                                   | FREN 102   | Elementary French II                |
| MOTR LANG 105   | Foreign Language I                          | ARAB 101D  | Elementary Modern Arabic I          |
| MOTR LANG 105   | Foreign Language I                          | ARAB 101E  | Elementary Modern Arabic I          |
| MOTR LANG 105   | Foreign Language I                          | CHIN 101E  | Elementary Chinese I                |
| MOTR LANG 105   | Foreign Language I                          | CHIN 101D  | Elementary Chinese I                |
| MOTR LANG 105   | Foreign Language I                          | GERM 101   | Elementary German I                 |
| MOTR LANG 106   | Foreign Language II                         | ARAB 102D  | Elementary Modern Arabic II         |
| MOTR LANG 106   | Foreign Language II                         | ARAB 102E  | Elementary Modern Arabic II         |
| MOTR LANG 106   | Foreign Language II                         | CHIN 102D  | Elementary Chinese II               |
| MOTR LANG 106   | Foreign Language II                         | CHIN 102E  | Elementary Chinese II               |
| MOTR LANG 106   | Foreign Language II                         | GERM 102   | Elementary German II                |
| MOTR MUSC 100   | Music Appreciation                          | MUSI 108   | Music Appreciation                  |
| MOTR MUSC 100   | 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       |
| <i>Continued on the following page...</i>                   |   |            |                                     |

| <b>MOTR #</b>   | <b>MOTR Name of Course</b>         | <b>MCC</b> | <b>MCC Name of Course</b>                       |
|---|------------------------------------|------------|---|
| <b>Humanities &amp; Fine Arts (Continued)</b>               |                                    |            |   |
| <b>9 credit hours minimum from at least two disciplines</b> |                                    |            |   |
| <b>Humanities Appreciation (Continued)</b>                  |                                    |            |   |
| MOTR PERF 100   | Creative Writing                   | ENGL 201   | Creative Writing I                              |
| MOTR PERF 100   | Creative Writing – Dramatic Script | ENGL 209   | Creative Writing: Screenwriting                 |
| MOTR PERF 100   | Creative Writing                   | ENGL 210   | Creative Writing: Writing Children's Literature |
| MOTR PERF 100   | Acting I                           | THEA 120   | Acting I  |
| MOTR PERF 100   | Acting I                           | THEA 115   | Acting in a Video and/or Digital Medium         |
| MOTR PERF 102   | Music Performance – Choir          | MUSI 101   | Choir I   |
| MOTR PERF 102   | Music Performance – Band           | MUSI 103   | Concert Band I                                  |
| MOTR PERF 102   | Music Performance – Orchestra      | MUSI 105   | Orchestra I                                     |
| MOTR PERF 102   | Music Performance – Band           | MUSI 134   | Jazz Band I                                     |
| MOTR PERF 104   | Playwriting                        | THEA 121   | Elements of Play Production                     |
| MOTR PERF 105   | Studio Art                         | ART 100    | Art Fundamentals I                              |
| MOTR PERF 105   | Studio Art – Ceramics              | ART 170    | Ceramics I                                      |
| MOTR PERF 105   | Studio Art – Graphic Arts          | GDES 110   | Computers in Design I                           |
| MOTR PERF 105   | Studio Art – Graphic Arts          | GDES 115   | Introduction to Graphic Arts                    |
| MOTR RELG 100   | Philosophy of Religion             | PHIL 101   | Philosophy of Religion                          |
| MOTR SPAN 101   | Spanish I                          | SPAN 101   | Elementary Spanish I                            |
| MOTR SPAN 102   | Spanish II                         | SPAN 102   | Elementary Spanish II                           |
| MOTR THEA 100   | Theatre Appreciation               | THEA 106   | Theater Appreciation                            |
| MOTR THEA 100B  | Children's Theater                 | THEA 116   | Children's Theater                              |
| MOTR THEA 104   | Theater History I                  | THEA 114   | Theater and the Western World                   |
|   |                                    |            |   |

| <b>MOTR #</b>   | <b>MOTR Name of Course</b>                            | <b>MCC</b> | <b>MCC Name of Course</b>                  |
|---|---|------------|--|
| <b>Natural Sciences</b>   |   |            |  |
| <b>7 credit hours minimum including one course with a lab component</b> |   |            |  |
| <b>Lab Courses</b>  |   |            |  |
| MOTR BIOL 001L  | Essentials in Human Biology with Lab (non-majors)     | BIOL 101   | General Biology                            |
| MOTR BIOL 001L  | Essentials in Human Biology with Lab (non-majors)     | BIOL 102   | Environmental Science                      |
| MOTR BIOL 001L  | Essentials in Human Biology with Lab (non-majors)     | BIOL 104   | General Botany                             |
| MOTR BIOL 001L  | Essentials in Human Biology with Lab (non-majors)     | BIOL 106   | General Zoology                            |
| MOTR LIFS 001L  | Essentials in Human Biology with Lab                  | BIOL 110   | Human Anatomy                              |
| MOTR BIOL 001L  | Essentials in Biology with Lab(non-majors)            | BIOL 118   | Introduction to Biology                    |
| MOTR BIOL 100L  | Biology with Lab                                      | BIOL 123   | General Biology for Majors I               |
| MOTR LIFS 100L  | Human Biology with Lab                                | BIOL 210   | Human Physiology                           |
| MOTR CHEM 001L  | Essentials in Chemistry with Lab                      | CHEM 101   | Survey of Chemistry (or CHEM 107?)         |
| MOTR CHEM 001L  | Essentials in Chemistry with Lab                      | CHEM 105   | Introductory Chemistry for Health Sciences |
| MOTR CHEM 001L  | Essentials in Chemistry with Lab                      | CHEM 107   | Preparatory General Chemistry              |
| MOTR CHEM 100L  | Chemistry 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 102   | Historical Geology                         |
| MOTR GEOL 100L  | Essentials in Geology with Lab                        | GEOL 103   | Environmental Geology                      |
| MOTR PHYS 010L  | Essentials in Physical Sciences with Lab              | GEOL 110   | Oceanography                               |
| MOTR PHYS 010L  | Essentials in Physical Sciences with Lab              | GEOL 180   | Energy & the Environment                   |
| MOTR PHYS 001L  | Essentials in Physics with Lab                        | PHYS 101L  | Introductory Physics with Lab              |
| MOTR PHYS 010L  | Essentials in Physical Sciences with Lab (non-majors) | PHYS 104L  | Foundations of Physical Science with Lab   |
| MOTR ASTR 100L  | Astronomy with Lab                                    | PHYS 106L  | General Astronomy with Lab                 |
| MOTE PHYS 100L  | Basic Physics with Lab                                | PHYS 112   | Technical Physics                          |
| MOTR PHYS 100L  | Basic Physics with Lab                                | PHYS 130   | General Physics I                          |
| MOTR PHYS 110L  | Essentials in Physical Science with Lab               | GEOG 110   | Introduction to Meteorology                |
| MOTR PHYS 200L  | Physics with Lab                                      | PHYS 220   | Engineering Physics I                      |
| <b>Non-Lab Courses</b>  |   |            |  |
| MOTR LIFS 100   | Essentials in Human Biology                           | BIOL 120   | Bioethics                                  |
| MOTR LIFS 001   | Essentials in Human Biology                           | BIOL 132   | Human Nutrition                            |
| MOTR PHYS 001   | Essentials in Physics                                 | PHYS 101   | Introductory Physics                       |
| MOTR PHYS 010   | Essentials in Physical Sciences (non-majors)          | PHYS 104   | Foundations of Physical Science            |
| MOTR ASTR 100   | Astronomy   | PHYS 106   | General Astronomy                          |

# 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 Revised 4/2018 (Fall 2018)

| General Education Requirements  | Course Credits | Core 42  | MCC      | Prerequisites  |
|---|----------------|----------|----------|--|
| <b>Social and Behavioral Sciences:<br/>(9 credit hours including one Civics/American Institutions course)</b>           |                | <b>9</b> | <b>9</b> |  |
| ANTH 100 General Anthropology   | 3              |          |          |  |
| ANTH 110 Cultural Anthropology*   | 3              |          |          |  |
| GEOG 105 World Geography*   | 3              |          |          |  |
| GEOG 113 Cultural/Human Geography*  | 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   |
| 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>   |                |          | <b>3</b> |  |
| HIST 120 United States History to 1865  | 3              |          |          |  |
| HIST 121 United States History since 1865   | 3              |          |          |  |
| POLS 136 Introduction to American National Politics   | 3              |          |          |  |
| <b>Oral Communications:<br/>(3 credit hours)</b>  |                | <b>3</b> | <b>3</b> |  |
| 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  |
| COMM 110 Argumentation and Debate   | 3              |          |          | ENGL 90, S or placement score  |
| COMM 204 Small Group Communication  | 3              |          |          | ENGL 90, S or placement score  |
| COMM 223 Interpersonal Relations  | 3              |          |          | ENGL 90, S or placement score  |
| <b>Written Communications:<br/>(6 credit hours)</b>   |                | <b>6</b> | <b>6</b> |  |
| ENGL 101 Composition and Reading I  | 3              |          |          | ENGL 90, S or placement score  |
| ENGL 102 Composition and Reading II   | 3              |          |          | ENGL 101   |
| <b>Natural Sciences:<br/>(7 credit hours from at least 2 disciplines and including one course with a lab component)</b> |                | <b>7</b> | <b>7</b> |  |
| <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 112 Technical Physics  | 5              |          |          | MATH 104   |
| PHYS 130 General Physics I  | 5              |          |          | MATH 130   |
| PHYS 220 Engineering Physics I  | 5              |          |          | MATH 180, co-requisite MATH 190  |

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Associate in Arts Degree (Continued)

| General Education Requirements   | Course Credits | Core 42  | MCC      | Prerequisites                 |
|--|----------------|----------|----------|-------------------------------|
| <b>Natural Sciences (Continued):</b>   |                | <b>7</b> | <b>7</b> |                               |
| <i>Non-Lab Courses:</i>  |                |          |          |                               |
| BIOL 120 Bioethics   | 3              |          |          |                               |
| 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      |
| <b>Mathematical Sciences:<br/>(3 credit hours minimum)</b>   |                | <b>3</b> | <b>3</b> |                               |
| 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<br>(or any MATH course for which Math 115, 119 or 120 is a prerequisite)                    | 3-5            |          |          | MATH 95, C or placement       |
| <b>Humanities and Fine Arts:<br/>(9 credit hours minimum and at least 3 credit hours from each sub-category)</b> |                | <b>9</b> | <b>9</b> |                               |
| <i>Western Civilization</i>  |                |          |          |                               |
| HIST 133 Foundations of Western Civilization   | 3              |          | <b>3</b> |                               |
| HIST 134 Modern Western Civilization   | 3              |          |          |                               |
| <i>Humanities</i>  |                |          |          |                               |
| ENGL 214 Introduction to Fiction   | 3              |          | <b>3</b> |                               |
| 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 148 Critical Thinking   | 3              |          |          |                               |
| PHIL 200 Logic   | 3              |          |          |                               |
| PHIL 203 Ethics  | 3              |          |          |                               |
| <i>Humanities Appreciation</i>   |                |          |          |                               |
| ARAB 101 Elementary Modern Arabic I  | 4-5            |          | <b>3</b> |                               |
| ARAB 102 Elementary Modern Arabic II   | 4-5            |          |          | 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  | 4-5            |          |          |                               |
| CHIN 102 Elementary Chinese II   | 4-5            |          |          | CHIN 101                      |
| COMM 128 Introduction to Film  | 3              |          |          |                               |
| FREN 101 Elementary French I   | 5              |          |          |                               |
| FREN 102 Elementary French II  | 5              |          |          | FREN 101                      |
| GERM 101 Elementary German I   | 5              |          |          |                               |
| GERM 102 Elementary 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                 |
|--|----------------|----------------------|----------------------|-------------------------------|
| <b>Humanities and Fine Arts (Continued):</b>   |                |                      | <b>9</b>             |                               |
| <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 |
| THEA 114 Theater and the Western World   | 3              |                      |                      |                               |
| THEA 116 Children's Theater  | 3              |                      |                      |                               |
| <i>Humanities Appreciation (Continued)</i>   |                |                      |                      |                               |
| <i>Choose only one from this group</i>   |                |                      |                      |                               |
| ART 100 Art Fundamentals I   | 3              |                      |                      |                               |
| ART 110 Drawing I  | 3              |                      |                      |                               |
| ART 170 Ceramics I   | 3              |                      |                      |                               |
| ENGL 201 Creative Writing I  | 3              |                      |                      | ENGL 101                      |
| ENGL 209 Creative Writing: Screenwriting   | 3              |                      |                      | ENGL 101                      |
| ENGL 210 Creative Writing: Writing Children's Literature   | 3              |                      |                      | ENGL 101                      |
| GDES 110 Computers in Design I   | 3              |                      |                      |                               |
| GDES 115 Introduction to Graphic Arts  | 3              |                      |                      |                               |
| MUSI 101 Choir I   | 1              |                      |                      |                               |
| MUSI 103 Concert Band I  | 1              |                      |                      |                               |
| MUSI 105 Orchestra I   | 1              |                      |                      |                               |
| MUSI 134 Jazz Band I   | 1              |                      |                      |                               |
| THEA 115 Acting in a Video and/or Digital Medium   | 3              |                      |                      |                               |
| THEA 120 Acting I  | 3              |                      |                      |                               |
| THEA 121 Elements of Play Production   | 3              |                      |                      |                               |
| <b>Global Diversity:</b>   | <b>3</b>       |                      | <b>3</b>             |                               |
| 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              |                      |                      |                               |
| <b>Additional General Education Electives</b>  |                | <b>Up to 2 hours</b> | <b>Up to 2 hours</b> |                               |
| 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.  |                |                      |                      |                               |
| <b>Total General Education Credit hours</b>  | <b>42</b>      | <b>42</b>            | <b>42</b>            |                               |
| <b>General Degree Requirements</b>   |                |                      |                      |                               |
| COLL 100 First Year Seminar  | 1              |                      |                      |                               |
| Computer Science Requirement (Choose one of the following):<br>CSIS 115 Computer Concepts and Applications (or test out)<br>or<br>CSIS 116, 123, 128, 129, 141, 143, 151, 161, 162, 170, 172, 174, 175, 177, 178, 182, 250; EDUC 280   | 3              |                      |                      |                               |
| Additional Electives for the degree:<br>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.<br><br>A student may apply up to four credit hours selected from music performance courses and up to four hours of credit from physical education activity courses. | 14             |                      |                      |                               |
| <b>Total Credit Hours Required</b>   | <b>60</b>      |                      |                      |                               |

\*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 Revised 2/2017 (Fall 2017)

| COLL 100 First Year Seminar   | 1            |                |  |
|---|--------------|----------------|--|
| General Education Requirements  | Credits      | Semester Taken | Prerequisites  |
| <b>American Institutions: (2 courses, one must be HIST)</b>   |              |                |  |
| HIST 120, 121, POLS 135, 136  | 6            |                |  |
| <b>Communications:</b>  |              |                |  |
| 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         |
| <b>Mathematics:</b>   |              |                |  |
| MATH 119: Mathematical Reasoning and Modeling or higher   | 3-5          |                | MATH 95 with a grade of C or higher or appropriate placement             |
| <b>Humanities: (3 courses, 3 areas of study, 1 course must be Lit. or Phil.)</b>  |              |                |  |
| 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  |              |                |  |
| <b>Natural Sciences: (2 courses, 1 Biological and 1 Physical)</b>   |              |                |  |
| BIOL (Must include laboratory)  | 4-6          |                | See Courses section of this catalog for individual course prerequisites. |
| CHEM, GEOG, GEOL, or PHYS (Must include laboratory)   |              |                |  |
| <b>Social Sciences: (PSYC 140 plus one other area of study)</b>   |              |                |  |
| PSYC 140 and  | 3-4          |                | 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   |              |                |  |
| <b>Total General Education Courses</b>  | <b>42-46</b> |                |  |
| <b>Education</b>  |              |                |  |
| 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   |
| <b>Electives: (courses must be numbered 100 or higher)</b>  |              |                |  |
| 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            |                |  |
| • 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.   |              |                |  |
| <b>Total Credit Hours Required</b>  | <b>63-67</b> |                |  |
| <ul style="list-style-type: none"> <li>All courses must be at least 100 level or higher</li> <li>Students must achieve a minimum GPA of 2.75</li> <li>Students must achieve minimum scores on each section of the MoGEA</li> <li>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.</li> <li>Courses can only be used once to meet degree requirements</li> </ul> |              |                |  |

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

100103 Revised 9/2017 (Fall 2018)

## A.C.S. Computer Science

| COLL 100   | First Year Seminar  | 1       |                |  |
|--|---|---------|----------------|--|
| General Education Requirements   |   | Credits | Semester Taken | Prerequisites  |
| <b>Communications:</b>   |   |         |                |  |
| ENGL 101   | Composition and Reading I   | 3       |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| ENGL 102<br>ENGL 215   | Composition and Reading II or<br>Technical Writing  | 3       |                | ENGL 101   |
| COMM 100   | Fundamentals of Speech  | 3       |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>American Institutions: (Choose one of the following)</b>  |   |         |                |  |
| HIST 120<br>HIST 121<br>POLS 136<br>POLS 137   | United States History to 1865<br>United States History Since 1865<br>Introduction to American National Politics<br>Introduction to State and Local Politics   | 3       |                |  |
| <b>Sciences: (1 course with lab)</b>   |   |         |                |  |
| BIOL 101<br>BIOL 104<br>BIOL 106<br>BIOL 110<br>CHEM 111<br>PHYS 130<br>PHYS 220   | General Biology<br>General Botany<br>General Zoology<br>Human Anatomy<br>General College Chemistry I<br>General Physics I<br>Engineering Physics  | 5       |                | CHEM 107 or high school chemistry & MATH 120 (CHEM 111)<br>MATH 130 (PHYS 130)<br>MATH 190 (PHYS 220)            |
| <b>Western Civilization: (Choose one of the following)</b>   |   |         |                |  |
| HIST 133<br>HIST 134   | Foundations of Western Civilization<br>Modern Western Civilization  | 3       |                |  |
| <b>Social Sciences: (Choose one of the following)</b>  |   |         |                |  |
| ANTH 100<br>ANTH 110<br>ECON 210<br>ECON 211<br>PSYC 140<br>SOC 160  | General Anthropology<br>Cultural Anthropology<br>Macroeconomics<br>Microeconomics<br>General Psychology<br>Sociology  | 3       |                | MATH 85 with a grade of C or higher or appropriate placement (ECON 210 or 211)                                   |
| <b>Humanities: (Choose one of the following)</b>   |   |         |                |  |
| ENGL 218<br>ENGL 220<br>ENGL 221<br>ENGL 222<br>ENGL 223<br>ENGL 268<br>PHIL 100<br>PHIL 200<br>PHIL 203                             | Introduction to Literature<br>British Literature to 1750<br>British Literature 1750 - Present<br>American Literature to 1860<br>American Literature 1860 - Present<br>Women's Literature<br>Introduction to Philosophy<br>Logic<br>Ethics | 3       |                |  |
| <b>Humanities Appreciation</b>   |   |         |                |  |
| 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       |                | ( <a href="http://mcckc.edu/progs/degrees/aa/Appreciation.asp">mcckc.edu/progs/degrees/aa/Appreciation.asp</a> ) |
| 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<br>CSIS 222   | Object Oriented Programming or<br>Object Oriented Programming with Java  | 3         | CSIS 123 and MATH 95 (S or appropriate placement)<br>MATH 104 or higher and CSIS 123  |
| MATH 180   | Analytic Geometry and Calculus I   | 5         | MATH 130 or 150   |
| <b>Program Electives</b>   |  |           |   |
| Choose from the below list of courses. <b>At least 6 hours must have a CSIS designator.</b> Consult with an advisor to determine the best options for transfer.                            |  |           |   |
| CSIS 143<br>CSIS 152<br>CSIS 221<br>CSIS 228<br>CSIS 250<br>CSIS 265<br>CSIS 271<br>CSIS/MATH 141<br>CSIS/MATH 241<br>MATH 115<br>MATH 150<br>MATH 190<br>MATH 210<br>PHYS 220<br>PHYS 221 | Database Design and Management<br>Linux Operating System<br>Introduction to Computer Architecture<br>Advanced Web Development<br>Assembly Language Programming<br>.NET Web Programming with C#<br>Data Structures and Algorithm Analysis<br>Discrete Structures for Computer Science I<br>Discrete Structures for Computer Science II<br>Statistics<br>Precalculus<br>Analytic Geometry and Calculus II<br>Analytic Geometry and Calculus III<br>Engineering Physics I<br>Engineering Physics II | 21        | CSIS 115 with a C or higher<br>CSIS 110<br>CSIS 123 and MATH 120 or 150<br>CSIS 128<br>CSIS 123 with a C or higher<br>CSIS 223<br>CSIS 223 and CSIS/MATH 141<br>MATH 120 or MATH 150<br>CSIS 223 or CSIS/MATH 141<br>MATH 85/95 with a grade of C or higher or appropriate placement (MATH 115)<br>MATH 95 with a grade of C or higher or appropriate placement (MATH 150)<br>MATH 180<br>MATH 190<br>MATH 190<br>MATH 210 and PHYS 220 |
| <b>Total Credit Hours Required</b>   |  | <b>62</b> |   |

# 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 12/2014 (Spring 2015)

| 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 <b>or</b>  | 3       |                |  |
| HIST 121 United States History Since 1865   |         |                |  |
| POLS 136 Introduction to American National Politics <b>or</b>   |         |                |  |
| POLS 137 Introduction to State and Local Politics   |         |                |  |
| 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:<br>(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:<br>HIST 120, HIST 121, ECON 210, ECON 211, POLS 136, POLS 137  | 3       |                |  |
| One (at most) Humanities course from the following:<br>ART 100, ART 103, ART 108, ART 138, ART 150, ART 151;<br>ECED 217; EDUC 215; ENGL 202, ENGL 214, ENGL 216,<br>ENGL 240, ENGL 254, ENGL 262, ENGL 268; HIST 133,<br>HIST 134, HIST 145; HUMN 133, HUMN 134, HUMN 145;<br>MUSI 108, MUSI 160; 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 240                           | Mechanics of Materials                      | 3         |                | ENGR 229  |
| EETC 130                           | Digital Electronics                         | 4         |                | Completion or concurrent enrollment in EETC 110 or INTE 110               |
| EETC 152                           | Engineering Graphics and CADD I             | 5         |                | MATH 95 with C or appropriate placement score                             |
| EETC 271                           | Parametric Modeling, Solidworks             | 3         |                | EETC 152 or concurrent enrollment   |
| GEOL 101                           | Introduction to Geology                     | 5         |                |   |
| MATH 141/<br>CSIS 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         |                |   |
| <b>Total Credit Hours Required</b> |   | <b>74</b> |                |   |

# 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 12/2014 (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><br>HIST 120 United States History to 1865<br>HIST 121 United States History Since 1865<br>POLS 136 Introduction to American National Politics<br>POLS 137 Introduction to State and Local Politics | 6            |                |   |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 or appropriate placement test score   |
| Humanities Elective   | 3            |                |   |
| <b>Specific Program Requirements</b>  |              |                |   |
| BIOL 104 General Botany and<br>BIOL 106 General Zoology or<br>BIOL 123 General Biology for Majors I and<br>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 highschool chemistry and MATH 120   |
| CHEM 112 General College Chemistry II   | 5            |                | CHEM 111  |
| CHEM 221 Organic Chemistry I <b>and</b><br>CHEM 222 Organic Chemistry II<br><b>or</b><br>PHYS 130 General Physics I <b>and</b><br>PHYS 131 General Physics II   | 10           |                | CHEM 112 (CHEM 221)<br>CHEM 221 (CHEM 222)<br>MATH 130 (PHYS 130)<br>PHYS 130 (PHYS 131)  |
| MATH 115 Statistics <b>and</b><br>MATH 120 College Algebra<br><b>or</b><br>MATH 180 Analytic Geometry and Calculus I  | 5-6          |                | MATH 85/95 with a grade of C or higher or appropriate placement (MATH 115)<br>MATH 95 with a grade of C or higher or appropriate placement (MATH 120)<br>MATH 130 or 150 (MATH 180) |
| Electives as needed to reach 60   | 3-6          |                | See Courses section of this catalog for individual course prerequisites.  |
| <b>Total Credit Hours Required</b>  | <b>60-65</b> |                |   |



# 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              | 3            |                |  |
| HIST 121  | United States History Since 1865           |              |                |  |
| POLS 136  | Introduction to American National Politics |              |                |  |
| COMM 100  | Fundamentals of Speech                     | 3            |                | ENGL 90 or appropriate placement test score                      |
| Choose any one guaranteed transfer course (any MOTR or MCC Transfer Library listed courses) |  | 3-5          |                |  |
| <b>Specific Program Requirements</b>  |  |              |                |  |
| CHEM 111  | General College Chemistry I                | 5            |                | CHEM 107 or highschool 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             |
| <b>Total Credit Hours Required</b>  |  | <b>61-63</b> |                |  |

# 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 9/2017 (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 <b>or</b>              | 3         |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |           |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |           |                |  |
| POLS 137  | Introduction to State and Local 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 highschool 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<br>(Twenty hours from approved list)*   |  | 20        |                |  |
| <b>Total General Credit Hours</b>   |  | <b>64</b> |                |  |
| 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   |
| <b>AT MOST one course numbered 100 or above from any of the following designators:</b><br>ANTH, BIOL, CHEM, ECED, EHSS, EMS, HIM, HLSC, OTHA, PNUR, PSYC, PTHA, RATE, RNUR, SOCI, SOWK, SURT        |  |           |                |  |
| <b>AT MOST one course numbered 100 or above from any of the following designators:</b><br>ANTH, ARAB, ART, CHIN, COMM, DANC, EDUC, ENGL, FREN, GERM, HIST, HUMN, MUSI, PHIL, POLS, SIGN, SPAN, THEA |  |           |                |  |

# General Education

## General Education Certificate

306700 Revised 4/2018 (Fall 2018)

| General Education Requirements  | Minimum Credits | Core 42  | MCC      | Prerequisites  |
|---|-----------------|----------|----------|--|
| COLL 100 First Year Seminar   | 1               |          |          |  |
| <b>Social and Behavioral Sciences:<br/>(9 credit hours including one Civics/American Institutions course)</b> |                 | <b>9</b> | <b>9</b> |  |
| 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>   |                 |          | <b>3</b> |  |
| HIST 120 United States History to 1865  | 3               |          |          |  |
| HIST 121 United States History since 1865   | 3               |          |          |  |
| POLS 136 Introduction to American National Politics   | 3               |          |          |  |
| <b>Oral Communications:<br/>(3 credit hours)</b>  |                 | <b>3</b> | <b>3</b> |  |
| 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  |
| COMM 110 Argumentation and Debate   | 3               |          |          |  |
| COMM 204 Small Group Communication  | 3               |          |          |  |
| COMM 223 Interpersonal Relations  | 3               |          |          |  |
| <b>Written Communications:<br/>(6 credit hours)</b>   |                 | <b>6</b> | <b>6</b> |  |
| ENGL 101 Composition and Reading I  | 3               |          |          | ENGL 90, S or placement score  |
| ENGL 102 Composition and Reading II   | 3               |          |          | ENGL 101   |
| <b>Natural Sciences:</b>  |                 | <b>7</b> | <b>7</b> |  |
| <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 112 Technical Physics  | 5               |          |          | MATH 104   |
| 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                 |
|--|-----------------|----------|----------|-------------------------------|
| <b>Natural Sciences (Continued):</b>   |                 | <b>7</b> | <b>7</b> |                               |
| <i>Non-Lab Courses:</i>  |                 |          |          |                               |
| BIOL 120 Bioethics   | 3               |          |          |                               |
| 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      |
| <b>Mathematical Sciences:<br/>(3 credit hours minimum)</b>   |                 | <b>3</b> | <b>3</b> |                               |
| 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<br>(or any MATH course for which Math 115, 119 or 120 is a prerequisite)                    | 3-5             |          |          | MATH 95, C or placement       |
| <b>Humanities and Fine Arts:<br/>(9 credit hours minimum and at least 3 credit hours from each sub-category)</b> |                 | <b>9</b> | <b>9</b> |                               |
| <i>Western Civilization</i>  |                 |          |          |                               |
| HIST 133 Foundations of Western Civilization   | 3               |          |          |                               |
| HIST 134 Modern Western Civilization   | 3               |          |          |                               |
| <i>Humanities</i>  |                 |          |          |                               |
| 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 148 Critical Thinking   | 3               |          |          |                               |
| PHIL 200 Logic   | 3               |          |          |                               |
| PHIL 203 Ethics  | 3               |          |          |                               |
| <i>Humanities Appreciation</i>   |                 |          |          |                               |
| ARAB 101 Elementary Modern Arabic I  | 4-5             |          |          |                               |
| ARAB 102 Elementary Modern Arabic II   | 4-5             |          |          | 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  | 4-5             |          |          |                               |
| CHIN 102 Elementary Chinese II   | 4-5             |          |          | CHIN 101                      |
| COMM 128 Introduction to Film  | 3               |          |          |                               |
| FREN 101 Elementary French I   | 5               |          |          |                               |
| FREN 102 Elementary French II  | 5               |          |          | FREN 101                      |
| GERM 101 Elementary German I   | 5               |          |          |                               |
| GERM 102 Elementary 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               |          |          |                               |

*Continued on next page...*

| General Education Requirements   | Course Credits | Core 42              | MCC                  | Prerequisites                 |
|--|----------------|----------------------|----------------------|-------------------------------|
| <b>Humanities and Fine Arts (Continued):</b>   |                |                      | <b>9</b>             |                               |
| <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 |
| THEA 114 Theater and the Western World   | 3              |                      |                      |                               |
| THEA 116 Children's Theater  | 3              |                      |                      |                               |
| <i>Humanities Appreciation (Continued)</i>   |                |                      |                      |                               |
| <i>Choose only one from this group</i>   |                |                      |                      |                               |
| ART 100 Art Fundamentals I   | 3              |                      |                      |                               |
| ART 110 Drawing I  | 3              |                      |                      |                               |
| ART 170 Ceramics I   | 3              |                      |                      |                               |
| ENGL 201 Creative Writing I  | 3              |                      |                      | ENGL 101                      |
| ENGL 209 Creative Writing: Screenwriting   | 3              |                      |                      | ENGL 101                      |
| ENGL 210 Creative Writing: Writing Children's Literature   | 3              |                      |                      | ENGL 101                      |
| GDES 110 Computers in Design I   | 3              |                      |                      |                               |
| GDES 115 Introduction to Graphic Arts  | 3              |                      |                      |                               |
| MUSI 101 Choir I   | 1              |                      |                      |                               |
| MUSI 103 Concert Band I  | 1              |                      |                      |                               |
| MUSI 105 Orchestra I   | 1              |                      |                      |                               |
| MUSI 134 Jazz Band I   | 1              |                      |                      |                               |
| THEA 115 Acting in a Video and/or Digital Medium   | 3              |                      |                      |                               |
| THEA 120 Acting I  | 3              |                      |                      |                               |
| THEA 121 Elements of Play Production   | 3              |                      |                      |                               |
| <b>Global Diversity:</b>   | <b>3</b>       |                      | <b>3</b>             |                               |
| 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              |                      |                      |                               |
| <b>Additional General Education Electives</b>  |                | <b>Up to 2 hours</b> | <b>Up to 2 hours</b> |                               |
| 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.          |                |                      |                      |                               |
| <b>Total General Education Credit Hours</b>  | <b>42</b>      | <b>42</b>            | <b>42</b>            |                               |
| <b>Total Credit Hours</b>  |                |                      | <b>43</b>            |                               |

# 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 135 Introduction to Political Science                          |     |
| POLS 136 Introduction to American National Politics                 |     |
| POLS 137 Introduction to State and Local Politics                   | 3   |
| Any course(s) numbered 100 or above from the following disciplines: |     |
| ART, ANTH, COMM, ECON, ENGL, Foreign Language,                      |     |
| GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI,          |     |
| PHIL, POLS, PSYC, SIGN, SOOSC, 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.

### State Requirement

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

### Application for a Degree

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

Visit the admissions/records page at [www.mcckc.edu](http://www.mcckc.edu) for more information.

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## Accreditation

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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](http://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.

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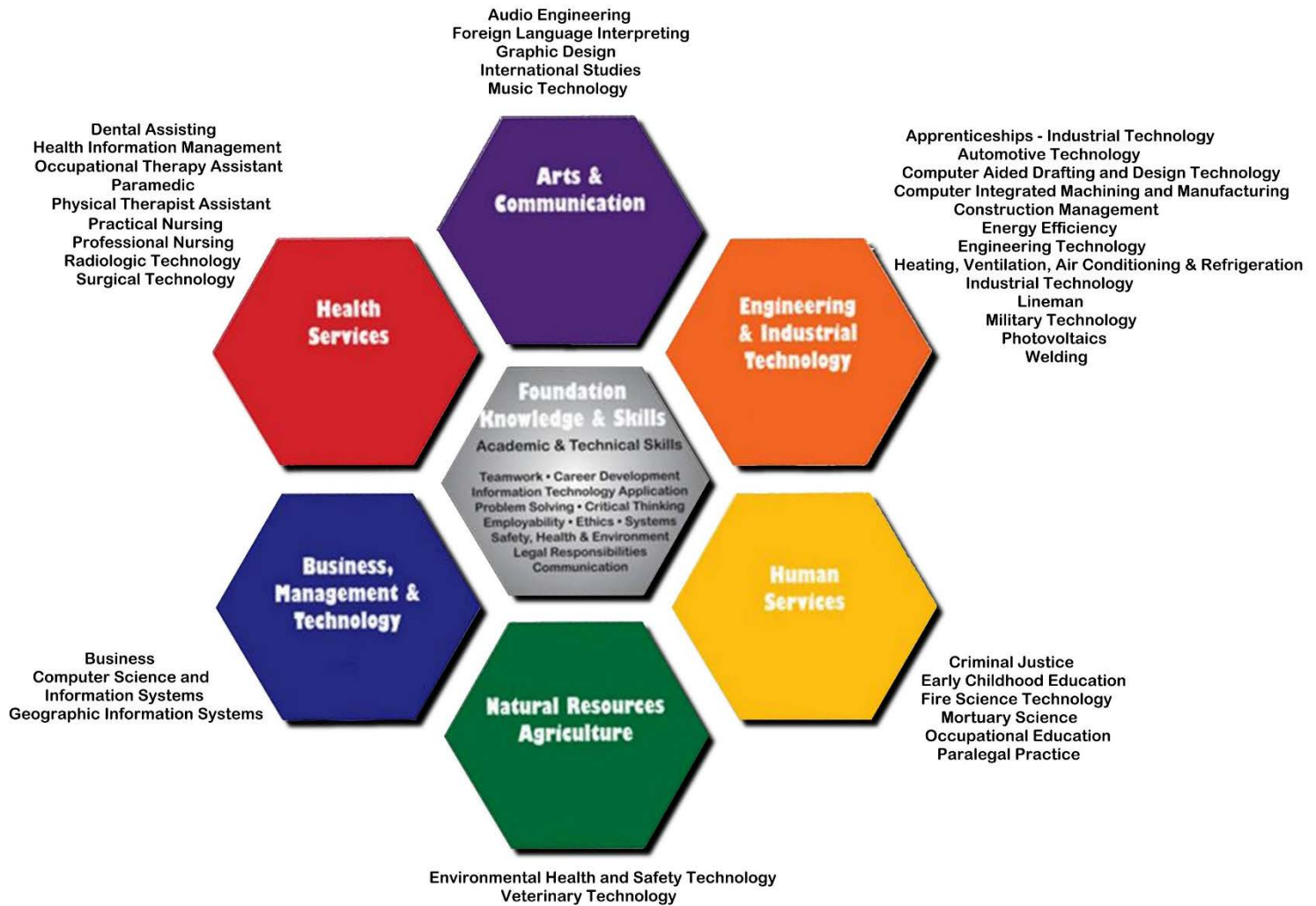
## Program Eligibility

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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   | College                   | Application Information  |
|---|---------------------------|--|
| Dental Assisting  | MCC-Penn Valley           | <a href="http://www.mcckc.edu/dentalassisting">www.mcckc.edu/dentalassisting</a>                           |
| Line Technician   | MCC-Business & Technology | <a href="http://www.mcckc.edu/linetech">www.mcckc.edu/linetech</a>   |
| Fire Academy  | MCC-Blue River            | <a href="http://www.mcckc.edu/firescience">www.mcckc.edu/firescience</a>                                   |
| Ford Automotive<br>Student Service Educational Training     | MCC-Longview              | <a href="http://www.mcckc.edu/automotive">www.mcckc.edu/automotive</a>                                     |
| General Motors<br>Automotive Service<br>Educational Program | MCC-Longview              | <a href="http://www.mcckc.edu/automotive">www.mcckc.edu/automotive</a>                                     |
| Health Information Technology                               | MCC-Penn Valley           | <a href="http://www.mcckc.edu/healthinfotech">www.mcckc.edu/healthinfotech</a>                             |
| Occupational Therapy Assistant                              | MCC-Penn Valley           | <a href="http://www.mcckc.edu/occupationaltherapy">www.mcckc.edu/occupationaltherapy</a>                   |
| Paramedic   | MCC-Penn Valley           | <a href="http://www.mcckc.edu/emt">www.mcckc.edu/emt</a>   |
| Physical Therapist Assistant                                | MCC-Penn Valley           | <a href="http://www.mcckc.edu/physicaltherapy">www.mcckc.edu/physicaltherapy</a>                           |
| Police Academy  | MCC-Blue River            | <a href="http://www.mcckc.edu/policescience">www.mcckc.edu/policescience</a>                               |
| Practical Nursing   | MCC-Penn Valley           | <a href="http://www.mcckc.edu/programs/practicalnursing/">www.mcckc.edu/programs/practicalnursing/</a>     |
| Professional Nursing  | MCC-Penn Valley           | <a href="http://www.mcckc.edu/programs/practicalnursing/">www.mcckc.edu/programs/practicalnursing/</a>     |
| Radiologic Technology                                       | MCC-Penn Valley           | <a href="http://www.mcckc.edu/radiology">www.mcckc.edu/radiology</a>                                       |
| Surgical Technology   | MCC-Penn Valley           | <a href="http://www.mcckc.edu/programs/surgicaltechnology/">www.mcckc.edu/programs/surgicaltechnology/</a> |
| Veterinary Technology                                       | MCC-Maple Woods           | <a href="http://www.mcckc.edu/vettech">www.mcckc.edu/vettech</a>   |

# 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.



# 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<br><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<br>ENGL 215  | Composition and Reading II or<br>Technical Writing   | 3            |                | ENGL 101  |
| COMM 100<br>COMM 223  | Speech or<br>Interpersonal Communications  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score        |
| PSYC 140<br>SOC 160   | General Psychology <b>or</b><br>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            |                |   |
| <b>Specific Program Requirements<br/><i>Must be taken at Kansas City Kansas Community College</i></b> |  |              |                |   |
| 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<br>AUDIO 240<br>AUDIO 258   | Music Technology 2 <b>or</b><br>Sound Editing & Synthesis <b>or</b><br>Applied Audio for Media                                 | 3            |                |   |
| <b>Music Requirements</b><br>The following can be taken at MCC or KCKCC:                              |  |              |                |   |
| AUDIO 101<br>MUSC 111<br>AUDIO 103  | Audio Engineering Music Skills or<br>Music Theory 1<br>Audio Engineering Keyboard Skills or<br>Piano Class or<br>Applied Piano | 4            |                |   |
| <b>Natural and Physical Science Requirements</b>  |  |              |                |   |
| NSAC 130<br>PHYS 101  | Introductory Physics (at KCKCC) or<br>Introductory Physics (at MCC)  | 3-5          |                | MATH 31 with a grade of S or appropriate placement (PHYS 101)           |
| <b>Total Credit Hours Required</b>  |  | <b>62-65</b> |                |   |

# Automotive Technology

Offered at MCC-Longview

## A.A.S. Automotive Technology

|                                   |               |
|-----------------------------------|---------------|
| Collision Repair Technology ..... | 63-69 Credits |
| Ford/ASSET .....                  | 79-83 Credits |
| General Motors/ASEP .....         | 79-83 Credits |
| Mechanical .....                  | 69-73 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 11/2015 (Spring 2016)

| 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 <b>or</b>              | 3            |                |  |
| HIST 121  | United States History since 1865 <b>or</b>           |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137  | Introduction to State and Local Politics             |              |                |  |
| COMM 100  | Fundamentals of Speech <b>or</b>                     | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score |
| COMM 102  | Fundamentals of Human Communication                  |              |                |  |
| <b>GENERAL EDUCATION ELECTIVES:</b>   |  | 3-5          |                |  |
| - One course numbered 100 or above from the following disciplines:<br>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:<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements at Longview</b>  |  |              |                |  |
| 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   |
| <b>Specific Program Requirements</b>  |  |              |                |  |
| <i>Provided by participating articulation agreement schools</i>   |  |              |                |  |
| 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 |
| <b>Total Credit Hours Required</b>  |  | <b>63-69</b> |                |  |
| The <i>Collision Repair Technology Option</i> , which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.                                |  |              |                |  |

# Automotive Technology

## A.A.S. Ford/ASSET Emphasis

200202 Revised 11/2015 (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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137   | United States History to 1865 <i>or</i><br>United States History Since 1865 <i>or</i><br>Introduction to Political Science <i>or</i><br>Introduction to American National Politics <i>or</i><br>Introduction to State and Local Politics | 3            |                |  |
| COMM 100<br>COMM 102   | Fundamentals of Speech <i>or</i><br>Fundamentals of Human Communication  | 3            |                | ENGL 80/90 with a minimum grade of S or appropriate placement score.                                   |
| <b>GENERAL EDUCATION ELECTIVES:</b><br>- One course numbered 100 or above from the following disciplines:<br>ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA<br><br>- One course numbered 100 or above from the following disciplines:<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>  |  | <b>18</b>    |                |  |
| <b>Ford/ASSET</b>  |  |              |                |  |
| 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:<br>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. |
| <b>Total Credit Hours Required</b>   |  | <b>79-83</b> |                |  |

# Automotive Technology

Offered at MCC-Longview

## A.A.S. General Motors/ASEP Emphasis

200206 Revised 11/2015 (Spring 2016)

|  |  |              |                |  |
|--|--|--------------|----------------|--|
| 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 <b>or</b>              |              |                |  |
| HIST 121   | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135   | Introduction to Political Science <b>or</b>          | 3            |                |  |
| POLS 136   | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137   | Introduction to State and Local Politics             |              |                |  |
| COMM 100   | Fundamentals of Speech <b>or</b>                     | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score                                       |
| COMM 102   | Fundamentals of Human Communication                  |              |                |  |
| <b>GENERAL EDUCATION ELECTIVES:</b>  |  |              |                |  |
| - One course numbered 100 or above from the following disciplines:<br>ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, COMM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA |  | 3-5          |                |  |
| - One course numbered 100 or above from the following disciplines:<br>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   |  | <b>18</b>    |                |  |
| <b>GM/ASEP</b>   |  |              |                |  |
| 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:<br>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.<br>Concurrent enrollment or completion of AUTO 276 and 279. |
| <b>Total Credit Hours Required</b>   |  | <b>79-83</b> |                |  |

# Automotive Technology

Offered at MCC-Longview

## A.A.S. Automotive Technology Mechanical Emphasis

200201 Revised 11/2015 (Spring 2016)

| 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 <b>or</b>              | 3            |                |   |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |   |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |   |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |   |
| POLS 137  | Introduction to State and Local Politics             |              |                |   |
| COMM 100  | Fundamentals of Speech <b>or</b>                     | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score                                    |
| COMM 102  | Fundamentals of Human Communication                  |              |                |   |
| <b>GENERAL EDUCATION ELECTIVES:</b>   |  | 3-5          |                |   |
| - One course numbered 100 or above from the following disciplines:<br>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:<br>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          |                |   |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |   |
| <b>Mechanical</b>   |  |              |                |   |
| 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. |
| <b>Total Credit Hours Required</b>  |  | <b>69-73</b> |                |   |
| The <i>Mechanical Option</i> prepares students to work as a technician in dealerships, service centers, independent garages or service stations.  |  |              |                |   |

# Automotive Technology

## Automotive Service, Maintenance and Light Repair Certificate

403600 Revised 11/2015 (Spring 2016)

|   |   |              |  |  |
|---|---|--------------|--|--|
| COLL 100                                | First Year Seminar                                | 1            |  |  |
| <b>Specific Program Requirements</b>    |   |              |  |  |
| 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          |  |  |
| <b>Total Credit Hours Required</b>      |   | <b>18-20</b> |  |  |

# Automotive Technology

## Automotive Technology Certificate

300300 Revised 11/2015 (Spring 2016)

| Specific Program Requirements                   | Credits   | Semester Taken | Prerequisites  |
|---|-----------|----------------|--|
| COLL 100 First Year Seminar                     | 1         |                |  |
| 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:<br>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.<br>Concurrent enrollment or completion of AUTO 276 and 279. |
| <b>Total Credit Hours Required</b>              | <b>51</b> |                |  |

## Automotive Technology

## Collision Repair Technology Certificate

300600 Revised 11/2015 (Spring 2016)

| COLL 100   | First Year Seminar                        | 1         |                |  |
|--|---|-----------|----------------|--|
| Specific Program Requirements<br><i>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 |
| <b>Total Auto Body Credits (from articulated tech schools)</b>                                   |   | <b>26</b> |                |  |
| <b>Automotive Courses at Longview</b>  |   |           |                |  |
| 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   |
| <b>Total Credit Hours Required</b>   |   | <b>45</b> |                |  |



## Building Maintenance and Construction

The purpose of these certificates is to prepare students for employment or advanced training in the building maintenance and repair and construction industries. This program focuses on broad, transferable skills, stresses the understanding of all aspects of the building maintenance and repair and construction industries, and demonstrates such elements of the industry as residential and light commercial building maintenance and construction in the areas of carpentry, electrical, HVAC and plumbing as well as other related topics.

Building Maintenance and Construction Level I Pre-Apprenticeship Certificate ..... 16 Credits  
 Building Maintenance and Construction Level II Certificate ..... 40 Credits

### Building Maintenance & Construction Level 1 Pre-Apprenticeship Certificate 405400 Approved 10/2017 (Fall 2018)

| General Education Requirements                              | 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 |
| CSIS 115 Computer Concepts and Applications                 | 3         |                |                                      |
| EHSS 112 Introduction to Health and Safety for Construction | 1         |                |                                      |
| INTE 102 Communication for Industry                         | 2         |                |                                      |
| INTE 124 Employment Strategies for Technical Careers        | 2         |                |                                      |
| <b>Total Credit Hours</b>                                   | <b>16</b> |                |                                      |

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

| General Education Requirements                                   | Credits   | Semester Taken | Prerequisites               |
|--|-----------|----------------|-----------------------------|
| 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         |                |                             |
| <b>Total Credit Hours</b>  | <b>40</b> |                |                             |

## 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 4/2018 (Fall 2018)

| COLL 100 First Year Seminar   | 1            |          |  |
|---|--------------|----------|--|
| General Education Requirements  | Credits      | Semester | 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 United States History to 1865 <i>or</i><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local Politics | 3            |          |  |
| MATH 100 Mathematics for Business <i>or</i><br>MATH 115 Statistics or higher  | 3-5          |          | MATH 31 with a grade of S or appropriate placement (MATH 100)<br>MATH 85 or 95 with a grade of C or higher or appropriate placement (MATH 115) |
| PSYC 140 General Psychology <i>or</i><br>SOC 160 Sociology  | 3            |          |  |
| COMM 100 Fundamentals of Speech <i>or</i><br>COMM 102 Fundamentals of Human Communication   | 3            |          | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |          |  |
| <b>Specific Program Requirements</b>  |              |          |  |
| BSAD 101 Accounting Principles I  | 3            |          |  |
| BSAD 204 Business Management  | 3            |          |  |
| BSAD 205 Marketing  | 3            |          |  |
| BSAD 221 Business Communications  | 3            |          | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| BSAD 254 Business Law I <i>or</i><br>BSAD 255 Business Law II <i>or</i><br>BSAD 270 Legal Environment of Business   | 3            |          |  |
| CSIS 115 Computer Concepts and Applications   | 3            |          |  |
| Electives Any course numbered 100 or above  | 6            |          |  |
| <b>Specific Emphasis Requirements</b>   |              |          |  |
| <b>Accounting</b>   |              |          |  |
| BSAD 102 Accounting Principles II   | 3            |          | BSAD 101   |
| BSAD 153 Accounting Information Systems   | 3            |          | BSAD 101   |
| BSAD 154 Managerial Accounting  | 3            |          | BSAD 101   |
| BSAD 155 Accounting Using Spreadsheet   | 3            |          | BSAD 101   |
| BSAD 202 Intermediate Accounting I  | 3            |          | BSAD 102   |
| BSAD 252 Individual Income Tax  | 3            |          | BSAD 101   |
| BSAD 290 Business Capstone  | 1            |          |  |
| BSAD Electives  | 3            |          |  |
| <b>Total Credit Hours Required</b>  | <b>65-67</b> |          |  |

## Business

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

201302 Revised 4/2018 (Fall 2018)

| 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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137 | United States History to 1865 <b>or</b><br>United States History Since 1865 <b>or</b><br>Introduction to Political Science <b>or</b><br>Introduction to American National Politics <b>or</b><br>Introduction to State and Local Politics | 3            |                |  |
| MATH 100<br>MATH 115                                     | Mathematics for Business or<br>Statistics or higher  | 3-5          |                | MATH 31 with a grade of S or appropriate placement (MATH 100)<br>MATH 85 or 95 with a grade of C or higher or appropriate placement (MATH 115) |
| PSYC 140<br>SOC 160                                      | General Psychology <b>or</b><br>Sociology  | 3            |                |  |
| COMM 100<br>COMM 102                                     | Fundamentals of Speech <b>or</b><br>Fundamentals of Human Communication  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Minimum Total General Education Credit Hours</b>      |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>                     |  |              |                |  |
| BSAD 101   | Accounting Principles I  | 3            |                |  |
| BSAD 204   | Business Management  | 3            |                |  |
| BSAD 205   | Marketing  | 3            |                |  |
| BSAD 221   | Business Communications  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| BSAD 254<br>BSAD 255<br>BSAD 270                         | Business Law I <b>or</b><br>Business Law II <b>or</b><br>Legal Environment of Business   | 3            |                |  |
| CSIS 115   | Computer Concepts and Applications   | 3            |                |  |
| Electives  | Any course numbered 100 or above   | 6            |                |  |
| <b>Logistics Management</b>                              |  |              |                |  |
| BSAD 210   | Logistics Management   | 3            |                |  |
| BSAD 211   | Operations Management  | 3            |                |  |
| BSAD 212   | Transportation Operations and Management   | 3            |                |  |
| BSAD 213   | Warehouse and Distribution Centers   | 3            |                |  |
| BSAD 290   | Business Capstone  | 1            |                |  |
| BSAD Electives   |  | 9            |                |  |
| <b>Total Credit Hours Required</b>                       |  | <b>65-67</b> |                |  |

# Business

## A.A.S. Business Management Emphasis

201303 Revised 4/2018 (Fall 2018)

| 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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137 | United States History to 1865 <b>or</b><br>United States History Since 1865 <b>or</b><br>Introduction to Political Science <b>or</b><br>Introduction to American National Politics <b>or</b><br>Introduction to State and Local Politics | 3            |                |  |
| MATH 100<br>MATH 115                                     | Mathematics for Business or<br>Statistics or higher  | 3-5          |                | MATH 31 with a grade of S or appropriate placement (MATH 100)<br>MATH 85/95 with a grade of C or higher or appropriate placement |
| PSYC 140<br>SOC1 160                                     | General Psychology <b>or</b><br>Sociology  | 3            |                |  |
| COMM 100<br>COMM 102                                     | Fundamentals of Speech <b>or</b><br>Fundamentals of Human Communication  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Minimum Total General Education Credit Hours</b>      |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>                     |  |              |                |  |
| BSAD 101   | Accounting Principles I  | 3            |                |  |
| BSAD 204   | Business Management  | 3            |                |  |
| BSAD 205   | Marketing  | 3            |                |  |
| BSAD 221   | Business Communications  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| BSAD 254<br>BSAD 255<br>BSAD 270                         | Business Law I <b>or</b><br>Business Law II <b>or</b><br>Legal Environment of Business   | 3            |                |  |
| CSIS 115   | Computer Concepts and Applications   | 3            |                |  |
| Electives  | Any course numbered 100 or above   | 6            |                |  |
| <b>Management</b>  |  |              |                |  |
| BSAD 105   | Human Resources Management   | 3            |                |  |
| BSAD 109   | Principles of Supervision  | 3            |                |  |
| BSAD 120   | Organizational Behavior  | 3            |                |  |
| BSAD 127   | Management Internship I  | 3            |                |  |
| BSAD 128   | Management Internship II   | 3            |                | BSAD 127   |
| BSAD 290   | Business Capstone  | 1            |                |  |
| BSAD Electives   |  | 6            |                |  |
| <b>Total Credit Hours Required</b>                       |  | <b>65-67</b> |                |  |

# 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 Certificate .....16-17 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)<br>SOWK 100 (SOWK 275) |
| SOWK 190                           | Community Mental Health or                      |              |                |  |
| SOWK 275                           | Dynamics of Drug and Alcohol Abuse              |              |                |  |
| PSYC 140                           | General Psychology or                           | 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            |                |  |
| <b>Total Credit Hours Required</b> |   | <b>16-17</b> |                |  |

# 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 2/2013 (Summer 2013)

| 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  | United States History to 1865 <b>or</b>                          | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>                       |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>                      |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>             |              |                |  |
| POLS 137  | Introduction to State and Local Politics                         |              |                |  |
| MATH 120  | College Algebra <b>and</b>                                       | 5-6          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>MATH 120 (MATH 130) |
| MATH 130  | Trigonometry   |              |                |  |
| <b>or</b>   |  |              |                |  |
| MATH 150  | PreCalculus  |              |                |  |
| 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                                       |
| <b>Minimum Total General Education Credit Hours</b> |  | <b>22-23</b> |                |  |
| <b>Specific Program Requirements</b>                |  |              |                |  |
| ENGR 101  | Introduction to the Profession                                   | 1            |                |  |
| EHSS 111  | Introduction to Health & Safety for General Industry or          | 1            |                |  |
| EHSS 112  | Introduction to Health & Safety for Construction                 |              |                |  |
| 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   |
| ETEC 211  | Building Information Modeling, 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  | Parametric Modeling, Inventor                                    | 3            |                | ETEC 152 or concurrent enrollment  |
| ETEC 271  | Parametric Modeling, Solidworks                                  | 3            |                | ETEC 152 or concurrent enrollment  |
| ETEC 272  | Advanced Parametric Modeling, and Prototyping Inventor <b>or</b> | 3            |                | ETE 270<br>ETE 271   |
| ETEC 273  | Advanced Parametric Modeling, and Prototyping Solidworks         |              |                |  |
| ETEC 290  | Internship in Engineering Technology <b>or</b>                   | 3            |                | ETE 152 (ETE 290)<br>ETE 152, 269, 270, or 271 (ETE 295)   |
| ETEC 295  | Capstone Project in Engineering Technology                       |              |                |  |
| <b>Total Credit Hours Required</b>                  |  | <b>69-70</b> |                |  |

# Computer Aided Drafting & Design Technology

## Computer Aided Drafting and Design Certificate

403100 Revised 2/2013 (Summer 2013)

| Specific Program Requirements  | Credits      | Semester Taken | Prerequisites  |
|--|--------------|----------------|--|
| ENGR 101 Intro to the Profession   | 1            |                |  |
| ETEC 152 Engineering Graphics and CADD I or<br>EETC 169 CADD I   | 3-5          |                | MATH 95 with a grade of C or higher or appropriate placement score   |
| EETC 269 CADD II   | 4            |                | EETC 152 or 169  |
| Choose 3 courses from the following:<br>EETC 170 CADD I, Microstation<br>EETC 211 Building Information Modeling, Revit<br>EETC 270 Parametric Modeling, Inventor<br>EETC 271 Parametric Modeling, Solidworks<br>EETC 272 Advanced Parametric Modeling, Inventor<br>EETC 273 Advanced Parametric Modeling, Prototyping Solidworks | 9            |                | EETC 152 (170)<br>EETC 152, concurrent enrollment or Project Lead the Way, Introduction to Engineering Design (211)<br>EETC 152 or concurrent enrollment (270)<br>EETC 152 or concurrent enrollment (271)<br>EETC 270 (272)<br>EETC 271(273) |
| <b>Total Credit Hours Required</b>   | <b>17-19</b> |                |  |

# Business, Management & Technology

## Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

A.A.S. Computer Integrated Machining & Manufacturing

|                                 |               |
|---------------------------------|---------------|
| Machining Emphasis .....        | 60-65 Credits |
| Die Making Emphasis .....       | 61-63 Credits |
| Mold Making Emphasis .....      | 61-63 Credits |
| Tool Making Emphasis .....      | 61-63 Credits |
| Lathe Certificate .....         | 18-19 Credits |
| Mill Certificate .....          | 18-19 Credits |
| Advanced CIMM Certificate ..... | 38-41 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 Approved 10/2017 (Fall 2018)

| 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                                     | United States History to 1865 <b>or</b>                | 3         |                |  |              |  |  |
| HIST 121                                     | United States History since 1865 <b>or</b>             |           |                |  |              |  |  |
| POLS 135                                     | Introduction to Political Science <b>or</b>            |           |                |  |              |  |  |
| POLS 136                                     | Introduction to American National Politics <b>or</b>   |           |                |  |              |  |  |
| POLS 137                                     | Introduction to State and Local Politics               |           |                |  |              |  |  |
| Choose one of the following Math options:    |  |           |                |  |              |  |  |
| <b>Option #1</b>                             |  |           |                |  |              |  |  |
| MATH 103                                     | Technical Mathematics I <b>or</b>                      | 5-6       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130)   |              |  |  |
| MATH 120                                     | College Algebra <b>and</b>                             |           |                |  |              |  |  |
| MATH 104                                     | Technical Mathematics II <b>or</b>                     |           |                |  |              |  |  |
| MATH 130                                     | Trigonometry   |           |                |  |              |  |  |
| 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 |  | <b>18</b> |                |  |              |  |  |
| Special Program Requirements                 |  | Credits   | Semester Taken | Prerequisites  |              |  |  |
| CSIS 100                                     | Digital Literacy                                       | 2         |                |  |              |  |  |
| 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  |              |  |  |
| 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 140                                     | EDM-Sinker or  | 3         |                | CIMM 121 or 122 w/ grade of C or higher  |              |  |  |
| CIMM 145                                     | EDM-Wire   |           |                |  |              |  |  |
| CIMM 150                                     | Lathe Co-Op <b>or</b>                                  | 3-4       |                | CSIS 100, INTE 124, CIMM 100/105/110/121 or concurrent enrollment (CIMM 150)<br>CIMM 121 or concurrent enrollment (CIMM 160)   |              |  |  |
| CIMM 160                                     | Advanced Lathe Operations                              |           |                |  |              |  |  |
| CIMM 151                                     | Mill Co-Op <b>or</b>                                   | 3-4       |                | CSIS 100, INTE 124, CIMM 100/105/115/122 or concurrent enrollment (CIMM 151)<br>CIMM 122 or concurrent enrollment (CIMM 161)   |              |  |  |
| CIMM 161                                     | Advanced Mill Operations                               |           |                |  |              |  |  |
| CIMM 154                                     | Cutter Grinding <b>or</b>                              | 2-3       |                | CIMM 104, 110 and 115 w/ a C or higher<br>CIMM 100, 105, 110 and 115   |              |  |  |
| CIMM 155                                     | Grinding Operations                                    |           |                |  |              |  |  |
| CIMM 225                                     | MasterCam I  | 3         |                | CSIS 100, CIMM 121 or 122  |              |  |  |
| Choose 2-3 of the following:                 |  |           |                |  |              |  |  |
| CIMM 231                                     | Capstone Job Planning, Benchwork & Layout              | 2-3       |                | CIMM 100 and 105 (CIMM 231)<br>CIMM 100, 105 and 115 (CIMM 232)<br>CIMM 100, 105 and 110 (CIMM 233)<br>CIMM 100, 105 and 110 (CIMM 234)<br>CIMM 100, 105 and 115 (CIMM 235)<br>CIMM 100, 105 and 122 (CIMM 236)<br>CIMM 100, 105 and 121 (CIMM 237)<br>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                                   |           |                |  |              |  |  |
| <b>Total Credit Hours Required</b>           |  |           |                |  | <b>60-65</b> |  |  |



## CIMM Machining & Manufacturing – Die Making Emphasis

204003 Approved 10/2017 (Fall 2018)

| 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  | United States History to 1865 <b>or</b>                | 3            |                |  |
| HIST 121  | United States History since 1865 <b>or</b>             |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>            |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>   |              |                |  |
| POLS 137  | Introduction to State and Local Politics               |              |                |  |
| Choose one of the following Math options:<br><b>Option #1</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 120 College Algebra <b>and</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option #2</b><br>MATH 150 PreCalculus or higher                                  |  | 5-6          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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  |  | <b>18</b>    |                |  |
| Special Program Requirements  |  | Credits      | Semester Taken | Prerequisites  |
| CSIS 100  | Digital Literacy                                       | 2            |                |  |
| 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 145  | EDM-Wire   | 3            |                | CIMM 121 or 122 w/ grade of C or higher  |
| CIMM 154  | Cutter Grinding <b>or</b>                              | 2-3          |                | CIMM 104, 110 and 115 w/ a C or higher<br>CIMM 100, 105, 110 and 115   |
| CIMM 155  | Grinding Operations                                    |              |                |  |
| 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 260  | Die Making   | 5            |                | CIMM 106, 122, 145, 201, 225 and<br>CIMM 154 or 155 with a grade of C or higher  |
| Choose 1 of the following:<br>CIMM 231 Capstone Job Planning, Benchwork & Layout<br>CIMM 232 Capstone Milling<br>CIMM 233 Capstone Chucking<br>CIMM 234 Capstone Turning<br>CIMM 235 Capstone Surface Grinding<br>CIMM 236 Capstone CNC Milling<br>CIMM 237 Capstone CNC Turning<br>CIMM 238 Capstone Drill Press |  | 2-3          |                | CIMM 100 and 105 (CIMM 231)<br>CIMM 100, 105 and 115 (CIMM 232)<br>CIMM 100, 105 and 110 (CIMM 233)<br>CIMM 100, 105 and 110 (CIMM 234)<br>CIMM 100, 105 and 115 (CIMM 235)<br>CIMM 100, 105 and 122 (CIMM 236)<br>CIMM 100, 105 and 121 (CIMM 237)<br>CIMM 100 and 105 (CIMM 238) |
| <b>Total Credit Hours Required</b>  |  | <b>61-63</b> |                |  |

## CIMM Machining & Manufacturing – Mold Making Emphasis

204004 Approved 10/2017 (Fall 2018)

| 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                                     | United States History to 1865 <b>or</b>                | 3         |                |  |
| HIST 121                                     | United States History since 1865 <b>or</b>             |           |                |  |
| POLS 135                                     | Introduction to Political Science <b>or</b>            |           |                |  |
| POLS 136                                     | Introduction to American National Politics <b>or</b>   |           |                |  |
| POLS 137                                     | Introduction to State and Local Politics               |           |                |  |
| Choose one of the following Math options:    |  |           |                |  |
| <b>Option #1</b>                             |  |           |                |  |
| MATH 103                                     | Technical Mathematics I <b>or</b>                      | 5-6       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130)   |
| MATH 120                                     | College Algebra <b>and</b>                             |           |                |  |
| MATH 104                                     | Technical Mathematics II <b>or</b>                     |           |                |  |
| MATH 130                                     | Trigonometry   |           |                |  |
| 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 |  | <b>18</b> |                |  |
| Special Program Requirements                 |  | Credits   | Semester Taken | Prerequisites  |
| CSIS 100                                     | Digital Literacy                                       | 2         |                |  |
| 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 140                                     | EDM-Sinker   | 3         |                | CIMM 121 or 122 w/ grade of C or higher  |
| CIMM 154                                     | Cutter Grinding <b>or</b>                              | 2-3       |                | CIMM 104,110 and 115 w/ a C or higher<br>CIMM 100, 105, 110 and 115  |
| CIMM 155                                     | Grinding Operations                                    |           |                |  |
| 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 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              | 2-3       |                | CIMM 100 and 105 (CIMM 231)<br>CIMM 100, 105 and 115 (CIMM 232)<br>CIMM 100, 105 and 110 (CIMM 233)<br>CIMM 100, 105 and 110 (CIMM 234)<br>CIMM 100, 105 and 115 (CIMM 235)<br>CIMM 100, 105 and 122 (CIMM 236)<br>CIMM 100, 105 and 121 (CIMM 237)<br>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                                   |           |                |  |
| <b>Total Credit Hours Required</b>           |  |           |                |  |

## CIMM Machining & Manufacturing – Tool Making Emphasis

204005 Approved 10/2017 (Fall 2018)

|  |  |           |                |  |
|--|--|-----------|----------------|--|
| 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                                     | United States History to 1865 <b>or</b>                | 3         |                |  |
| HIST 121                                     | United States History since 1865 <b>or</b>             |           |                |  |
| POLS 135                                     | Introduction to Political Science <b>or</b>            |           |                |  |
| POLS 136                                     | Introduction to American National Politics <b>or</b>   |           |                |  |
| POLS 137                                     | Introduction to State and Local Politics               |           |                |  |
| Choose one of the following Math options:    |  |           |                |  |
| <b>Option #1</b>                             |  |           |                |  |
| MATH 103                                     | Technical Mathematics I <b>or</b>                      | 5-6       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130)   |
| MATH 120                                     | College Algebra <b>and</b>                             |           |                |  |
| MATH 104                                     | Technical Mathematics II <b>or</b>                     |           |                |  |
| MATH 130                                     | Trigonometry   |           |                |  |
| MATH 150                                     | PreCalculus or higher                                  |           |                |  |
| <b>Option #2</b>                             |  |           |                |  |
| 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 |  | <b>18</b> |                |  |
| Special Program Requirements                 |  | Credits   | Semester Taken | Prerequisites  |
| CSIS 100                                     | Digital Literacy                                       | 2         |                |  |
| 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 145                                     | EDM-Wire   | 3         |                | CIMM 121 or 122 w/ grade of C or higher  |
| CIMM 154                                     | Cutter Grinding <b>or</b>                              | 2-3       |                | CIMM 104,110 and 115 w/ a C or higher<br>CIMM 100, 105, 110 and 115  |
| CIMM 155                                     | Grinding Operations                                    |           |                |  |
| 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 255                                     | Tool Design, Jigs, and Fixtures                        | 5         |                | CIMM 106, 121, 122, 201, 225 and<br>CIMM 140 or 145 and<br>CIMM 154 or 155 with grade of C or higher   |
| Choose 1 of the following:                   |  |           |                |  |
| CIMM 231                                     | Capstone Job Planning, Benchwork & Layout              | 2-3       |                | CIMM 100 and 105 (CIMM 231)<br>CIMM 100, 105 and 115 (CIMM 232)<br>CIMM 100, 105 and 110 (CIMM 233)<br>CIMM 100, 105 and 110 (CIMM 234)<br>CIMM 100, 105 and 115 (CIMM 235)<br>CIMM 100, 105 and 122 (CIMM 236)<br>CIMM 100, 105 and 121 (CIMM 237)<br>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                                   |           |                |  |
| <b>Total Credit Hours Required</b>           |  |           |                |  |

# Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

## Lathe Certificate

404000 Revised 11/2014 (Spring 2015)

| Specific Program Requirements  | Credits      | Semester Taken | Prerequisites   |
|--|--------------|----------------|---|
| COLL 100 First Year Seminar  | 1            |                |   |
| CIMM 100 Introduction to Machining & Manufacturing                         | 3            |                |   |
| 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<br>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)<br>CIMM 121 or concurrent enrollment (CIMM 160) |
| CSIS 100 Digital Literacy  | 2            |                |   |
| <b>Total Credit Hours Required</b>   | <b>18-19</b> |                |   |

# Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

## Mill Certificate

404100 Revised 11/2014 (Spring 2015)

| Specific Program Requirements                      | Credits      | Semester Taken | Prerequisites  |
|--|--------------|----------------|--|
| COLL 100 First Year Seminar                        | 1            |                |  |
| CIMM 100 Introduction to Machining & Manufacturing | 3            |                |  |
| 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 <b>or</b>         | 3-4          |                | CSIS 100, CIMM 100/105/115/122,                      |
| CIMM 161 Advanced Mill Operation                   |              |                | CIMM 123 or concurrent enrollment                    |
| CSIS 100 Digital Literacy                          | 2            |                |  |
| <b>Total Credit Hours Required</b>                 | <b>18-19</b> |                |  |

# Computer Integrated Machining & Manufacturing

Offered at MCC-Business & Technology

## Advanced Computer Integrated Machining & Manufacturing Certificate

307800 Revised 1/2014 (Spring 2015)

| Specific Program Requirements   | Credits      | Semester Taken | Prerequisites   |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar   | 1            |                |   |
| 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 150 Lathe Internship & Co-Op <i>or</i><br>CIMM 160 Advanced Lathe Operations | 3-4          |                | CSIS 100, CIMM 100/105/110/121, or concurrent enrollment (CIMM 150)<br>CIMM 121 or concurrent enrollment (CIMM 160)   |
| CIMM 151 Mill Internship & Co-Op <i>or</i><br>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)<br>CIMM 122 or concurrent enrollment (CIMM 161) |
| CIMM 155 Grinding Operations  | 2            |                | CIMM 100, 105, 110 & 115  |
| CIMM 200 Advanced Machining   | 3            |                | CIMM 150 & 151 or CIMM 160 & 161  |
| CSIS 100 Digital Literacy   | 2            |                |   |
| INTE 124 Employment Strategies for Technical Careers                              | 2            |                |   |
| MATH 103 Technical Math I <i>or</i><br>MATH 103R Technical Math I w/ Review       | 3-4          |                | MATH 31 with a grade of S or appropriate placement  |
| <b>Total Credit Hours Required</b>  | <b>38-41</b> |                |   |

# 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.....                          | 62-69 Credits |
| CISCO Security .....                              | 62-70 Credits |
| Software Development .....                        | 61-68 Credits |
| Secure Systems Administration & Engineering ..... | 62-69 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 |
| 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><br>HIST 121 United States History Since 1865  | 3            |                |   |
| POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local Politics   |              |                |   |
| COMM 100 Fundamentals of Speech <i>or</i><br>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:<br>ART, ANTH, COMM, ECON, ENGL, Foreign Language,<br>GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI,<br>PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA | 3-5          |                |   |
| Any course numbered 100 or above from the following disciplines:<br>BIOL, CHEM, GEOG (104 & 110), GEOL, PHYS   | 3-6          |                |   |
| <b>Total General Education Requirements</b>  | <b>18</b>    |                |   |
| Specific Program Requirements  | Credits      | Semester Taken | Prerequisites   |
| BSAD 221 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            |                |   |
| <b>Emphasis Area</b>   |              |                |   |
| 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   |
| <b>Total Credit Hours Required</b>   | <b>62-69</b> |                |   |

## Computer Science &amp; Information Systems

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

200507 Revised 12/2016 (Fall 2017)

|  |  |              |                |   |
|--|--|--------------|----------------|---|
| COLL 100   | First Year Seminar                                   | 1            |                |   |
| 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   | United States History to 1865 <i>or</i>              | 3            |                |   |
| HIST 121   | United States History Since 1865 <i>or</i>           |              |                |   |
| POLS 135   | Introduction to Political Science <i>or</i>          |              |                |   |
| POLS 136   | Introduction to American National Politics <i>or</i> |              |                |   |
| POLS 137   | Introduction to State and Local 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                 |              |                |   |
| MATH 120 or higher   |  | 3            |                |   |
| <i>Any course numbered 100 or above from the following disciplines:</i>  |  | 3-5          |                |   |
| ART, ANTH, ECON, ENGL, Foreign Language, GEOG (except 104 & 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, COMM/THEA |  |              |                |   |
| <i>Any course numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (104 &amp; 110), GEOL, MATH 120 or above, PHYS</i>            |  | 3-6          |                |   |
| <b>Minimum Total General Education Credit Hours</b>  |  | <b>18</b>    |                |   |
| Specific Program Requirements  |  | Credits      | Semester Taken | Prerequisites   |
| BSAD 221   | 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            |                | CSIS 110  |
| 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 172   | Windows Server and Active Directory Fundamentals     | 3            |                | CSIS 112 or 161 with C or higher and CSIS 151 or 152 with C or higher |
| CSIS 174   | Virtualization and Cloud Computing Concepts          | 4            |                | CSIS 172  |
| CSIS 212   | Scaling Networks CCNA 3                              | 4            |                | CSIS 113  |
| CSIS 213   | Connecting Networks CCNA 4                           | 4            |                | CSIS 212  |
|  |  | 7-8          |                |   |
| <b>Total Credit Hours Required</b>   |  | <b>62-70</b> |                |   |



## Computer Science &amp; Information Systems

## A.A.S. Computer Science and Information Systems: Software Development

200511 Revised 11/2016 (Fall 2017)

|  |   |              |                |   |
|--|---|--------------|----------------|---|
| COLL 100   | First Year Seminar  | 1            |                |   |
| 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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137 | United States History to 1865 <i>or</i><br>United States History Since 1865<br>Introduction to Political Science <i>or</i><br>Introduction to American National Politics<br>Introduction to State and Local Politics                | 3            |                |   |
| COMM 100<br>COMM 102                                     | Fundamentals of Speech <i>or</i><br>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:<br/>ART, ANTH, COMM, ECON, ENGL, Foreign Language, GEOG (except 104 &amp; 110 and GIS courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSOC, SOCI, THEA</i> | 3-5          |                |   |
|  | <i>Any course numbered 100 or above from the following disciplines:<br/>BIOL, CHEM, GEOG (104 &amp; 110), GEOL, MATH 120 or above, PHYS</i>   | 3-6          |                |   |
| <b>Minimum Total General Education Credit Hours</b>      |   | <b>18</b>    |                |   |
| Specific Program Requirements                            |   | Credits      | Semester Taken | Prerequisites   |
| BSAD 221   | 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 123   | Programming Fundamentals  | 3            |                | MATH 40/40L or appropriate placement score (CSIS 123)             |
| CSIS 128   | Web Development   | 3            |                | CSIS 110 or 115   |
| 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            |                | MATH 104 or higher and CSIS 123                                   |
| CSIS 223   | Object-Oriented Programming   | 3            |                | CSIS 123 and MATH 110   |
| CSIS 228   | Advanced Web Development  | 3            |                | CSIS 128  |
| CSIS 279   | Web Database Programming  | 3            |                | CSIS 123, 128, and 143  |
| CSIS 290   | Field Competencies and Employment Strategies  | 3            |                | Instructor approval   |
| <b>Total Credit Hours Required</b>                       |   | <b>61-68</b> |                |   |

# Computer Science & Information Systems

## A.A.S. Computer Science and Information Systems: Secure Systems Administration & Engineering

200512 Revised 12/2015 (Fall 2016)

|   |  |              |                |   |
|---|--|--------------|----------------|---|
| COLL 100  | First Year Seminar                                   | 1            |                |   |
| 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  | United States History to 1865 <i>or</i>              | 3            |                |   |
| HIST 121  | United States History Since 1865                     |              |                |   |
| POLS 135  | Introduction to Political Science <i>or</i>          |              |                |   |
| POLS 136  | Introduction to American National Politics <i>or</i> |              |                |   |
| POLS 137  | Introduction to State and Local 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                 |              |                |   |
| MATH 120 or higher  |  | 3            |                |   |
| Any course numbered 100 or above from the following disciplines:<br>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          |                |   |
| Any course numbered 100 or above from the following disciplines:<br>BIOL, CHEM, GEOG (104 & 110), GEOL, MATH 120 or above, PHYS   |  | 3-6          |                |   |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |   |
| Secure Systems Administration and Engineering Core Requirements   |  | Credits      | Semester Taken | Prerequisites   |
| BSAD 221  | 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 115  | Computer Concepts and Applications                   | 3            |                |   |
| CSIS 123  | Programming Fundamentals                             | 3            |                |   |
| CSIS 143  | Database Design and Management                       | 3            |                | CSIS 110 or CSIS 115  |
| CSIS 151  | Microsoft Operating Systems Concepts                 | 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 170  | Principles of Information Assurance                  | 3            |                | CSIS 110 with a C or higher                                       |
| CSIS 172  | Windows Server and Active Directory Fundamentals     | 3            |                | CSIS 112 or 161 and CSIS 151 or CSIS 152                          |
| CSIS 174  | Virtualization and Cloud Computing Concepts          | 4            |                | CSIS 172  |
| CSIS 178  | Network and Systems Security                         | 3            |                | CSIS 112 or 161 and CSIS 170                                      |
| CSIS 290  | Field Competencies and Employment Strategies         | 3            |                | Instructor approval   |
| <b>Total Credit Hours Required</b>  |  | <b>62-69</b> |                |   |

Certification suggested for degree seekers sitting for exam required as part of CSIS 290.

# 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         |                |   |
| BSAD 221 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      |                |   |
| <b>Total Credit Hours Required</b>                           | <b>16</b> |                |   |

# 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         |                |                                     |
| CSIS 143 Database Design and Management                   | 3         |                | CSIS 110 or CSIS 115                |
| CSIS 152 Linux Operating System                           | 3         |                | CSIS 110                            |
| CSIS 161 Networking Fundamentals                          | 3         |                | CSIS 110                            |
| CSIS 172 Windows Server and Active Directory Fundamentals | 3         |                | CSIS 112 or 161 and CSIS 151 or 152 |
| CSIS 174 Virtualization Cloud Computing Concepts          | 4         |                | CSIS 172                            |
| Complete the CompTIA Network+ Certification               | Pass      |                |                                     |
| <b>Total Credit Hours Required</b>                        | <b>35</b> |                |                                     |

# 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 178 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      |                |                              |
| <b>Total Credit Hours Required</b>                    | <b>44</b> |                |                              |

# 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. |
| <b>Total Credit Hours Required</b>                         | <b>35</b> |                |                      |

# 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. |
| <b>Total Credit Hours Required</b>                    | <b>30</b> |                |                      |

# 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   |
| BSAD 120                           | Organizational Behavior <b>or</b>                   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score. |
| BSAD 221                           | 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  |
| <b>Total Credit Hours Required</b> |   | <b>32</b> |                |   |



# Computer Science & Information Systems

## CSIS CCENT and CCNA Certificate

405100 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 290 Field Competencies and Employment Strategies | 3         |                | Instructor Approval Required |
| <b>Total Credit Hours Required</b>                    | <b>23</b> |                |                              |

# Computer Science & Information Systems

## CSIS Software Development Certificate

306800 Revised 9/2017 (Fall 2018)

| Specific Program Requirements      |  | Credits   | Semester Taken | Prerequisites   |
|------------------------------------|--|-----------|----------------|---|
| COLL 100                           | First Year Seminar                           | 1         |                |   |
| CSIS 110                           | Information Technology Fundamentals          | 3         |                |   |
| CSIS 115                           | Computer Concepts and Applications           | 3         |                |   |
| 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 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         |                | MATH 104 or higher and CSIS 123   |
| CSIS 223                           | Object-Oriented Programming                  | 3         |                | MATH 95 with a grade of C or higher or appropriate placement and CSIS 123 |
| CSIS 228                           | Advanced Web Development                     | 3         |                | CSIS 128  |
| CSIS 279                           | Web Database Programming                     | 3         |                | CSIS 123, 128, and 143  |
| CSIS 290                           | Field Competencies and Employment Strategies | 3         |                | Instructor approval   |
| <b>Total Credit Hours Required</b> |  | <b>40</b> |                |   |

# Construction Management

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 6/2016 (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<br>HIST 121                                | United States History to 1865 or<br>United States History since 1865 | 3            |                |  |
| MATH 120<br>MATH 130<br>MATH 150                    | College Algebra and<br>Trigonometry or<br>PreCalculus                | 5-6          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>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   |
| <b>Minimum Total General Education Credit Hours</b> |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>                |  |              |                |  |
| BSAD 101  | Accounting Principles I  | 3            |                |  |
| BSAD 254  | Business Law or  | 3            |                |  |
| BSAD 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  |
| <b>Specific Program Requirements</b>                |  |              |                |  |
| 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   |
| <b>Choose 12 hours from the following:</b>          |  |              |                |  |
| 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<br>Emergency Response Operations  | 3            |                |  |
| EHSS 112  | Intro to Health and Safety for Construction                          | 1            |                |  |
| ETEC 210  | Introduction to Commercial Architecture                              | 3            |                | ETEC 152   |
| <b>Total Credit Hours Required</b>                  |  | <b>66-68</b> |                |  |

# Construction Management

## 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:<br>CSMG 225 Construction Methods and Materials<br>CSMG 295 Building Codes and Code Administration<br>EHSS 101 Hazardous Waste Operations and Emergency Response<br>ETEC 210 Introduction to Commercial Architecture<br>ETEC 211 Building Information Modeling, REVIT<br>SRVY 135 Elementary Surveying |   | 6         |                | CSMG 101 C or higher (CSMG 225)<br>CSMG 101(CSMG 295)<br>ETEC 152 (ETEC 210)<br>ETEC 152, concurrent enrollment, or Project Lead the Way, Introduction to Engineering Design (ETEC 210 and 211)<br>MATH 130 or 150 with a grade of C or appropriate Placement score (SRVY 135) |
| <b>Total Credit Hours</b>  |   | <b>19</b> |                |  |

# 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.....                       | 65-69 Credits |
| Construction Carpentry .....          | 65-69 Credits |
| Construction Cement Masons.....       | 65-69 Credits |
| Construction Driver & Logistics ..... | 63-67 Credits |
| Construction Ironworker .....         | 65-69 Credits |
| Construction Laborer.....             | 65-69 Credits |

|                       |               |
|-----------------------|---------------|
| Floor Layer .....     | 65-69 Credits |
| Glaziers .....        | 65-69 Credits |
| Inside Wiring         |               |
| 3 -Year program ..... | 65-69 Credits |
| 5 -Year program ..... | 66-70 Credits |
| Painter .....         | 65-69 Credits |
| Plumbing .....        | 65-69 Credits |

## Bricklayer Apprenticeship Degree Completion Program

201812 Revised 7/2014 (Fall 2014)

| 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 <b>or</b>              | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137  | Introduction to State and Local Politics             |              |                |  |
| COMM 100  | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>  |  | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103  | Technical Mathematics I <b>or</b>                    |              |                |  |
| MATH 103R   | Technical Mathematics I w/ review <b>or</b>          |              |                |  |
| MATH 120  | College Algebra <b>or</b>                            |              |                |  |
| MATH 104  | Technical Mathematics II <b>or</b>                   |              |                |  |
| MATH 130  | Trigonometry   |              |                |  |
| <b>Option 2:</b>  |  |              |                |  |
| 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, SOSC, SOCI, THEA |  | 3-5          |                |  |
| Minimum Total General Education Credit Hours  |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |  |              |                |  |
| <b>Bricklayer</b>   |  |              |                |  |
| BSAD 109  | Principles of Supervision                            | 3            |                |  |
| CSIS 100  | Digital Literacy <b>or</b>                           | 2-3          |                |  |
| CSIS 115  | Computer Concepts and Applications                   |              |                |  |
| EHSS 112  | Introduction to Health & Safety for Construction     | 1            |                |  |
| INTE 124  | Employment Strategies for Technical Careers          | 2            |                |  |
| INTE 151  | Industrial Rigging                                   | 3            |                |  |
| General Electives   |  | 6            |                |  |
| Bricklaying Apprenticeship (Credit by Certification*)   |  | 29           |                |  |
| <b>Total Credit Hours</b>   |  | <b>65-69</b> |                |  |

\* 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.

# Construction Trades Apprenticeship Program

## Construction Carpentry Apprenticeship Degree Completion Program

201802 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b> |                |  |

| <b>Specific Program Requirements</b>   |              |  |  |
|--|--------------|--|--|
| BSAD 109 Principles of Supervision   | 3            |  |  |
| CSIS 100 Digital Literacy <b>or</b><br>CSIS 115 Computer Concepts and Applications | 2-3          |  |  |
| CSIS 100 Digital Literacy  | 2            |  |  |
| EHSS 112 Introduction to Health and Safety for Construction                        | 1            |  |  |
| INTE 124 Employment Strategies for Technical Careers                               | 2            |  |  |
| INTE 151 Industrial Rigging  | 3            |  |  |
| Carpentry Apprenticeship (Credit by Certification*)                                | 29           |  |  |
| General Electives  | 6            |  |  |
| <b>Total Credit Hours</b>  | <b>65-69</b> |  |  |

\* 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.

# Construction Trades Apprenticeship Program

## Construction Cement Masons Apprenticeship Degree Completion Program

201803 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b> |                |  |

| <b>Specific Program Requirements</b>   |              |  |  |
|--|--------------|--|--|
| BSAD 109 Principles of Supervision   | 3            |  |  |
| CSIS 100 Digital Literacy <b>or</b><br>CSIS 115 Computer Concepts and Applications   | 2-3          |  |  |
| EHSS 112 Introduction to Health and Safety for Construction  | 1            |  |  |
| INTE 124 Employment Strategies for Technical Careers   | 2            |  |  |
| Cement Masons Apprenticeship (Credit by Certification*)  | 29           |  |  |
| General Electives  | 9            |  |  |
| <b>Total Credit Hours</b>  | <b>65-69</b> |  |  |
| * Federally approved cement masons apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft. |              |  |  |

# Construction Trades Apprenticeship Program

A.A.S. Indus. Construction Driver & Logistics

201833 Approved 6/2012 (Fall 2012)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| SPAN 100 Beginning Occupational Spanish <b>or</b><br>SPAN 101 Elementary Spanish I  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| EHSS 111 Introduction to Health and Safety for General Industry   | 1            |                |  |
| EHSS 112 Introduction to Health and Safety for Construction   | 1            |                |  |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| CSIS 110 Technology and Information Management  | 3            |                |  |
| CSIS 115 Computer Concepts and Applications or higher   | 3            |                |  |
| INTE 151 Industrial Rigging   | 3            |                |  |
| BSAD 109 Principles of Supervision  | 3            |                |  |
| BSAD 210 Logistics Management   | 3            |                |  |
| BSAD 211 Operations Management  | 3            |                |  |
| BSAD 212 Transportation and Operations and Management   | 3            |                |  |
| BSAD 213 Warehouse and Distribution Centers   | 3            |                |  |
| BSAD 219 Entrepreneurship   | 3            |                |  |
| Warehouse Worker Apprenticeship*  | 8            |                |  |
| Electives as necessary to meet the minimum credit hours to complete the degree.   | 5            |                |  |
| <b>Total Credit Hours Required</b>  | <b>63-67</b> |                |  |

\*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.



# Construction Trades Apprenticeship Program

## Construction Ironworker Apprenticeship Degree Completion Program

201804 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics                              | 3            |                |  |
| COMM 100 Fundamentals of Speech  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher                        | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>   |              |                |  |
| BSAD 109 Principles of Supervision   | 3            |                |  |
| CSIS 100 Digital Literacy <b>or</b><br>CSIS 115 Computer Concepts and Applications   | 2-3          |                |  |
| EHSS 112 Introduction to Health and Safety for Construction  | 1            |                |  |
| INTE 124 Employment Strategies for Technical Careers   | 2            |                |  |
| INTE 151 Industrial Rigging  | 3            |                |  |
| General Electives  | 6            |                |  |
| Ironworking Apprenticeship (Credit by Certification*)  | 29           |                |  |
| <b>Total Credit Hours</b>  | <b>65-69</b> |                |  |
| * Federally approved ironworking apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 6000 clock hours of on-the-job training. Transcribed upon completion of 15 hours of MCC coursework and documentation of certificate and/or journeyman card for the appropriate craft. |              |                |  |

# Construction Trades Apprenticeship Program

## Construction Laborer Apprenticeship Degree Completion Program

201816 Approved 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics                                       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher                                 | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103)<br>MATH 103 (MATH 104)<br>MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>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, SOSOC, SOCI, THEA  | 3-5          |                |  |
| <b>Total General Education Requirement</b>  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| BSAD 109 Principles of Supervision  | 3            |                |  |
| CSIS 100 Digital Literacy <b>or</b><br>CSIS 115 Computer Concepts and Applications  | 2-3          |                |  |
| EHSS 112 Introduction to Health and Safety for Construction   | 1            |                |  |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 151 Industrial Rigging   | 3            |                |  |
| General Electives   | 6            |                |  |
| Construction Laborer Apprenticeship (Credit by Certification*)  | 29           |                |  |
| <b>Total Credit Hours</b>   | <b>65-69</b> |                |  |
| * 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. |              |                |  |

# Construction Trades Apprenticeship Program

## Floor Layer Apprenticeship

201831 Revised 7/2014 (Fall 2014)

| 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 <b>or</b>              | 3         |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |           |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |           |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |           |                |  |
| POLS 137  | Introduction to State and Local Politics             |           |                |  |
| COMM 100  | Fundamentals of Speech                               | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>  |  | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103  | Technical Mathematics I <b>or</b>                    |           |                |  |
| MATH 103R   | Technical Mathematics I w/ review <b>or</b>          |           |                |  |
| MATH 120  | College Algebra <b>or</b>                            |           |                |  |
| MATH 104  | Technical Mathematics II <b>or</b>                   |           |                |  |
| MATH 130  | Trigonometry   |           |                |  |
| <b>Option 2:</b>  |  | 3-5       |                |  |
| 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, SOCS, SOCI, THEA |  |           |                |  |
| <b>Total General Education Requirements</b>   |  | <b>18</b> |                |  |

| Specific Program Requirements  |  |              |  |  |
|--|--|--------------|--|--|
| BSAD 109   | Principles of Supervision                              | 3            |  |  |
| CSIS 100   | Digital Literacy <b>or</b>                             | 2-3          |  |  |
| CSIS 115   | Computer Concepts and Applications                     |              |  |  |
| EHSS 111   | Introduction to Health and Safety for General Industry | 1            |  |  |
| INTE 124   | Employment Strategies for Technical Careers            | 2            |  |  |
| INTE 151   | Industrial Rigging                                     | 3            |  |  |
| Floor Layer Apprenticeship (Credit by Certification*)  |  | 29           |  |  |
| General Electives  |  | 6            |  |  |
| <b>Total Credit Hours</b>  |  | <b>65-69</b> |  |  |
| * 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. |  |              |  |  |

# Construction Trades Apprenticeship Program

## Glaziers Apprenticeship Degree Completion Program

201813 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| Any course numbered 100 or higher from the following disciplines:<br>ART, ANTH, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, COMM/THEA   | 3-5       |                |  |
| <b>Total General Education Requirements</b>   | <b>18</b> |                |  |

| Specific Program Requirements                               |              |  |  |
|---|--------------|--|--|
| BSAD 109 Principles of Supervision                          | 3            |  |  |
| CSIS 100 Digital Literacy <b>or</b>                         | 2-3          |  |  |
| CSIS 115 Computer Concepts and Applications                 |              |  |  |
| EHSS 112 Introduction to Health and Safety for Construction | 1            |  |  |
| INTE 124 Employment Strategies for Technical Careers        | 2            |  |  |
| INTE 151 Industrial Rigging                                 | 3            |  |  |
| General Electives   | 6            |  |  |
| Glazier Apprenticeship (Credit by Certification*)           | 29           |  |  |
| <b>Total Credit Hours</b>                                   | <b>65-69</b> |  |  |

\* 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.

# Construction Trades Apprenticeship Program

## Inside Wiring- 3 Year Apprenticeship Degree Completion Program

201814 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| Any course numbered 100 or higher from the following disciplines:<br>ART, ANTH, COMM ECON, ENGL, FOREIGN LANGUAGE, GEOG<br>(Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS,<br>PSYC, SIGN, SOSC, SOCI, THEA  | 3-5       |                |  |
| <b>Total General Education Requirements</b>   | <b>18</b> |                |  |

| Specific Program Requirements  | Credits      | Semester Taken | Prerequisites |
|--|--------------|----------------|---------------|
| BSAD 109 Principles of Supervision   | 3            |                |               |
| CSIS 100 Digital Literacy <b>or</b><br>CSIS 115 Computer Concepts and Applications | 2-3          |                |               |
| INTE 107 Industrial Electrical Safety  | 2            |                |               |
| INTE 124 Employment Strategies for Technical Careers                               | 2            |                |               |
| INTE 151 Industrial Rigging  | 3            |                |               |
| General Electives  | 6            |                |               |
| Electrical Apprenticeship  | 29-42        |                |               |
| <b>Total Credit Hours</b>  | <b>65-69</b> |                |               |

\* 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.

# Construction Trades Apprenticeship Program

## Inside Wiring- 5 Year Apprenticeship Degree Completion Program

201820 Revised 7/2014 (Fall 2014)

|  |  |              |                |  |
|--|--|--------------|----------------|--|
| 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 <b>or</b>              |              |                |  |
| HIST 121   | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135   | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136   | Introduction to American National Politics <b>or</b> | 3            |                |  |
| POLS 137   | Introduction to State and Local Politics             |              |                |  |
| COMM 100   | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.          |
| <b>Option 1:</b>   |  |              |                |  |
| MATH 103   | Technical Mathematics I <b>or</b>                    |              |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104) |
| MATH 103R  | Technical Mathematics I w/ review <b>or</b>          |              |                | MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150) |
| MATH 120   | College Algebra <b>or</b>                            |              |                | MATH 120 or appropriate placement score (MATH 130)                         |
| MATH 104   | Technical Mathematics II <b>or</b>                   | 5-8          |                |  |
| MATH 130   | Trigonometry   |              |                |  |
| <b>Option 2:</b>   |  |              |                |  |
| 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, SOSC, SOCI, THEA  |  | 3-5          |                |  |
| Total General Education Requirements   |  | 18           |                |  |
| Specific Program Requirements  |  | Credits      | Semester Taken | Prerequisites  |
| CSIS 100   | Digital Literacy <b>or</b>                           |              |                |  |
| CSIS 115   | Computer Concepts and Applications                   | 2-3          |                |  |
| INTE 107   | Industrial Electrical Safety                         | 2            |                |  |
| INTE 124   | Employment Strategies for Technical Careers          | 2            |                |  |
| Electrical Apprenticeship  |  | 42           |                |  |
| <b>Total Credit Hours</b>  |  | <b>66-70</b> |                |  |
| * 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. |  |              |                |  |

# Construction Trades Apprenticeship Program

## Painter Apprenticeship Degree Completion Program

201815 Approved 7/2014 (Fall 2014)

|   |  |              |                |  |
|---|--|--------------|----------------|--|
| 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 <b>or</b>              | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137  | Introduction to State and Local Politics             |              |                |  |
| COMM 100  | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>  |  | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103  | Technical Mathematics I <b>or</b>                    |              |                |  |
| MATH 103R   | Technical Mathematics I w/ review <b>or</b>          |              |                |  |
| MATH 120  | College Algebra <b>or</b>                            |              |                |  |
| MATH 104  | Technical Mathematics II <b>or</b>                   |              |                |  |
| MATH 130  | Trigonometry   |              |                |  |
| <b>Option 2:</b>  |  | 3-5          |                |  |
| 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, SOSC, SOCI, THEA |  |              |                |  |
| Total General Education Requirements  |  | 18           |                |  |
| Specific Program Requirements   |  | Credits      | Semester Taken | Prerequisites  |
| BSAD 109  | Principles of Supervision                            | 3            |                |  |
| CSIS 100  | Digital Literacy <b>or</b>                           | 2-3          |                |  |
| CSIS 115  | Computer Concepts and Applications                   |              |                |  |
| EHSS 112  | Introduction to Health and Safety for Construction   | 1            |                |  |
| INTE 124  | Employment Strategies for Technical Careers          | 2            |                |  |
| INTE 151  | Industrial Rigging                                   | 3            |                |  |
| General Electives   |  | 6            |                |  |
| Painter Apprenticeship (Credit by Certification*)   |  | 29           |                |  |
| <b>Total Credit Hours</b>   |  | <b>65-69</b> |                |  |

\* 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.

# Construction Trades Apprenticeship Program

## Plumbing Apprenticeship Degree Completion Program

201818 Approved 7/2014 (Fall 2014)

| 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 <b>or</b>              | 3       |                |  |
| HIST 121   | United States History Since 1865 <b>or</b>           |         |                |  |
| POLS 135   | Introduction to Political Science <b>or</b>          |         |                |  |
| POLS 136   | Introduction to American National Politics <b>or</b> |         |                |  |
| POLS 137   | Introduction to State and Local Politics             |         |                |  |
| COMM 100   | Fundamentals of Speech                               | 3       |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>   |  | 5-8     |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103   | Technical Mathematics I <b>or</b>                    |         |                |  |
| MATH 103R  | Technical Mathematics I w/ review <b>or</b>          |         |                |  |
| MATH 120   | College Algebra <b>or</b>                            |         |                |  |
| MATH 104   | Technical Mathematics II <b>or</b>                   |         |                |  |
| MATH 130   | Trigonometry   |         |                |  |
| <b>Option 2:</b>   |  | 3-5     |                |  |
| MATH 150   | PreCalculus or higher                                |         |                |  |
| Any course numbered 100 or higher from the following disciplines:<br>ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG<br>(Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS,<br>PSYC, SIGN, SOSC, SOCI, THEA |  |         |                |  |
| Minimum Total General Education Credit Hours   |  | 18      |                |  |

| Specific Program Requirements                     |  | Credits      | Semester Taken | Prerequisites |
|---|--|--------------|----------------|---------------|
| BSAD 109  | Principles of Supervision                        | 3            |                |               |
| CSIS 100  | Digital Literacy <b>or</b>                       | 2-3          |                |               |
| CSIS 115  | Computer Concepts and Applications               |              |                |               |
| EHSS 112  | Introduction to Health & Safety for Construction | 1            |                |               |
| INTE 124  | Employment Strategies for Technical Careers      | 2            |                |               |
| INTE 151  | Industrial Rigging                               | 3            |                |               |
| General Electives                                 |  | 6            |                |               |
| Plumber Apprenticeship (Credit by Certification*) |  | 29           |                |               |
| <b>Total Credit Hours</b>                         |  | <b>65-69</b> |                |               |

\* 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.



# Criminal Justice

Offered at MCC-Blue River and MCC-Penn Valley

- A.A.S. Criminal Justice Adult  
Corrections Emphasis .....64-66 Credits
- A.A.S. Criminal Justice Juvenile  
Services Emphasis .....67-69 Credits
- A.A.S. Criminal Justice Police  
Science .....65-71 Credits
- Police Science Certificate-600 Program .....38 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 Approved 12/2016 (Fall 2017)

| 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 <b>or</b>              | 3            |                |   |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |   |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |   |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |   |
| POLS 137  | Introduction to State and Local Politics             |              |                |   |
| MATH 100  | Mathematics for Business or higher numbered course   | 3            |                | MATH 31 with a grade of S or appropriate placement                |
| 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: ECON, HIST, Foreign Language |  | 3-5          |                |   |
| <b>Specific Core Requirements</b>   |  |              |                |   |
| CRJU 101  | Intro to Criminal Justice                            | 3            |                |   |
| CRJU 122  | Procedural Law                                       | 3            |                |   |
| CRJU 165  | Criminology  | 3            |                |   |
| CRJU 168  | Juvenile Delinquency                                 | 3            |                |   |
| CRJU 169  | Family Violence and Sexual Abuse                     | 3            |                |   |
| CRJU 223  | Criminal Law I <b>or</b>                             | 3            |                |   |
| CRJU 230  | Missouri Criminal Law                                |              |                |   |
| <b>Adult Corrections Emphasis</b>   |  |              |                |   |
| CRJU 105  | American Corrections                                 | 3            |                | CRJU 101  |
| CRJU 126  | Corrections in the Community                         | 3            |                |   |
| CRJU 162  | Correctional Psychology                              | 3            |                |   |
| CRJU 200  | Internship in Criminal Justice                       | 3            |                | 15 credit hours of CRJU including CRJU 101                        |
| 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, SOWK       |  | 9            |                |   |
| <b>Total Credit Hours Required</b>  |  | <b>64-66</b> |                |   |

## Criminal Justice

## A.A.S. Criminal Justice Juvenile Services Emphasis

204102 Approved 1/2009 (Summer 2009)

| 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 <b>or</b> HIST 121 United States History Since 1865 <b>or</b> POLS 135 Introduction to Political Science <b>or</b> POLS 136 Introduction to American National Politics <b>or</b> POLS 137 Introduction to State and Local Politics | 3            |                |   |
| MATH 100  | Mathematics for Business or higher numbered course   | 3            |                | MATH 31 with a grade of S or appropriate placement                |
| 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: ECON, HIST, Foreign Language |  | 3-5          |                |   |
| Minimum Total General Education Credit Hours  |  | <b>18</b>    |                |   |
| <b>Specific Core Requirements</b>   |  |              |                |   |
| CRJU 101  | Intro to Criminal Justice  | 3            |                |   |
| CRJU 122  | Procedural Law   | 3            |                |   |
| CRJU 165  | Criminology  | 3            |                |   |
| CRJU 168  | Juvenile Delinquency   | 3            |                |   |
| CRJU 169  | Family Violence and Sexual Abuse   | 3            |                |   |
| CRJU 223  | Criminal Law I <b>or</b>   | 3            |                |   |
| CRJU 230  | Missouri Criminal Law  | 3            |                |   |
| <b>Juvenile Services Emphasis</b>   |  |              |                |   |
| CRJU 200  | Internship in Criminal Justice   | 3            |                | 15 credit hours of CRJU including CRJU 101                        |
| CRJU 215  | Juvenile Law   | 3            |                |   |
| CRJU 244  | Group and Individual Counseling in Corrections   | 3            |                | CRJU 105  |
| SOWK 160  | Foundations of Youth Work  | 3            |                | SOWK 100  |
| SOWK 166  | Behavior Intervention Techniques with Adolescents  | 3            |                | SOWK 100 and 160  |
| PSYC 245  | Adolescent Psychology  | 3            |                | PSYC 140  |
| Electives: Any course(s) numbered 100 or above from the following disciplines: ANTH, CRJU, Foreign Language, SOWK, PSYC       |  | 9            |                |   |
| <b>Total Credit Hours Required</b>  |  | <b>67-69</b> |                |   |

# 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 9/2016 (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 United States History to 1865 <i>or</i><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local 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 General Psychology <i>or</i><br>SOC1 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: ECON, HIST, Foreign Language   | 3-5          |                |   |
| <b>Police Science Emphasis Requirements</b>   |              |                |   |
| 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            |                |   |
| <b>Electives</b>  |              |                |   |
| Choose three courses numbered 100 or above from the following disciplines:<br>ANTH, BSAD, CRJU, HIST, LWEN, POLS, PSYC, SOCI, SOWK, or Foreign Language   | 9-11         |                |   |
| <b>Total Credit Hours Required</b>  | <b>65-71</b> |                |   |

## 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)

| Specific Program Requirements                                 | Credits   | Semester Taken | Prerequisites                               |
|---|-----------|----------------|---|
| COLL 100 First Year Seminar                                   | 1         |                |   |
| 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         |                |   |
| <b>Total Credit Hours Required</b>                            | <b>38</b> |                |   |

# 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](http://www.mcckc.edu/dentalassisting)

## A.A.S. Dental Assisting

203900 Revised 12/2015 (Fall 2016)

| Program Prerequisites   | Credits      | Semester Taken | Prerequisites   |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar or<br>HLSC 100 Introduction to Health Professions   | 1-2          |                |   |
| 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            |                |   |
| <b>General Education Requirements (23-29 credit hours)</b>  |              |                |   |
| BIOL 109 Anatomy and Physiology <b>or</b><br>BIOL 110 Human Anatomy <b>and</b><br>BIOL 210 Human Physiology   | 6-10         |                | CHEM 105 (BIOL 109)<br>CHEM 105 and BIOL 110 (BIOL 210)   |
| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics | 3            |                |   |
| PSYC 140 General Psychology   | 3            |                |   |
| COMM 100 Fundamentals of Speech <b>or</b><br>COMM 102 Fundamentals of Human Communication   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |   |
| <b>Specific Program Requirements</b>  |              |                |   |
| 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  |
| <b>Total Credit Hours Required</b>  | <b>73-78</b> |                |   |

## Dental Assisting

## Dental Assisting Certificate

301300 Revised 12/2015 (Fall 2016)

|                                    |   |              |                |  |
|------------------------------------|---|--------------|----------------|--|
| COLL 100                           | First Year Seminar or                       | 1-2          |                |  |
| HLSC 100                           | Intro to Health Professions                 |              |                |  |
| 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   |
| <b>Total Credit Hours Required</b> |   | <b>54-55</b> |                |  |

# 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

Every student in the ECED program should be aware that the Missouri State Board of Education may refuse to issue or renew, or may suspend or revoke a certificate of license to teach if an individual has pleaded or been found guilty of a felony or crime involving moral turpitude whether or not sentence is imposed; upon evidence that the certificate was obtained by fraud, deception, misrepresentation, or bribery; upon evidence of incompetence, immorality, or neglect of duty; or if the certificate holder is subject to discipline in another state.

A.A.S. Early Childhood Education and Development ..... 63-65 Credits  
 Early Childhood Education and Development Certificate ..... 22 Credits

## A.A.S. Early Childhood Education and Development

200400 Approved 7/2015 (Spring 2016)

| COLL 100  | First Year Seminar                                   | 1         |                |  |
|---|--|-----------|----------------|--|
| General Education Requirements  |  | Credits   | Semester Taken | Prerequisites  |
| COMM 100  | Fundamentals of Speech <b>or</b>                     | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score |
| COMM 102  | Fundamentals of Human Communication                  |           |                |  |
| 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 <b>or</b>              | 3         |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |           |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |           |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |           |                |  |
| POLS 137  | Introduction to State and Local Politics             |           |                |  |
| 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, MSCM, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA. |  | 3-5       |                |  |
| General Education Electives: Any course(s) numbered 100 or above from the following disciplines: BIOL, CHEM, GEOG (except 104 & 110), GEOL, MATH, PHYS  |  | 3-5       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b> |                |  |

*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<br>ECED 121<br>ECED 220   | Teaching Infants and Toddlers <b>or</b><br>Issues, Advocacy, and Trends <b>or</b><br>Child Care Management | 3            | ECED 113<br>ECED 101 or concurrent enrollment<br>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   |
| <b>Total Credit Hours Required</b> |  | <b>63-65</b> |   |



# 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  |
| <b>Total Credit Hours Required</b>                | <b>22</b> |                |   |

# 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 .....                  | 60-63 Credits |
| Civil Engineering.....              | 61-64 Credits |
| Computer & Electronics.....         | 62-66 Credits |
| Mechanical/Manufacturing Tech ..... | 62-65 Credits |
| Mechatronics .....                  | 68 Credits    |
| BIM Certificate .....               | 20-22 Credits |

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

204405 Revised 12/2017 (Fall 2018)

| 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 <b>or</b><br>HIST 121 U.S. History since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics | 3            |                |  |
| PHYS 130 General Physics  | 5            |                | MATH 130 or appropriate placement test score.  |
| <b>Option #1</b><br>MATH 120 College Algebra and<br>MATH 130 Trigonometry<br><b>Option #2</b><br>MATH 150 PreCalculus or higher   | 5-7          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>MATH 120 (MATH 130) |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| ENGR 101 Introduction to the Profession   | 1            |                |  |
| EHSS 111 Intro to Health & Safety for General Industry or<br>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 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  |
| ETEC 170 CADD I, Microstation   | 3            |                | ETEC 152   |
| 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 290 Internship in Engineering Technology or<br>ETE 295 Capstone Project in Engineering Technology  | 3            |                | ETEC 152<br>ETE 152, 269, 270, 271   |
| SRVY 135 Elementary Surveying   | 3            |                | MATH 130 or 150 with a minimum grade of C or appropriate placement                                     |
| <b>Total Credit Hours Required</b>  | <b>60-63</b> |                |  |

## Engineering Technology

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

204401 Revised 12/2016 (Fall 2018)

| 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 <b>or</b>                       | 3            |                |  |
| HIST 121  | U.S. History since 1865 <b>or</b>                    |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137  | Introduction to State and Local Politics             |              |                |  |
| <b>Option #1</b>                                    |  | 5-7          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>MATH 120 (MATH 130) |
| MATH 120  | College Algebra or                                   |              |                |  |
| MATH 130  | Trigonometry   |              |                |  |
| <b>Option #2</b>                                    |  |              |                |  |
| MATH 150  | PreCalculus or higher                                |              |                |  |
| PHYS 130  | General Physics                                      | 5            |                | MATH 130 or appropriate placement test score.  |
| <b>Minimum Total General Education Credit Hours</b> |  | <b>18</b>    |                |  |
| <b>specific Program Requirements for:</b>           |  |              |                |  |
| EHSS 111  | Introduction to Health & Safety for General Industry | 1            |                |  |
| ENGR 101  | Introduction to the Profession                       | 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  |
| <b>specific Emphasis Requirements Civil</b>         |  |              |                |  |
| 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                                     |
| <b>Total Credit Hours Required</b>                  |  | <b>61-64</b> |                |  |

## Engineering Technology

## A.A.S. Engineering Technology: Computer &amp; Electronics Emphasis

204403 Revised 12/2016 (Fall 2017)

| 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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137                 | U.S. History to 1865 <b>or</b><br>U.S. History since 1865 <b>or</b><br>Introduction to Political Science <b>or</b><br>Introduction to American National Politics <b>or</b><br>Introduction to State and Local Politics | 3            |                |  |
| <b>Option #1</b><br>MATH 120<br>MATH 130<br><b>Option #2</b><br>MATH 150 | College Algebra and Trigonometry<br>PreCalculus or higher  | 5-7          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>MATH 120 (MATH 130) |
| CHEM 111<br>PHYS 130   | General College Chemistry I <b>or</b><br>General Physics I   | 5            |                | MATH 120 or satisfactory score on placement test (CHEM 111) MATH 130                                   |
| <b>Minimum Total General Education Credit Hours</b>                      |  | <b>22-24</b> |                |  |
| <b>Specific Program Requirements</b>                                     |  |              |                |  |
| ENGR 101   | Introduction to the Profession   | 1            |                |  |
| 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<br>EHSS 112   | Intro to Health & Safety for General Industry <b>or</b><br>Intro to Health & Safety for Construction   | 1            |                |  |
| 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<br>ETE 295  | Internship in Engineering Technology or<br>Capstone Project in Engineering Technology  | 3            |                | ETEC 152<br>ETE 152, 269, 270, 271   |
| Electives- choose one: CSIS or INTE                                      |  | 3-4          |                |  |
| <b>Total Credit Hours Required</b>                                       |  | <b>64-67</b> |                |  |

## Engineering Technology

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

204402 Revised 12/2016 (Fall 2017)

| 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 <b>or</b>                               | 3            |                |  |
| HIST 121  | U.S. History since 1865 <b>or</b>                            |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>                  |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>         |              |                |  |
| POLS 137  | Introduction to State and Local Politics                     |              |                |  |
| <b>Option #1</b>                                    |  | 5-7          |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120 and 150)<br>MATH 120 (MATH 130) |
| MATH 120  | College Algebra and  |              |                |  |
| MATH 130  | Trigonometry   |              |                |  |
| <b>Option #2</b>                                    |  | 5            |                | MATH 130 or appropriate placement test score.  |
| MATH 150  | PreCalculus or higher  |              |                |  |
| PHYS 130  | General Physics  | 5            |                |  |
| <b>Minimum Total General Education Credit Hours</b> |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements:</b>               |  |              |                |  |
| EHSS 111  | Introduction to Health and Safety for General Industry       | 1            |                |  |
| ENGR 101  | Introduction to the Profession                               | 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  |
| <b>Specific Emphasis Requirements</b>               |  |              |                |  |
| <b>Mechanical/Manufacturing</b>                     |  |              |                |  |
| ETEC 258  | Introduction to Machine Design                               | 3            |                | ETEC 152   |
| ETEC 270  | Parametric Modeling Inventor <b>or</b>                       | 3            |                | EETC 152   |
| EETC 271  | Parametric Modeling Solidworks                               |              |                |  |
| EETC 272  | Adv. Parametric Modeling and Prototyping, Inventor <b>or</b> | 3            |                | EETC 270<br>EETC 271   |
| EETC 273  | Advanced Parametric Modeling and Prototyping, 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 <b>or</b>                   | 4            |                | CIMM 110<br>CIMM 115   |
| CIMM 122  | CNC Mill Operation Fundamentals                              |              |                |  |
| WELD 100  | Introduction to Welding/Cutting Processes                    | 1            |                |  |
| <b>Total Credit Hours Required</b>                  |  | <b>62-65</b> |                |  |

# Engineering Technology

## A.A.S. Engineering Technology: Mechatronics

204407 Revised 2/2018 (Fall 2018)

| General Education Requirements   |   | Credits   | Semester Taken | Prerequisites  |
|--|---|-----------|----------------|--|
| COLL 100   | First Year Seminar  | 1         |                |  |
| 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                               |
| ENGL 215   | Technical Writing   | 3         |                | ENGL 101   |
| HIST 120   | U.S. History to 1865 <b>or</b>                            | 3         |                |  |
| HIST 121   | U.S. History since 1865 <b>or</b>                         |           |                |  |
| POLS 136   | Introduction to American National Politics                |           |                |  |
| MATH 120   | College Algebra <b>and</b>                                | 6         |                | MATH 95 with a grade of C or higher or appropriate placement (MATH 120)<br>MATH 120 (MATH 130) |
| MATH 130   | Trigonometry or higher                                    |           |                |  |
| PHYS 130   | General Physics I <b>or</b>                               | 5         |                | MATH 130 (PHYS 130)<br>MATH 180 with a C or higher and co-requisite<br>MATH 190 (PHYS 220)     |
| PHYS 220   | Engineering Physics I                                     |           |                |  |
| <b>Specific Program Requirements:</b>  |   |           |                |  |
| EHSS 111   | Introduction to Health and Safety for General Industry or | 1         |                |  |
| EHSS 112   | Introduction to Health and Safety for Construction        |           |                |  |
| ENGR 101   | Introduction to the Profession                            | 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   | Parametric Modeling or (PLTW IED)                         | 3         |                | ETEC 152, concurrent enrollment, or PLTW Intro to Engineering Design                           |
| ETEC 290   | Internship in Engineering Technology or                   | 3         |                | ETEC 152<br>EETEC 152, ETEC 269, ETEC 270 or ETEC 271  |
| ETEC 295   | Capstone Project in Engineering Technology                |           |                |  |
| Choose any of the following electives:<br>CSIS 112, 113;<br>ETEC 152, 200, 212, 230, 240, 258, 269, 271;<br>Or INTE 101, 270, 271, 272, 273, 281 |   | 20        |                | See an academic advisor for recommendations.   |
| <b>Total Credit Hours Required</b>   |   | <b>68</b> |                |  |

# Engineering Technology

## Building Information Modeling Certificate

405300 Approved 10/2016 (Fall 2017)

| General Education Requirements     |  | Credits      | Semester Taken | Prerequisites   |
|------------------------------------|--|--------------|----------------|---|
| COLL 100                           | First Year Seminar                                       | 1            |                |   |
| ETEC 152<br>ETEC 169               | Engineering Graphics and CADD I or<br>CADD I             | 3-5          |                | MATH 95 with a C or higher or appropriate placement   |
| ETEC 211                           | Building Information Modeling, REVIT                     | 3            |                | ETEC 152, concurrent enrollment 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            |                |   |
| <b>Total Credit Hours Required</b> |  | <b>20-22</b> |                |   |

# 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..... 64-66 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 <b>or</b>                         | 4-6          |                | CHEM 105 (BIOL 109)   |
| HLSC 108  | Anatomy and Physiology for Health Professions <b>or</b> |              |                |   |
| BIOL 109  | Anatomy and Physiology <b>or</b>                        |              |                |   |
| 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                     |              |                |   |
| BSAD 120  | Organizational Behavior <b>or</b>                       | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score. |
| BSAD 221  | Business Communications                                 |              |                |   |
| CHEM 105  | Introductory Chemistry <b>or</b> higher                 | 5            |                |   |
| HIST 120  | United States History to 1865 <b>or</b>                 | 3            |                |   |
| HIST 121  | United States History Since 1865 <b>or</b>              |              |                |   |
| POLS 136  | Introduction to American National Politics <b>or</b>    |              |                |   |
| POLS 137  | Introduction to State and Local Politics                |              |                |   |
| MATH 103  | Technical Math I or higher                              | 3-5          |                | MATH 31 with a grade of S or appropriate placement                |
| <b>Minimum Total General Education Credit Hours</b> |   | <b>18</b>    |                |   |
| <b>Core Program Requirements</b>                    |   |              |                |   |
| 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  |
| EHSS 210  | Incident & Accident Investigation                       | 3            |                | EHSS 200  |
| EHSS 211  | Workers Compensation Legislation for EHS                | 3            |                | EHSS 200  |
| EHSS 218  | Industrial Hazard Control                               | 3            |                | EHSS 200  |
| 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 and 203  |
| <b>Total Credit Hours Required</b>                  |   | <b>64-66</b> |                |   |



# Environmental Health & Safety 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  |
| EHSS 210                           | Incident and Accident Investigation               | 3         |                | EHSS 200  |
| 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  |
| <b>Total Credit Hours Required</b> |   | <b>31</b> |                |   |

# Fire Science Technology

Offered at MCC-Blue River

This program, which offers an Associate in Applied Science degree and certificate, provides advanced professional training in fire science. Most metropolitan fire departments require FFI and FFII certification prior to employment. The Public Safety Institute of MCC-Blue River satisfies all requirements for FFI and FFII as well as CPAT, Haz-Mat awareness, Haz-Mat operations, and EMT. The Academy offers two levels of firefighting training. Full-time day and part-time night classes are available. Successful graduates of the Academy will obtain their state certification in the above mentioned areas.

A.A.S. Fire Science Technology ..... 64-66 Credits  
 Fire Science Certificate ..... 28 Credits

## A.A.S. Fire Science Technology

201200 Revised 12/2016 (Fall 2017)

| 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 <b>or</b>                  | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>               |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>              |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>     |              |                |  |
| POLS 137  | Introduction to State and Local Politics                 |              |                |  |
| MATH 100  | Mathematics for Business or higher                       | 3            |                | MATH 31 with a minimum grade of S or appropriate placement score |
| PSYC 140  | General Psychology                                       | 3            |                |  |
| COMM 100  | Fundamentals of Speech <b>or</b>                         | 3            |                | ENGL 90 with a grade of S or appropriate placement test score    |
| COMM 102  | Fundamentals of Human Communication                      |              |                |  |
| Electives from one of the following: any elective from the State Transfer Library, Common Core<br>ANTH 100; ART 108, 110; BIOL 101; COMM 100; ECON 210, 211;<br>FREN 101, 102; HIST 120, 121, 133, 134; MATH 115, 120, 180; MUSI 108;<br>PHIL 100; PHYS 106L; POLS 136; PSYC 140; SOCI 160; SPAN 101, 102 |  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |  |              |                |  |
| EMS 150   | Emergency Medical Technician-Basic                       | 8            |                | Student must be 18 years old by the end of the course            |
| FSTE 107  | Fire Science Physical Fitness I                          | 1            |                | Enrollment in Fire Academy                                       |
| FSTE 108  | Fire Science Physical Fitness II                         | 1            |                | FSTE 107   |
| FSTE 109  | Fire Science Physical Fitness III                        | 1            |                | FSTE 108   |
| FSTE 161  | Fire Investigation I                                     | 3            |                | FESHE Core class   |
| FSTE 169  | Fire Prevention  | 3            |                | FESHE Core class   |
| FSTE 170  | Haz-Mat Awareness and Operations                         | 3            |                |  |
| FSTE 172  | Strategies and Tactics                                   | 3            |                | FESHE Core class   |
| FSTE 179  | Principles of Emergency Services                         | 4            |                | FESHE Core class   |
| FSTE 192  | Fire Protection Systems                                  | 3            |                | FESHE Core class   |
| FSTE 193  | Legal Aspects of the Fire Service                        | 3            |                | FESHE Core class   |
| FSTE 202  | Intro to Fire and Emergency Services Administration      | 3            |                | FESHE Core class   |
| FSTE 204  | Principles of Fire Emergency Safety and Survival         | 3            |                | FESHE Core class   |
| FSTE 205  | Fire Behavior and Combustion                             | 3            |                | FESHE Core class   |
| FSTE 208  | Occupational Safety and Health in the Emergency Services | 3            |                | MO State Firefighter I and II or inst. approval                  |
| FSTE 209  | Building Construction for Fire Protection                | 3            |                |  |
| <b>Total Credit Hours Required</b>  |  | <b>64-66</b> |                |  |

# Fire Science Technology

## Fire Science Certificate

402200 Revised 12/2016 (Fall 2017)

| 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 169                           | Fire Prevention                                  | 3         |                | FESHE Core class  |
| FSTE 170                           | Haz-Mat Awareness and Operations                 | 3         |                |   |
| FSTE 179                           | Principles of Emergency Services                 | 4         |                | FESHE Core class  |
| FSTE 107                           | Fire Science Physical Fitness I                  | 1         |                | Enrollment in MCC Fire Academy  |
| FSTE 108                           | Fire Science Physical Fitness II                 | 1         |                | FSTE 107  |
| FSTE 109                           | Fire Science Physical Fitness III                | 1         |                | FSTE 108  |
| FSTE 204                           | Principles of Fire Emergency Safety and Survival | 3         |                | FESHE Core class  |
| FSTE 209                           | Building Construction for Fire Protection        | 3         |                | FESHE Core class  |
| <b>Total Credit Hours Required</b> |  | <b>28</b> |                |   |

# 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 ..... 16 Credits

## Foreign Language Interpreting Certificate

402900 Approved 1/2007 (Fall 2007)

| 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                          |
| FLIN 115                           | Legal Interpreting           | 3         |                | FLIN 105                          |
| FLIN 120                           | Practicum                    | 3         |                | FLIN 110 and FLIN 115             |
| <b>Total Credit Hours Required</b> |                              | <b>16</b> |                |                                   |

# 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 ..... 68-70 Credits

## A.A.S. Forensic Chemistry

604300 Revised 7/2014 (Fall 2014)

| Specific Program Requirements<br><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            |                |  |
| Literature Core Elective   | 3            |                | See Courses section of this catalog for individual course prerequisites. |
| Suggested Social Science Core Electives Include:<br>PSYC 140, SOCI 160, ANTH 100   | 3            |                |  |
| Specific Program Requirements<br><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            |                |  |
| <b>Total Credit Hours Required</b>   | <b>68-70</b> |                |  |

# 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 |
| <b>Total Credit Hours Required</b>                      | <b>17-19</b> |                |                  |

# 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 12/2014 (Fall 2015)

| General Education Requirements  | Credits   | Semester Taken | Prerequisites  |
|---|-----------|----------------|--|
| COLL 100 First Year Seminar   | 1         |                |  |
| ART 103 Design Foundations  | 3         |                |  |
| ART 157 History of Graphic Design   | 3         |                |  |
| COMM 100 Fundamentals of Speech <i>or</i><br>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><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local Politics | 3         |                |  |
| MATH 119 College Math or higher   | 3         |                | MATH 95 with a grade of C or higher or appropriate placement               |
| <b>Specific Program Requirements</b>  |           |                |  |
| ART 110 Drawing I   | 3         |                |  |
| ART 123 Color Theory  | 3         |                | ART 103 or concurrent enrollment   |
| GDES 110 Computers in Design I  | 3         |                |  |
| GDES 115 Introduction to Graphic Arts   | 3         |                |  |
| GDES 150 Computers in Design II   | 3         |                | GDES 110   |
| GDES 160 Graphic Design I*  | 3         |                | GDES 150 or concurrent enrollment, READ 11/31 or higher, formal acceptance |
| ART 247 Digital Imaging <i>or</i><br>GDES 280 Adv. Color Correction   | 3         |                | GDES 110 (ART 247)<br>GDES 150 or concurrent enrollment (GDES 280)         |
| ART 250 Printmaking <i>or</i><br>ART 254 Silk Screen Printing I   | 3         |                |  |
| GDES 210 Graphic Design II*   | 3         |                | GDES 160   |
| GDES 220 Graphic Design File Preparation  | 3         |                | GDES 150 or concurrent enrollment  |
| GDES 245 Web Design*  | 3         |                | GDES 150 or equivalent   |
| GDES 250 Graphic Design III*  | 3         |                | GDES 210 or concurrent enrollment  |
| GDES 255 Advanced Web Design*   | 3         |                | GDES 245   |
| GDES 264 Art Portfolio- Graphic Design  | 3         |                | GDES 210 or concurrent enrollment  |
| ART Elective Course (See list below for recommendations)  | 3         |                |  |
| <b>Total Credit Hours Required</b>  | <b>64</b> |                |  |

Recommended Electives (suggested categories based on student intent)

| Graphic Design                 | Illustration                    | Transfer           |
|--------------------------------|---------------------------------|--------------------|
| GDES 280 Adv. Color Correction | ART 105 Digital Art Foundations | ART 111 Drawing II |
| GDES 290* GD Internship        | ART 270* Illustration           | ART 220 Painting I |
| ART 139* Film and Darkroom     | ART 111 Drawing II              | ART 170 Ceramics   |
| Photography                    | ART 112 Drawing III             |                    |
| ART 247 Digital Imaging        | ART 113 Drawing IV              |                    |
| ART 242 Photography II         | ART 220 Painting I              |                    |
| ART 280* Spec. Studies (in GD) | ART 221 Painting II             |                    |
|                                | ART 222 Painting III            |                    |

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

# 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/](http://www.mcckc.edu/programs/healthinformationmanagementcoding/)

A.A.S. Health Information Management .....75.5-82.5 Credits  
 Coding Specialist Certificate .....27.5-34.5 Credits

## A.A.S. Health Information Management

201600 Revised 12/2016 (Fall 2017)

| Program Prerequisites (11-18 credit hours)        |   | Credits          | Semester Taken | Prerequisites  |
|---|---|------------------|----------------|--|
| COLL 100  | First Year Seminar <b>or</b>                            | 1-2              |                |  |
| HLSC 100  | Introduction to Health Professions                      |                  |                |  |
| HIM 100   | Medical Terminology                                     | 3                |                |  |
| HLSC 108  | Anatomy and Physiology for Health Professions <b>or</b> | 4-10             |                | CHEM 105 (BIOL 109)<br>BIOL 110 or CHEM 105 (BIOL 210)                                       |
| BIOL 109  | Human Anatomy and Physiology <b>or</b>                  |                  |                |  |
| BIOL 110  | Human Anatomy <b>and</b>                                |                  |                |  |
| BIOL 210  | Human Physiology  |                  |                |  |
| 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 <b>or</b>                 | 3                |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>              |                  |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>             |                  |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>    |                  |                |  |
| POLS 137  | Introduction to State and Local Politics                |                  |                |  |
| 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   |
| <b>Total Credit Hours Required</b>                |   | <b>75.5-82.5</b> |                |  |



# Health Information Management

## Coding Specialist Certificate

304600 Revised 12/2016 (Fall 2017)

|                                    |   |                  |                |  |
|------------------------------------|---|------------------|----------------|--|
| COLL 100                           | First Year Seminar <b>or</b>                            | 1-2              |                |  |
| HLSC 100                           | Introduction to Health Professions                      |                  |                |  |
| Program Prerequisites (8-12 hours) |   | Credits          | Semester Taken | Prerequisites  |
| HLSC 108                           | Anatomy and Physiology for Health Professions <b>or</b> | 4-10             |                | CHEM 105 (BIOL 109)<br>BIOL 110 or CHEM 105 (BIOL 210) |
| BIOL 109                           | Human Anatomy and Physiology <b>or</b>                  |                  |                |  |
| BIOL 110                           | Human Anatomy <b>and</b>                                |                  |                |  |
| 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                                       |
| <b>Total Credit Hours Required</b> |   | <b>27.5-34.5</b> |                |  |

# 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 .....                   | 64-67 Credits |
| Energy Efficiency Certificate ..... | 41 Credits    |
| HVAC Advanced Certificate .....     | 42-43 Credits |
| HVAC Certificate .....              | 24 Credits    |

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

201805 Revised 4/2013 (Summer 2013)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-7          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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.   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| EHSS 111 Intro to Health & Safety for General Industry <b>or</b><br>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 124 Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 224 Energy Management, Efficiency and Conservation   | 3            |                |  |
| 6 hours from the following:<br>HVAC/INTE/WELD electives   | 6            |                |  |
| <b>Total Credit Hours Required</b>  | <b>64-67</b> |                |  |

# Heating, Ventilation, Air Conditioning & Refrigeration

## 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         |                |                  |
| BSAD 219 Entrepreneurship                                | 3         |                |                  |
| *Includes HVAC 109, 111, 120, 135, 136, 230, COLL 100    |           |                |                  |
| <b>Total Credit Hours Required</b>                       | <b>41</b> |                |                  |

# Heating, Ventilation, Air Conditioning & Refrigeration

Heating, Ventilation and Air Conditioning Advanced Certificate

302000 Revised 4/2013 (Fall 2013)

| 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<br>INTE 224 Energy Management, Efficiency, and Conservation | 3            |                | HVAC 111 and 120 (HVAC 201) HVAC 109 and INTE 115 (INTE 175) |
| INTE 124 Employment Strategies for Technical Careers   | 2            |                |  |
| MATH 103R Technical Mathematics I w/ Review or higher  | 3-4          |                | MATH 40 or 40L   |
| <b>Total Credit Hours Required</b>   | <b>42-43</b> |                |  |

# Heating, Ventilation, Air Conditioning & Refrigeration

## Heating, Ventilation and Air Conditioning Certificate

402100 Revised 2/2012 (Summer 2012)

| COLL 100                           | First Year Seminar                                      | 1         |                |   |
|------------------------------------|---|-----------|----------------|---|
| Specific Program Requirements      |   | Credits   | Semester Taken | Prerequisites   |
| 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         |                |   |
| <b>Total Credit Hours Required</b> |   | <b>24</b> |                |   |

# 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                      | 63-68 Credits | Industrial Technology Level I                        | 22-24 Credits |
| Industrial Maintenance                     | 64-69 Credits | Industrial Automation Mechatronics Level II          | 40-42 Credits |
| Instrumentation & Controls                 | 70-75 Credits | Industrial Automation Mechatronics Level III         | 61-66 Credits |
| Military Technology                        | 63-68 Credits | Industrial Mechanic Level II - Maintenance Mechanics | 44-46 Credits |
| Millwright                                 | 64-69 Credits | Industrial Electrical Level II                       | 43-45 Credits |
| Photovoltaics                              | 64-69 Credits | Industrial Maintenance                               | 40-44 Credits |
| Stationary Engineering                     | 66-71 Credits | Industrial Millwright Level II                       | 43-46 Credits |
| Stationary Engineering Critical Facilities | 70-75 Credits | Instrumentation Level III                            | 57-59 Credits |
|  |               | Photovoltaic   | 35-37 Credits |
|  |               | Stationary Engineering Critical Facilities Level II  | 42-45 Credits |
|  |               | Stationary Engineering HVAC                          | 18 Credits    |
|  |               | Stationary Engineering Level II                      | 42-45 Credits |

## AAS INTE – Stationary Engineering Critical Facilities Emphasis

201830 Revised 11/2016 (Fall 2017)

| 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 <b>or</b><br>SPAN 100 Beginning Occupational Spanish   | 3         |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics | 3         |                |  |
| 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  |           |                |  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry   | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| <b>Option 2:</b><br>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, SOSC, SOCI, THEA   | 3-5       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>20</b> |                |  |

Continued on next page

# Industrial Technologies

## AAS INTE – Stationary Engineering Critical Facilities Emphasis (Continued)

| <b>Core Program Requirements</b>     |   |              |  |  |
|--------------------------------------|---|--------------|--|--|
| 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 103R or higher |
| INTE 113                             | Industrial Electrical AC Principles                     | 2            |  | INTE 112 or equivalent                                     |
| INTE 115                             | Electrical Print Reading                                | 3            |  | INTE 113   |
| INTE 124                             | Employment Strategies for Technical Careers             | 2            |  |  |
| INTE 140                             | Fundamentals of Industrial Machine Repair               | 3            |  |  |
| INTE 175                             | Electric Motor Controls I                               | 3            |  | HVAC 109 or INTE 115                                       |
| <b>Specific Program Requirements</b> |   |              |  |  |
| 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   |
| <b>Total Credit Hours Required</b>   |   | <b>70-75</b> |  |  |

## Industrial Technologies

Offered at MCC-Business &amp; Technology

## A.A.S. INTE Industrial Electrical Emphasis

201806 Revised 11/2016 (Fall 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   |
| ENGL 215 Technical Writing <b>or</b><br>SPAN 100 Beginning Occupational Spanish   | 3            |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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, SOS, SOCI, THEA  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>20</b>    |                |  |
| <b>Core Program Requirements</b>  |              |                |  |
| 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 124 Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 140 Fundamentals of Industrial Machine Repair  | 3            |                |  |
| INTE 175 Electric Motor Controls I  | 3            |                | HVAC 109 or INTE 115   |
| <b>Industrial Electrical Program Requirements</b>   |              |                |  |
| 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  |
| <b>Total Credit Hours Required</b>  | <b>63-68</b> |                |  |



## Industrial Technologies

## AAS INTE – Industrial Maintenance Emphasis

201807 Revised 11/2016 (Fall 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   |
| ENGL 215 Technical Writing <b>or</b><br>SPAN 100 Beginning Occupational Spanish   | 3            |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Core Program Requirements</b>  |              |                |  |
| 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 103R or higher   |
| INTE 113 Industrial Electrical AC Principles  | 2            |                | INTE 112 or equivalent   |
| INTE 115 Electrical Print Reading   | 3            |                | INTE 113   |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 140 Fundamentals of Industrial Machine Repair  | 3            |                |  |
| INTE 175 Electric Motor Controls I  | 3            |                | HVAC 109 or INTE 115   |
| <b>Specific Program Requirements</b>  |              |                |  |
| 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            |                |  |
| <b>Total Credit Hours Required</b>  | <b>64-69</b> |                |  |

## Industrial Technologies

## AAS INTE – Instrumentation &amp; Controls Emphasis

201827 Revised 11/2016 (Fall 2017)

| 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<br>SPAN 100  | Technical Writing <i>or</i><br>Occupational Spanish  | 3            |                | ENGL 101 (ENGL 215)  |
| HIST 120<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137  | United States History to 1865 <i>or</i><br>United States History Since 1865 <i>or</i><br>Introduction to Political Science <i>or</i><br>Introduction to American National Politics <i>or</i><br>Introduction to State and Local Politics | 3            |                |  |
| <b>Option 1:</b><br>MATH 103<br>MATH 103R<br>MATH 120<br>MATH 104<br>MATH 130<br><b>Option 2:</b><br>MATH 150 | Technical Mathematics I <i>or</i><br>Technical Mathematics I w/ review <i>or</i><br>College Algebra <i>or</i><br>Technical Mathematics II <i>or</i><br>Trigonometry<br>PreCalculus or higher   | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |  |
| <b>Core Program Requirements</b>  |  |              |                |  |
| 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 103R or higher   |
| INTE 113  | Industrial Electrical AC Principles  | 2            |                | INTE 112 or equivalent   |
| INTE 115  | Electrical Print Reading   | 3            |                | INTE 113   |
| INTE 124  | Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 140  | Fundamentals of Industrial Machine Repair  | 3            |                |  |
| INTE 175  | Electric Motor Controls I  | 3            |                | HVAC 109 or INTE 115   |
| <b>Specific Program Requirements</b>  |  |              |                |  |
| CSIS 110  | Information and Technology Fundamentals  | 3            |                |  |
| CSIS 123  | Programming Fundamentals   | 3            |                | MATH 40/40L or higher or appropriate score on placement test   |
| 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  |
| <b>Total Credit Hours Required</b>  |  | <b>70-75</b> |                |  |

## Industrial Technologies

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

201835 Approved 6/2012 (Fall 2012)

|  |  |              |                |  |
|--|--|--------------|----------------|--|
| 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 <b>or</b>              | 3            |                |  |
| HIST 121   | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135   | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136   | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137   | Introduction to State and Local Politics             |              |                |  |
| COMM 100   | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>   |  | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103   | Technical Mathematics I <b>or</b>                    |              |                |  |
| MATH 103R  | Technical Mathematics I w/ review <b>or</b>          |              |                |  |
| MATH 120   | College Algebra <b>or</b>                            |              |                |  |
| MATH 104   | Technical Mathematics II <b>or</b>                   |              |                |  |
| MATH 130   | Trigonometry   |              |                |  |
| <b>Option 2:</b>   |  | 3-5          |                |  |
| MATH 150   | PreCalculus or higher                                |              |                |  |
| Any Gen Ed course numbered 100 or above from the following disciplines:<br>ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG (Except 104, 110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS, PSYC, SIGN, SOSC, SOCI, THEA  |  |              |                |  |
| <b>Minimum Total General Education Credit Hours</b>  |  | <b>18</b>    |                |  |
| Specific Program Requirements  |  |              |                |  |
| Electives (EHSS, ETEC, HVAC, INTE, CIMM, WELD, CSIS)   |  | 15           |                |  |
| 4 Year Military Technology Training & Job Experience<br>(Credit by Certification*)   |  | 30           |                |  |
| <b>Total Credit Hours Required</b>   |  | <b>63-68</b> |                |  |
| *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 Technologies

## AAS INTE – Millwright Emphasis

201809 Revised 7/2014 (Fall 2014)

| 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 Technical Writing <b>or</b><br>SPAN 100 Beginning Occupational Spanish   | 3            |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Core Program Requirements</b>  |              |                |  |
| 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 103R or higher   |
| INTE 113 Industrial Electrical AC Principles  | 2            |                | INTE 112 or equivalent   |
| INTE 115 Electrical Print Reading   | 3            |                | INTE 113   |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                | CSIS 100 or CSIS 115 or higher   |
| INTE 140 Fundamentals of Industrial Machine Repair  | 3            |                |  |
| INTE 175 Electric Motor Controls I  | 3            |                | HVAC 109 or INTE 115   |
| <b>Specific Program Requirements</b>  |              |                |  |
| 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   |
| <b>Total Credit Hours Required</b>  | <b>64-69</b> |                |  |

## Industrial Technologies

## AAS INTE – Photovoltaic Emphasis

201829 Revised 2/2018 (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 215 Technical Writing <i>or</i><br>SPAN 100 Beginning Occupational Spanish  | 3            |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <i>or</i><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 136 Introduction to American National Politics   | 3            |                |  |
| COMM 100 Fundamentals of Speech  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.                      |
| MATH 103 Technical Mathematics I <i>and</i><br>MATH 104 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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>  | <b>18</b>    |                |  |
| <b>Core Program Requirements</b>   |              |                |  |
| 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 124 Employment Strategies for Technical Careers   | 2            |                |  |
| INTE 165 Wiring Methods and Materials Installation   | 3            |                | INTE 113, 115, and INTE 142 as a co-requisite with a C or higher                       |
| <b>Specific Program Requirements</b>   |              |                |  |
| ETEC 152 Engineering Graphics and CADD I or<br>ETEC 169 CADD I   | 3-5          |                | MATH 40/40L (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   |
| <b>Total Credit Hours Required</b>   | <b>64-69</b> |                |  |

## Industrial Technologies

## AAS INTE – Stationary Engineering Emphasis

201801 Revised 11/2016 (Fall 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   |
| ENGL 215 Technical Writing <b>or</b><br>SPAN 100 Beginning Occupational Spanish   | 3         |                | ENGL 101 (ENGL 215)  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>20</b> |                |  |

**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 103R or higher |
| INTE 113 Industrial Electrical AC Principles                  | 2 |  | INTE 112 or equivalent                                     |
| INTE 115 Electrical Print Reading                             | 3 |  | INTE 113   |
| INTE 124 Employment Strategies for Technical Careers          | 2 |  |  |
| 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  |
| <b>Total Credit Hours Required</b>                               | <b>66-71</b> |  |                        |

# Industrial Technologies

## Industrial Technology Level I Certificate

404500 Approved 11/2016 (Effective Fall 2017)

| 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 103R or higher |
| INTE 113                           | Industrial Electrical AC Principles                   | 2            |                | INTE 112 or equivalent                                     |
| INTE 115                           | Electrical Print Reading                              | 3            |                | INTE 113   |
| INTE 124                           | Employment Strategies for Technical Careers           | 2            |                |  |
| 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 <b>or</b>                            | 3-5          |                | MATH 31 with a grade of S or appropriate placement         |
| MATH 103R                          | Technical Math I w/ review or higher                  |              |                |  |
| <b>Total Credit Hours Required</b> |   | <b>22-24</b> |                |  |

# Industrial Technologies

## Industrial Automation/Mechatronics Level II PLC Certificate

308000 Revised 11/2016 (Fall 2017)

| Specific Program Requirements                        | Credits      | Semester Taken | Prerequisites  |
|--|--------------|----------------|--|
| Industrial Technology Level I Certificate            | 22-24        |                |  |
| CSIS 110 Information Technology Fundamentals         | 3            |                |  |
| CSIS 112 Introduction to Networks CCNA I             | 4            |                | Concurrent enrollment or completion of MATH 103R 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                       |
| <b>Total Credit Hours Required</b>                   | <b>40-42</b> |                |  |



# Industrial Technologies

## Industrial Automation Mechatronics Level III Certificate

308100 Revised 11/2016 (Fall 2017)

| Specific Program Requirements   | Credits      | Semester Taken | Prerequisites  |
|---|--------------|----------------|--|
| Industrial Technology Level I Certificate   | 22-24        |                |  |
| 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                          |
| <b>Total Credit Hours Required</b>  | <b>61-66</b> |                |  |

# Industrial Technologies

## Industrial Mechanic Level II --Maintenance Mechanic Certificate

307900 Revised 11/2016 (Fall 2017)

| Specific Program Requirements                                  | Credits      | Semester Taken | Prerequisites                     |
|--|--------------|----------------|-----------------------------------|
| Industrial Technology Level I Certificate                      | 22-24        |                |                                   |
| 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            |                |                                   |
| <b>Total Credit Hours Required</b>                             | <b>44-46</b> |                |                                   |

# 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   | 22-24        |                |  |
| 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 |
| <b>Total Credit Hours Required</b>          | <b>43-45</b> |                |  |

# Industrial Technologies

## Industrial Maintenance Certificate

302200 Revised 11/2016 (Fall 2017)

| Specific Program Requirements  | Credits      | Semester Taken | Prerequisites   |
|--|--------------|----------------|---|
| COLL 100 First Year Seminar  | 1            |                |   |
| CSIS 100 Digital Literacy  | 2            |                |   |
| CIMM 101 Machine Shop Safety and<br>CIMM 102 Basic Lathe Operation and<br>CIMM 103 Basic Mill Operation or<br>CIMM 130 Machining for Related Occupations   | 3-5          |                | CIMM 101 or concurrent enrollment (CIMM 102)<br>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 103R or higher  |
| INTE 113 Industrial Electrical AC Principles   | 2            |                | INTE 112 or equivalent  |
| INTE 115 Electrical Print Reading  | 3            |                | INTE 112 or equivalent  |
| INTE 124 Employment Strategies for Technical Careers   | 2            |                |   |
| 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 103R Technical Math I w/ review 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:<br>INTE 142 National Electric Code<br>INTE 219 Internship & Co-Op<br>INTE 221 Internship & Co-Op II<br>INTE 225 Industrial Electrical Print Reading<br>INTE 271 Programmable Logic Controllers I<br>INTE 275 Electric Motor Controls II | 6            |                | INTE 113 (INTE 142)<br>INTE 124 (INTE 219)<br>INTE 219 (INTE 221)<br>INTE 115 (INTE 225)<br>INTE 113 and INTE 175 (INTE 271)<br>INTE 175 (INTE 275) |
| <b>Total Credit Hours Required</b>   | <b>40-44</b> |                |   |

# Industrial Technologies

## Industrial Millwright Level II Certificate

302400 Revised 11/2016 (Fall 2017)

| Specific Program Requirements   | Credits      | Semester Taken | Prerequisites                                |
|---|--------------|----------------|--|
| Industrial Technology Level I Certificate   | 22-24        |                |  |
| 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 <b>or</b><br>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            |
| <b>Total Credit Hours Required</b>  | <b>43-46</b> |                |  |

# Industrial Technologies

## Instrumentation Level III Certificate

308300 Revised 12/2014 (Spring 2015)

| Specific Program Requirements                   | Credits      | Semester Taken | Prerequisites         |
|---|--------------|----------------|-----------------------|
| Industrial Technology Level I Certificate       | 22-24        |                |                       |
| Industrial Automation/Mechatronics Level II PLC | 18           |                |                       |
| 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 |
| <b>Total Credit Hours Required</b>              | <b>57-59</b> |                |                       |

## Industrial Technologies

## Photovoltaics Certificate

403400 Revised 11/2016 (Fall 2017)

| General Education Requirements     |   | Credits      | Semester Taken | Prerequisites   |
|------------------------------------|---|--------------|----------------|---|
| COLL 100                           | First Year Seminar                          | 1            |                |   |
| CSIS 115                           | Computer Concepts and Applications          | 3            |                |   |
| EHSS 112                           | Intro to Health and Safety for Construction | 1            |                |   |
| MATH 103R                          | Technical Math I with Review 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 103R or Higher        |
| INTE 113                           | Industrial Electrical AC Principles         | 2            |                | INTE 112 or equivalent  |
| INTE 115                           | Electrical Print Reading                    | 3            |                | INTE 113  |
| INTE 124                           | Employment Strategies for Technical Careers | 2            |                |   |
| 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                           | 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)   |
| <b>Total Credit Hours Required</b> |   | <b>35-37</b> |                |   |

# 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  | 22-24        |                |  |
| INTE 260 Industrial Pipefitting and Plumbing Fundamentals <b>or</b><br>HVAC 230 Sheet Metal Layout and Fabrication | 3-4          |                | INTE 140 (INTE 260)                    |
| 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      |
| <b>Total Credit Hours Required</b>   | <b>42-45</b> |                |  |



# Industrial Technologies

## Stationary Engineering -- HVAC Certificate

404600 Revised 11/2014 (Spring 2015)

| COLL 100                           | First Year Seminar                                      | 1         |                |                        |
|------------------------------------|---|-----------|----------------|------------------------|
| Specific Program Requirements      |   | Credits   | Semester Taken | Prerequisites          |
| 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 |
| <b>Total Credit Hours Required</b> |   | <b>19</b> |                |                        |

# Industrial Technologies

## Stationary Engineering Level II Certificate

302500 Revised 11/2014 (Spring 2015)

| Specific Program Requirements   | Credits      | Semester Taken | Prerequisites                                |
|---|--------------|----------------|--|
| Industrial Technology Level I Certificate   | 22-24        |                |  |
| 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 <i>or</i><br>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         |
| <b>Total Credit Hours Required</b>  | <b>42-45</b> |                |  |

# Industrial 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 Technology

Industrial Mechanic .....65-67 Credits  
 Industrial Pipefitter/Sprinkler Fitter .....66-70 Credits  
 Industrial Warehouse Worker .....62-65 Credits  
 Industrial Welder .....66-70 Credits

Lineman Tech/Cable Splicer ..... 63-65 Credits  
 Maintenance Electrician ..... 64-68 Credits  
 Millwright ..... 65-69 Credits  
 Sheet Metal ..... 65-69 Credits

## AAS INTE – Industrial Mechanic

201824 Revised 7/2014 (Fall 2014)

| 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<br>HIST 121<br>POLS 135<br>POLS 136<br>POLS 137  | United States History to 1865 <b>or</b><br>United States History Since 1865 <b>or</b><br>Introduction to Political Science <b>or</b><br>Introduction to American National Politics <b>or</b><br>Introduction to State and Local Politics | 3            |                |  |
| COMM 100  | Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103<br>MATH 103R<br>MATH 120<br>MATH 104<br>MATH 130<br><b>Option 2:</b><br>MATH 150 | Technical Mathematics I <b>or</b><br>Technical Mathematics I w/ review <b>or</b><br>College Algebra <b>or</b><br>Technical Mathematics II <b>or</b><br>Trigonometry<br>PreCalculus or higher   | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |  |
| Specific Program Requirements   |  | Credits      | Semester Taken | Prerequisites  |
| BSAD 109  | Principles of Supervision  | 3            |                |  |
| CSIS 100  | Digital Literacy   | 2            |                |  |
| EHSS 111  | Intro to Safety & Health for General Industry  | 1            |                |  |
| INTE 124  | Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 151<br>CIMM 130  | Industrial Rigging <b>or</b><br>Machining for Related Occupations  | 3-5          |                |  |
| General Electives   |  | 6            |                |  |
| Industrial Mechanic Apprenticeship*   |  | 29           |                |  |
| <b>Total Credit Hours Required</b>  |  | <b>65-67</b> |                |  |

\*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 Trades Apprenticeship Program

## AAS INTE – Industrial Pipefitter/Sprinkler Fitter

201826 Approved 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| Specific Program Requirements   | Credits      | Semester Taken | Prerequisites  |
| BSAD 109 Principles of Supervision  | 3            |                |  |
| CSIS 100 Digital Literacy   | 2            |                |  |
| EHSS 112 Introduction to Health and Safety for Construction   | 1            |                |  |
| INTE 107 Industrial Electrical Safety   | 2            |                |  |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| INTE 151 Industrial Rigging   | 3            |                |  |
| General Electives   | 6            |                |  |
| Industrial Pipefitter/Sprinkler Fitter Apprenticeship*  | 29           |                |  |
| <b>Total Credit Hours Required</b>  | <b>66-70</b> |                |  |

\*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 Trades Apprenticeship Program

## A.A.S. Indus. Warehouse Worker

201834 Approved 6/2012 (Fall 2012)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3            |                |  |
| COMM 100 Fundamentals of Speech   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| SPAN 100 Beginning Occupational Spanish <b>or</b><br>SPAN 101 Elementary Spanish I  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| EHSS 111 Introduction to Health and Safety for General Industry   | 1            |                |  |
| EHSS 100 Introduction to Environmental Health and Safety  | 3            |                |  |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| CSIS 110 Information Technology Fundamentals  | 3            |                |  |
| CSIS 115 Computer Concepts and Applications   | 3            |                |  |
| INTE 151 Industrial Rigging   | 3            |                |  |
| BSAD 109 Principles of Supervision  | 3            |                |  |
| BSAD 210 Logistics Management   | 3            |                |  |
| BSAD 211 Operations Management  | 3            |                |  |
| BSAD 212 Transportation and Operations and Management   | 3            |                |  |
| BSAD 213 Warehouse and Distribution Centers   | 3            |                |  |
| BSAD 219 Entrepreneurship   | 3            |                |  |
| Warehouse Worker Apprenticeship*  | 8            |                |  |
| Electives   | 2            |                |  |
| <b>Total Credit Hours Required</b>  | <b>62-65</b> |                |  |

\*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 Trades Apprenticeship Program

## AAS INTE – Industrial Welder

201825 Revised 7/2014 (Fall 2014)

|  |  |              |                |  |
|--|--|--------------|----------------|--|
| 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 <b>or</b>              | 3            |                |  |
| HIST 121   | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135   | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136   | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137   | Introduction to State and Local Politics             |              |                |  |
| COMM 100   | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Option 1:</b>   |  | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103   | Technical Mathematics I <b>or</b>                    |              |                |  |
| MATH 103R  | Technical Mathematics I w/ review <b>or</b>          |              |                |  |
| MATH 120   | College Algebra <b>or</b>                            |              |                |  |
| MATH 104   | Technical Mathematics II <b>or</b>                   |              |                |  |
| MATH 130   | Trigonometry   |              |                |  |
| <b>Option 2:</b>   |  | 3-5          |                |  |
| 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, SOSO, SOCI, THEA |  |              |                |  |
| <b>Minimum Total General Education Credit Hours</b>  |  | <b>18</b>    |                |  |
| Specific Program Requirements  |  | Credits      | Semester Taken | Prerequisites  |
| BSAD 109   | Principles of Supervision                            | 3            |                |  |
| CSIS 100   | Digital Literacy                                     | 2            |                |  |
| EHSS 112   | Introduction to Health and Safety for Construction   | 1            |                |  |
| INTE 107   | Industrial Electrical Safety                         | 2            |                |  |
| INTE 124   | Employment Strategies for Technical Careers          | 2            |                |  |
| INTE 151   | Industrial Rigging <i>or</i>                         | 3-5          |                |  |
| CIMM 130   | Machining for Related Occupations                    |              |                |  |
| General Electives  |  | 6            |                |  |
| Industrial Welders Apprenticeship*   |  | 29           |                |  |
| <b>Total Credit Hours Required</b>   |  | <b>66-70</b> |                |  |

\*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 Trades Apprenticeship Program

## AAS INTE – Lineman Technician/Cable Splicer

201822 Revised 7/2014 (Fall 2014)

|   |  |              |                |  |
|---|--|--------------|----------------|--|
| 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 <b>or</b>              | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b> |              |                |  |
| POLS 137  | Introduction to State and Local Politics             |              |                |  |
| COMM 100  | Fundamentals of Speech                               | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| MATH 103  | Technical Mathematics I <b>or</b>                    | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103R   | Technical Mathematics I w/ review <b>and</b>         |              |                |  |
| MATH 104  | Technical Mathematics II <b>or</b>                   |              |                |  |
| MATH 120  | College Algebra <b>and</b>                           |              |                |  |
| MATH 130  | Trigonometry <b>or</b>                               |              |                |  |
| MATH 150  | PreCalculus  |              |                |  |
| SPAN 100  | Beginning Occupational Spanish                       | 3            |                |  |
| <b>Minimum Total General Education Credit Hours</b> |  | <b>18</b>    |                |  |
| Specific Program Requirements                       |  | Credits      | Semester Taken | Prerequisites  |
| LINE 253  | Safety and Accident Prevention                       | 3            |                |  |
| INTE 112  | Industrial Electrical DC and                         | 4            |                | MATH 103<br>INTE 112 or equivalent   |
| INTE 113  | Industrial Electrical AC                             |              |                |  |
| INTE 120  | INTE Internship I                                    | 3            |                |  |
| INTE 124  | Employment Strategies for Technical Careers          | 2            |                |  |
| INTE 220  | INTE Internship II                                   | 3            |                |  |
| Technician/Cable Splicer Apprenticeship*            |  | 30           |                |  |
| <b>Total Credit Hours Required</b>                  |  | <b>63-65</b> |                |  |

\*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 Trades Apprenticeship Program

## Ind. Main. Electrician Apprenticeship Degree Completion Program

201823 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>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       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b> |                |  |

| Specific Program Requirements  |              |  |                       |
|--|--------------|--|-----------------------|
| EHSS 100 Introduction to Environmental, Health & Safety  | 3            |  |                       |
| CSIS 100 Digital Literacy  | 2            |  |                       |
| INTE 124 Employment Strategies for Technical Careers   | 2            |  |                       |
| INTE 225 Industrial Electrical Print Reading   | 3            |  |                       |
| INTE 272 Programmable Logic Controller II or<br>INTE 277 Programmable Logic Controller Troubleshooting | 3            |  | INTE 115 AND INTE 271 |
| INTE 276 Electrical Troubleshooting  | 3            |  | INTE 275              |
| Industrial Maintenance Electrician Apprenticeship*   | 29           |  |                       |
| <b>Total Credit Hours Required</b>   | <b>64-68</b> |  |                       |

\*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 Trades Apprenticeship Program

AAS INTE – Millwright

201832 Revised 7/2014 (Fall 2014)

|   |  |              |                |  |
|---|--|--------------|----------------|--|
| 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 <b>or</b>                | 3            |                |  |
| HIST 121  | United States History Since 1865 <b>or</b>             |              |                |  |
| POLS 135  | Introduction to Political Science <b>or</b>            |              |                |  |
| POLS 136  | Introduction to American National Politics <b>or</b>   |              |                |  |
| POLS 137  | Introduction to State and Local Politics               |              |                |  |
| COMM 100  | Fundamentals of Speech                                 | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score.  |
| <b>Option 1:</b>  |  | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| MATH 103  | Technical Mathematics I <b>or</b>                      |              |                |  |
| MATH 103R   | Technical Mathematics I w/ review <b>or</b>            |              |                |  |
| MATH 120  | College Algebra <b>or</b>                              |              |                |  |
| MATH 104  | Technical Mathematics II <b>or</b>                     |              |                |  |
| MATH 130  | Trigonometry   |              |                |  |
| <b>Option 2:</b>  |  | 3-5          |                |  |
| 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, SOSC, SOCI, THEA |  |              |                |  |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |  |
| Specific Program Requirements   |  | Credits      | Semester Taken | Prerequisites  |
| BSAD 109  | Principles of Supervision                              | 3            |                |  |
| CSIS 100  | Digital Literacy                                       | 2            |                |  |
| EHSS 111  | Introduction to Health and Safety for General Industry | 1            |                |  |
| INTE 124  | Employment Strategies for Technical Careers            | 2            |                |  |
| INTE 151  | Industrial Rigging                                     | 3            |                |  |
| General Electives   |  | 6            |                |  |
| Millwright Apprenticeship*  |  | 29           |                |  |
| <b>Total Credit Hours Required</b>  |  | <b>65-69</b> |                |  |

\*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 Trades Apprenticeship Program

## Sheet Metal Apprenticeship Degree Completion Program

201819 Revised 7/2014 (Fall 2014)

| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics       | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| <b>Option 1:</b><br>MATH 103 Technical Mathematics I <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra <b>or</b><br>MATH 104 Technical Mathematics II <b>or</b><br>MATH 130 Trigonometry<br><b>Option 2:</b><br>MATH 150 PreCalculus or higher | 5-8       |                | MATH 31 with a grade of S or appropriate placement (MATH 103 and MATH 104)<br>MATH 95 with a grade of C or appropriate placement (MATH 120 and MATH 150)<br>MATH 120 or appropriate placement score (MATH 130) |
| Any course numbered 100 or higher from the following disciplines:<br>ART, ANTH, COMM, ECON, ENGL, FOREIGN LANGUAGE, GEOG<br>(Except 104,110 or GIS Courses), HIST, HUMN, MUSI, PHIL, POLS,<br>PSYC, SIGN, SOSC, SOCI, THEA  | 3-5       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b> |                |  |

| Specific Program Requirements                                   | Credits      | Semester Taken | Prerequisites |
|---|--------------|----------------|---------------|
| BSAD 109 Principles of Supervision                              | 3            |                |               |
| CSIS 100 Digital Literacy                                       | 2            |                |               |
| EHSS 111 Introduction to Health and Safety for General Industry | 1            |                |               |
| INTE 124 Employment Strategies for Technical Careers            | 2            |                |               |
| INTE 151 Industrial Rigging                                     | 3            |                |               |
| General Electives   | 6            |                |               |
| Sheet Metal Apprenticeship (Credit by Certification*)           | 29           |                |               |
| <b>Total Credit Hours</b>                                       | <b>65-69</b> |                |               |

\* 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.

# 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:<br>COMM 228, ENGL 254, ENGL 255, ENGL 256, MUSI 160, PHIL 102  | 3            |                |               |
| One of the following History courses:<br>HIST 133, HIST 134, HIST 145   | 3            |                |               |
| One of the following Social Science courses:<br>ANTH 110, GEOG 111, GEOG 112, GEOG 113, POLS 234, SOSC 171  | 3            |                |               |
| One Foreign Language course 101 or above  | 3-5          |                |               |
| One elective from the following:<br>ANTH 110, BIOL 238, 239, COMM 228, 233, Foreign Language 102 or higher, ENGL 254, 255, 256, GEOG 111, 112, 113, HIST 133, 134, 145, 221, HUMN 141, MUSI 160, PHIL 102, POLS 234, SOSC 171 | 3-5          |                |               |
| One course from the following:<br>ENGL 260, 262, 264, 267, 268, HIST 130, 140, 150, MUSI 116, SOCI 164, 210   | 3-5          |                |               |
| <b>Total Credit Hours Required</b>  | <b>25-31</b> |                |               |

# 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.....61-67 Credits  
 Lineman Certificate .....49-51 Credits

## A.A.S. Lineman

201821 Revised 12/2016 (Fall 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 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics | 3            |                |  |
| 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 <b>or</b><br>MATH 103R Technical Mathematics I w/ review <b>or</b><br>MATH 120 College Algebra   | 3-5          |                | MATH 31 with a grade of S or appropriate placement (MATH 103)<br>MATH 95 with a grade of C or appropriate placement (MATH 120) |
| 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, SOSC  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |  |
| <b>Specific Program Requirements</b>  |              |                |  |
| 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   |
| INTE 124 Employment Strategies for Technical Careers  | 2            |                |  |
| 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  |
| <b>Total Credit Hours Required</b>  | <b>61-67</b> |                |  |

# Lineman

## Lineman Certificate

306200 Revised 6/2016 (Fall 2017)

| Specific Program Requirements      |   | Credits      | Semester Taken | Prerequisites  |
|------------------------------------|---|--------------|----------------|--|
| COLL 100                           | First Year Seminar  | 1            |                |  |
| CSIS 115                           | Computer Concepts and Applications  | 3            |                |  |
| ENGL 101                           | Composition and Reading I   | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score   |
| LINE 104                           | Pole Climbing Skills  | 5            |                |  |
| LINE 105                           | Electrical Distribution Systems   | 3            |                | INTE 113 with a C grade or higher  |
| INTE 112                           | Industrial Electrical DC Principles   | 2            |                |  |
| INTE 113                           | Industrial Electrical AC Principles   | 2            |                | INTE 112 or equivalent   |
| INTE 124                           | Employment Strategies for Technical Careers   | 2            |                |  |
| 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<br>MATH 103R<br>MATH 120  | Technical Mathematics I <b>or</b><br>Technical Mathematics I w/ review <b>or</b><br>College Algebra | 3-5          |                | MATH 31 with a grade of S or appropriate placement (MATH 103)<br>MATH 95 with a grade of C or appropriate placement (MATH 120) |
| <b>Total Credit Hours Required</b> |   | <b>49-51</b> |                |  |

# 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 and work related experience following demonstration of competency through the LPN entrance exam (ATI exam).

## Admission to the program

Every student in the nursing program should be aware that the Missouri State Board of Nursing may refuse to issue a license to any person who has been found guilty of violating federal or state laws and for any of the 15 causes listed in Section 335.066 of the Missouri Revised Statues 1986. Copies of this law are available from the Missouri State Board of Nursing. For more information, go to [www.mcckc.edu/bridge](http://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 Approved 1/2009 (Summer 2009)

|  |  |                |                       |  |
|--|--|----------------|-----------------------|--|
| COLL 100   | First Year Seminar                                   | 1              |                       |  |
| <b>Prerequisite Courses:</b>   |  |                |                       |  |
| CHEM 105   | Introductory Chemistry for Health Sciences           | 3-5            |                       |  |
| BIOL 109   | Anatomy and Physiology                               |                |                       |  |
| BIOL 110   | Human Anatomy <b>and</b>                             | 6-10           |                       | CHEM 105 (BIOL 109)  |
| BIOL 210   | Human Physiology                                     |                |                       | CHEM 105 and BIOL 110 (BIOL 110 & 210)   |
| 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   |
| <b>General Education Requirements</b>  |  | <b>Credits</b> | <b>Semester Taken</b> | <b>Prerequisites</b>   |
| 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 <b>or</b>              |                |                       |  |
| HIST 121   | United States History since 1865 <b>or</b>           |                |                       |  |
| POLS 135   | Introduction to Political Science <b>or</b>          | 3              |                       |  |
| POLS 136   | Introduction to American National Politics <b>or</b> |                |                       |  |
| POLS 137   | Introduction to State and Local Politics             |                |                       |  |
| <i>Students transferring one of these courses from out of state will be required to complete POLS 153 The Missouri Constitution.</i> |  |                |                       |  |
| SOCI 160   | Sociology  | 3              |                       |  |
| COMM 100   | Fundamentals of Speech <b>or</b>                     | 3              |                       | ENGL 90 with a minimum grade of S or appropriate placement score   |
| COMM 102   | Fundamentals of Human Communication                  |                |                       |  |
| <b>Specific Program Requirements</b>   |  |                |                       |  |
| 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 & HIST 120/121 or POLS 135/136/137 or SOSC 151                       |
| <b>Total Credit Hours Required</b>   |  | <b>75-81</b>   |                       |  |

# 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<br><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<br><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<br>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-<br>Domestic/Commercial | 3         |                |               |
| Electives<br><i>Choose 6 credit hours to complete program</i>                     |   | Credits   | Semester Taken | Prerequisites |
| MAPRO 215   | Ventilation Hoods/Make-Up Air Blowers –<br>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         |                |               |
| <b>Total Credit Hours Required</b>  |   | <b>51</b> |                |               |

# 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 7/2014 (Fall 2014)

| Specific Program Requirements<br><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, |
| BSAD 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                                   |
| BSAD 204  | 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<br><i>Must be taken at Kansas City Kansas Community College</i>   |                                | Credits   | Semester Taken | Prerequisites  |
| 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         |                |  |
| <b>Total Credit Hours Required</b>  |                                | <b>72</b> |                |  |
| <p>* A minimum cumulative grade point average of 2.5. This includes all undergraduate college courses taken.<br/>                     * Human Anatomy and Accounting must have been taken within the last 4 years to transfer to KCKCC.<br/>                     * All General Education requirements (31 hours) must be completed with a "C" grade or better prior to acceptance into the program.<br/>                     * Students entering in Fall 2014 will need a letter of recommendation from a licensed funeral director or submit an investigation questionnaire.</p> |                                |           |                |  |



# 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 ..... 61-64 Credits

## A.A.S. Music Technology

604600 Revised 7/2014 (Fall 2014)

| Specific Program Requirements<br><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<br>ENGL 215 Technical Writing  | 3            |                |  |
| PSYC 140 General Psychology <b>or</b><br>SOC 160 Sociology  | 3            |                |  |
| COMM 100 Fundamentals of Speech or<br>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            |                |  |
| <b>Music Requirements</b><br><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)<br>Applied Piano (4 semesters)<br>Applied Voice (4 semesters) <b>or</b><br>Other Applied Lessons (4 semesters) | 3-4          |                |  |
| NASC 130 Introductory Physics at KCKCC <b>or</b><br>PHYS 101 Introductory Physics at MCC  | 3-5          |                |  |
| <b>Music Technology Requirements</b><br><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            |                |  |
| <b>Total Credit Hours Required</b>  | <b>61-64</b> |                |  |
| * 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://mccck.edu/professional-dev/healthcare/cna\\_cmt.asp](http://mccck.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 Associate's 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>

# 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 5/2014 (Fall 2014)

| General Education Requirements  | Credits      | Semester Taken | Prerequisites   |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar   | 1            |                |   |
| BIOL 101 General Biology <b>or</b><br>CHEM 107 Preparatory General Chemistry <b>or</b><br>PHYS 101 Introductory Physics   | 5            |                | MATH 104 (PHYS 112)<br>MATH 95 with a grade of C or higher or appropriate placement (CHEM 107)<br>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 <b>and</b><br>HIST 121 United States History Since 1865<br><b>or</b><br><i>Two of the following:</i><br>POLS 135 Introduction to Political Science<br>POLS 136 Introduction to American National Politics<br>POLS 137 Introduction to State and Local Politics | 6            |                |   |
| MATH 119 College Mathematics <b>or</b><br>MATH 120 College Algebra  | 3            |                | MATH 85 or 95 with a grade of C or higher or appropriate placement (MATH 119)<br>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, SOSOC, SOCI, THEA  | 3-5          |                |   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |   |
| <b>Specific Program Requirements</b>  |              |                |   |
| <b>Technical Education:</b>   |              |                |   |
| Must focus on a specific occupational area (Any combination of formal college coursework, occupational certification or CBEX)   | 24           |                |   |
| <b>Professional Education: Three of the following: (University of Central Missouri courses)</b>   |              |                |   |
| CTE 4140 New Teacher Institute <b>or</b>  | 3            |                |   |
| 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 <b>or</b>  | 2            |                |   |
| CTE 4200 Coordination of Cooperative Education  | 2            |                |   |
| PSY 4200 Psychology of the Exceptional Child <b>or</b>  | 2            |                |   |
| EDSP 2100 Education of the Exceptional Child  | 3            |                |   |
| EDFL 2200 Educational Psychology  | 3            |                |   |
| <i>For more information, please check with the University of Central Missouri's Career and Technology Education department.</i>   |              |                |   |
| <b>Total Credit Hours Required</b>  | <b>67-69</b> |                |   |

# Occupational Therapy Assistant

Offered at MCC-Penn Valley

Certified occupational therapy assistants work under the supervision of a registered occupational therapist to provide care to individuals with varying physical and/or emotional challenges to obtain their maximum level of independence with self-care, and daily living and job skills.

The occupational therapy assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number C/O AOTA, is (301) 652-AOTA and its web address is WWW.ACOTEONLINE.ORG.

For more information, go to [www.mcckc.edu/occupationaltherapy](http://www.mcckc.edu/occupationaltherapy)

A.A.S. Occupational Therapy Assistant..... 73.5-82.5 Credits

## A.A.S. Occupational Therapy Assistant

202200 Revised 9/2017 (Spring 2018)

| Program Prerequisites   | Credits          | Semester Taken | Prerequisites   |
|---|------------------|----------------|---|
| COLL 100 First Year Seminar or<br>HLSC 100 Introduction to Health Professions   | 1-2              |                |   |
| Any biological or physical science course.  | 4-6              |                |   |
| BIOL 150 Medical Terminology  | 2                |                |   |
| ENGL 101 Composition and Reading I  | 3                |                | ENGL 90 with a minimum grade of S or appropriate placement score  |
| OTHA 100 Intro to Occupational Therapy  | 2                |                |   |
| <b>General Education Requirements</b>   |                  |                |   |
| COMM 100 Fundamentals of Speech <i>or</i><br>COMM 102 Fundamentals of Human Communication   | 3                |                | ENGL 90 with a minimum grade of S or appropriate placement score  |
| HIST 120 United States History to 1865 <i>or</i><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local Politics | 3                |                |   |
| PSYC 140 General Psychology   | 3                |                |   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>20</b>        |                |   |
| <b>Specific Program Requirements</b>  |                  |                |   |
| HLSC 108 Anatomy and Physiology Health Professions <i>or</i><br>BIOL 109 Anatomy and Physiology <i>or</i><br>BIOL 110 Human Anatomy <i>and</i><br>BIOL 210 Human Physiology   | 4-10             |                | CHEM 105 (BIOL 109)<br>CHEM 105, BIOL 110 (BIOL 210)  |
| EMS 100 Basic Emergency Patient Care  | 1                |                |   |
| 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  | 2                |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 100, OTHA 102, 103, 106, 114, & 116  |
| OTHA 120 Pediatrics   | 3                |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 100, OTHA 102, 103, 106, 114, & 116  |
| OTHA 121 Level I Fieldwork II   | 1                |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 100, OTHA 102, 103, 106, 114, & 116 and<br>concurrent enrollment in OTHA 120 |
| OTHA 130 Analysis of Physical Performance   | 3                |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 100, OTHA 102, 103, 106, 114, & 116  |
| OTHA 154 Applied Neurology  | 2                |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>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   | 3                |                | OTHA 118, 120, 121, 130 and 154, C or higher  |
| OTHA 203 Gerontology  | 3                |                | OTHA 118, 120, 121, 130 and 154, C or higher  |
| OTHA 208 Therapeutic Interventions II   | 3                |                | 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<br>higher  |
| <b>Total Credit Hours Required</b>  | <b>73.5-82.5</b> |                |   |

# 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 9/2011 (Spring 2012)

| COLL 100  | First Year Seminar                                   | 1            |                |   |
|---|--|--------------|----------------|---|
| Specific Program Requirements<br><i>Must be taken at one of the MCC campuses</i>  |  | 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 <b>or</b>              |              |                |   |
| HIST 121  | United States History Since 1865 <b>or</b>           |              |                |   |
| POLS 135  | Introduction to Political Science <b>or</b>          |              |                |   |
| POLS 136  | Introduction to American National Politics <b>or</b> | 3            |                |   |
| POLS 137  | Introduction to State and Local Politics             |              |                |   |
| 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          |                |   |
| <b>Minimum Total General Education Credit Hours</b>   |  | <b>18</b>    |                |   |
| 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            |                |   |
| <b>Total Credit Hours Required</b>  |  | <b>64-67</b> |                |   |

# 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 4/2018 (Effective Fall 2018)

| Program Prerequisites   | Credits      | Semester Taken | Prerequisites   |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar or<br>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                   |
| <b>General Education Requirements (23-25 credit hours)</b>  |              |                |   |
| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local 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          |                |   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |   |
| <b>Specific Program Requirements (36 credit hours)</b>  |              |                |   |
| HLSC 108 Anatomy and Physiology Health Professions <b>or</b><br>BIOL 109 Anatomy and Physiology <b>or</b><br>BIOL 110 Human Anatomy <b>and</b><br>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 Orientation 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   |
| <b>Total Credit Hours Required</b>  | <b>77-86</b> |                |   |

# Paramedic

## 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                      |
| <b>Specific Program Requirements</b> |   |              |                |  |
| HLSC 108                             | Anatomy and Physiology Health Professions <b>or</b> | 4-10         |                | CHEM 105 (BIOL 109)<br>CHEM 105, BIOL 110 (BIOL 210)                       |
| BIOL 109                             | Anatomy and Physiology <b>or</b>                    |              |                |  |
| BIOL 110                             | Human Anatomy <b>and</b>                            |              |                |  |
| 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 Orientation and Documentation              | 1            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 212                              | Cardiology  | 3            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 214                              | Paramedic Skills Laboratory II                      | 3            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 216                              | Advanced Cardiac Life Support (ACLS)                | 1            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 218                              | Medical Emergencies                                 | 3            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 224                              | Trauma Management                                   | 1            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>EMS 154, 159, 168, 176, and 192 |
| EMS 230                              | Special Patient Populations                         | 1            |                | HLSC 108 or BIOL 109 or BIOL 110 & 210,<br>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  |
| <b>Total Credit Hours Required</b>   |   | <b>58-65</b> |                |  |

# Physical Therapist Assistant

Offered at MCC-Penn Valley

This program leads to an Associate in Applied Science degree, and prepares students to assist physical therapists in treating patients with physical disabilities at various health care facilities.

Because enrollment to the program is limited, there is a separate application to the program. The program offers a traditional program with all classes at the Health Science Institute, as a well as a web based program, with lecture classes delivered on-line. Applications for the web based program are due October 1st. Prospective students should download the Prospective Student Information Packet and the Program Application at <http://www.mcckc.edu/physicaltherapy>

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

## A.A.S. Physical Therapist Assistant

202500 Revised 3/2015 (Fall 2015)

| Program Prerequisites   | Credits      | Semester Taken | Prerequisites   |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar or<br>HLSC 100 Introduction to Health Professions   | 1-2          |                |   |
| ENGL 101 Composition and Reading I  | 3            |                | ENGL 90 with a minimum grade of S or appropriate placement score                          |
| PTHA 151 Intro to Physical Therapy  | 2            |                |   |
| BIOL 150 Medical Terminology  | 2            |                |   |
| Any biological or physical sciences course. (BIOL, CHEM, GEOL, PHYS)  | 4-6          |                |   |
| <b>General Education Requirements</b>   |              |                |   |
| COMM 100 Fundamentals of Speech <b>or</b><br>COMM 102 Fundamentals of Human Communication   | 3            |                | ENGL 90 with a grade of S or appropriate placement score                                  |
| HIST 120 United States History to 1865 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics | 3            |                |   |
| PSYC 140 General Psychology   | 3            |                |   |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b>    |                |   |
| <b>Specific Program Requirements</b>  |              |                |   |
| EMS 100 Basic Emergency Patient Care  | 1            |                |   |
| HLSC 108 Anatomy and Physiology Health Professions <b>or</b><br>BIOL 109 Anatomy and Physiology <b>or</b><br>BIOL 110 Human Anatomy <b>and</b><br>BIOL 210 Human Physiology   | 4-10         |                | CHEM 105 (BIOL 109)<br>BIOL 110 and CHEM 105 (BIOL 210)                                   |
| PTHA 151 Intro to Physical Therapy  | 2            |                |   |
| 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,<br>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,<br>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,<br>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<br>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,<br>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<br>PTHA program                           |
| <b>Total Credit Hours Required</b>  | <b>72-81</b> |                |   |



# Practical Nursing

Offered at MCC-Penn Valley

## 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](http://www.mcckc.edu/pvnursing)

Practical Nursing Certificate ..... 50.5-54.5 Credits

## Practical Nursing Certificate

303400 Revised 3/2015 (Fall 2015)

| General Education Requirements  | Credits          | Semester Taken | Prerequisites   |
|---|------------------|----------------|---|
| COLL 100 First Year Seminar   | 1                |                |   |
| BIOL 109 Anatomy and Physiology <b>or</b><br>BIOL 110 Human Anatomy <b>and</b><br>BIOL 210 Human Physiology | 6-10             |                | CHEM 105 (BIOL 109)<br>CHEM 105, BIOL 110 (BIOL 210)                    |
| Specific Program Requirements   | Credits          | Semester Taken | Prerequisites   |
| PNUR 100 Personal and Vocational Concepts   | 1                |                | Biology 109 or Biology 110 and BIOL 210 and Admission to the PN Program |
| PNUR 103 Fundamentals of Practical Nursing II   | 10               |                | Biology 109 or Biology 110 and BIOL 210 and Admission to the PN Program |
| PNUR 110 Pharmacology   | 4                |                | PNUR 103  |
| PNUR 128 Mental Health Nursing  | 4                |                | PNUR 110  |
| PNUR 132 The Childbearing Family  | 4                |                | PNUR 110  |
| PNUR 136 Venous Access and Intravenous Infusion   | 1.5              |                | PNUR 110  |
| PNUR 138 Nursing of the Adult I   | 8                |                | PNUR 110  |
| PNUR 144 Nursing of the Adult II  | 8                |                | PNUR 138  |
| PNUR 146 Leadership   | 3                |                | PNUR 138  |
| <b>Total Credit Hours Required</b>  | <b>50.5-54.5</b> |                |   |

# 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

202700 Revised 4/2010 (Summer 2010)

| Prerequisite Courses:   | Credits | Semester Taken | Prerequisites   |
|---|---------|----------------|---|
| COLL 100 First Year Seminar   | 1       |                |   |
| CHEM 105 Introductory Chemistry   | 5       |                |   |
| BIOL 109 Anatomy and Physiology <b>or</b><br>BIOL 110 Human Anatomy <b>and</b><br>BIOL 210 Human Physiology   | 6-10    |                | CHEM 105 (BIOL 109)<br>CHEM 105 and BIOL 110 (BIOL 210)   |
| PSYC 140 General Psychology   | 3       |                |   |
| <b>General Education Requirements</b>   |         |                |   |
| 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 <b>or</b><br>HIST 121 United States History Since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics<br><i>Students transferring one of these courses from out of state will be required to complete POLS 153 The Missouri Constitution.</i> | 3       |                |   |
| PSYC 243 Human Lifespan Development   | 4       |                | PSYC 140  |
| SOCI 160 Sociology  | 3       |                |   |
| COMM 100 Fundamentals of Speech <b>or</b><br>COMM 102 Fundamentals of Human Communication   | 3       |                | ENGL 90 with a minimum grade of S or appropriate placement score                                  |

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## 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            | Admission to nursing program; completion of RNUR 126, RNUR 131, PSYC 243; completion of or concurrent enrollment in BIOL 208                |
| RNUR 138                           | Nursing Care of Women and Neonates   | 4            | Admission to nursing program; completion of RNUR 126, RNUR 131, PSYC 243; completion of or concurrent enrollment in BIOL 208                |
| RNUR 141                           | Adult Nursing I                      | 3            | Admission to nursing program; completion of 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, 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 & HIST 120/121 or POLS 135/136/137 or SOSOC 151                     |
| <b>Total Credit Hours Required</b> |                                      | <b>73-77</b> |   |

# Radiologic Technology

Offered at MCC-Penn Valley

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..... 76-83 Credits

## A.A.S. Radiologic Technology

202900 Revised 7/2015 (Spring 2016)

| Program Prerequisites   | Credits   | Semester Taken | Prerequisites  |
|---|-----------|----------------|--|
| COLL 100 First Year Seminar <i>or</i><br>HLSC 100 Introduction to Health Professions  | 1-2       |                |  |
| ENGL 101 Composition and Reading I  | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score                           |
| MATH 120 College Algebra or higher  | 3-5       |                | MATH 95 with a minimum grade of S or appropriate placement score                           |
| RATE 150 Introduction to Radiologic Technology  | 2         |                |  |
| <b>General Education Requirements</b>   |           |                |  |
| HIST 120 United States History to 1865 <i>or</i><br>HIST 121 United States History Since 1865 <i>or</i><br>POLS 135 Introduction to Political Science <i>or</i><br>POLS 136 Introduction to American National Politics <i>or</i><br>POLS 137 Introduction to State and Local Politics | 3         |                |  |
| PSYC 140 General Psychology   | 3         |                |  |
| COMM 100 Fundamentals of Speech   | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score                           |
| Any courses numbered 100 or above from the following disciplines:<br>BIOL, CHEM, GEOG (except 104 & 110), GEOL, MATH, PHYS  | 3-6       |                |  |
| <b>Minimum Total General Education Credit Hours</b>   | <b>18</b> |                |  |
| <b>Specific Program Requirements</b>  |           |                |  |
| HLSC 108 Anatomy and Physiology Health Professions <i>or</i><br>BIOL 109 Anatomy and Physiology <i>or</i><br>BIOL 110 Human Anatomy <i>and</i><br>BIOL 210 Human Physiology   | 4-10      |                | CHEM 105 (BIOL 110)<br>CHEM 105, BIOL 110 (BIOL 210)                                       |
| 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 Radiographic Skills Practice Lab I   | .5        |                | RATE 160 and concurrent enrollment in RATE 165 and 172                                     |
| RATE 174 Radiographic Skills Practice Lab II  | .5        |                | RATE 165, 171, 172, 173. Concurrent enrollment in RATE 175, 176, 180                       |
| 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 |

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| Specific Program Requirements      |  |              |   |
|------------------------------------|--|--------------|---|
| RATE 180                           | Digital Imaging Environment and Image Analysis | 2.5          | RATE 171 with a grade of C or higher  |
| RATE 185                           | Clinical Practice II                           | 3            | 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                                    |
| <b>Total Credit Hours Required</b> |  | <b>76-83</b> |   |

A.A.S. Radiologic Technology (continued)

# Surgical Technology

Offered at MCC-Penn Valley

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 2/2014 (Summer 2014)

|   |   |                |                       |   |
|---|---|----------------|-----------------------|---|
| COLL 100  | First Year Seminar <b>or</b>                  | 1-2            |                       |   |
| HLSC 100  | Introduction to Health Professions            |                |                       |   |
| <b>General Education Requirements</b>               |   | <b>Credits</b> | <b>Semester Taken</b> | <b>Prerequisites</b>  |
| ENGL 101  | Composition and Reading I                     | 3              |                       | ENGL 90 with a minimum grade of S or appropriate placement score  |
| BIOL 109  | Anatomy and Physiology <b>or</b>              | 6-10           |                       | CHEM 105 (BIOL 109)<br>BIOL 110 <b>and</b> CHEM 105 (BIOL 210)  |
| BIOL 110  | Human Anatomy <b>and</b>                      |                |                       |   |
| BIOL 210  | Human Physiology                              |                |                       |   |
| CHEM 105  | Introductory Chemistry for Health Sciences    | 5              |                       |   |
| BIOL 208  | Microbiology                                  | 5              |                       | CHEM 105 <b>or</b> higher, plus one of the following courses: BIOL 101, 104, 106, 109, <b>or</b> 110          |
| HIST 120  | United States History to 1865 or              | 3              |                       |   |
| HIST 121  | United States History Since 1865 or           |                |                       |   |
| POLS 135  | Introduction to Political Science or          |                |                       |   |
| POLS 136  | Introduction to American National Politics or |                |                       |   |
| POLS 137  | Introduction to State and Local Politics      |                |                       |   |
| 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          |                |                       |   |
| <b>Minimum Total General Education Credit Hours</b> |   | <b>25-29</b>   |                       |   |
| <b>Specific Program Requirements</b>                |   |                |                       |   |
| 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  |
| <b>Total Credit Hours Required</b>                  |   | <b>65-70</b>   |                       |   |

## 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 .....                      | 65-69 Credits |
| Construction Carpentry .....          | 65-69 Credits |
| Construction Cement Masons .....      | 65-69 Credits |
| Construction Driver & Logistics ..... | 63-67 Credits |
| Construction Ironworker .....         | 65-69 Credits |
| Construction Laborer .....            | 65-69 Credits |

|                       |               |
|-----------------------|---------------|
| Floor Layer .....     | 65-69 Credits |
| Glaziers .....        | 65-69 Credits |
| Inside Wiring         |               |
| 3 -Year program ..... | 65-69 Credits |
| 5 -Year program ..... | 66-70 Credits |
| Painter .....         | 65-69 Credits |
| Plumbing .....        | 65-69 Credits |

## Industrial 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 Technology

|  |               |
|--|---------------|
| Industrial Mechanic .....                    | 65-67 Credits |
| Industrial Pipefitter/Sprinkler Fitter ..... | 66-70 Credits |
| Industrial Warehouse Worker .....            | 62-65 Credits |
| Industrial Welder .....                      | 66-70 Credits |

|                                  |               |
|----------------------------------|---------------|
| Lineman Tech/Cable Splicer ..... | 63-65 Credits |
| Maintenance Electrician .....    | 64-68 Credits |
| Millwright .....                 | 65-69 Credits |
| Sheet Metal .....                | 65-69 Credits |

# 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](http://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 7/2014 (Fall 2015)

| 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 102                             | Composition and Reading II                           | 3         |                | ENGL 101  |
| HIST 120                             | United States History to 1865 <b>or</b>              | 3         |                |   |
| HIST 121                             | United States History Since 1865 <b>or</b>           |           |                |   |
| POLS 135                             | Introduction to Political Science <b>or</b>          |           |                |   |
| POLS 136                             | Introduction to American National Politics <b>or</b> |           |                |   |
| POLS 137                             | Introduction to State and Local 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 Communication or               |           |                |   |
| COMM 223                             | Interpersonal Communication                          |           |                |   |
| BIOL 106                             | General Zoology (101 may also be used)               | 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                             | Introductory Chemistry or                            | 5         |                | CHEM 107 or high school chemistry or MATH 120   |
| CHEM 111                             | General College Chemistry                            |           |                |   |
| <b>Specific Program Requirements</b> |  |           |                |   |
| VETT 100                             | Veterinary Practice Management                       | 2         |                |   |
| VETT 101                             | Veterinary Nursing Physiology I                      | 4         |                |   |
| VETT 108                             | Clinical Mathematics for Veterinary Technicians      | 1         |                | Admission into Veterinary Technician Program.   |
| VETT 110                             | Veterinary Nursing Physiology II                     | 4         |                | VETT 101  |
| VETT 111                             | Sanitation and Animal Care                           | 2         |                |   |
| VETT 200                             | Veterinary Hospital Technology I                     | 3         |                | VETT 101 and 110  |
| VETT 201                             | Clinical Pathology Techniques                        | 4         |                |   |
| VETT 202                             | Veterinary Anatomy                                   | 5         |                | BIOL 101 or   |
| VETT 203                             | Laboratory Animal Technology                         | 2         |                | VETT 101, 110 and 201   |
| VETT 209                             | Equine Medicine and Management                       | 3         |                | VETT 212  |
| VETT 210                             | Veterinary Hospital Technology II                    | 3         |                | VETT 200  |
| VETT 211                             | Clinical Pathology Techniques II                     | 5         |                | VETT 201  |
| VETT 212                             | Large Animal Technology                              | 4         |                | VETT 101 and 110  |
| VETT 213                             | Radiology and Electronic Procedures                  | 2         |                |   |
| VETT 214                             | Veterinary Technician Preceptorship                  | 6         |                | Two semesters of 1st year VETT tech courses   |
| <b>Total Credit Hours Required</b>   |  | <b>78</b> |                |   |



# Veterinary Technology

## Veterinary Assistant Certificate

404800 Approved 2/2015 (Spring 2016)

| Specific 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 |
| COMM 100<br>COMM 102<br>COMM 223   | Fundamentals of Speech or<br>Fundamentals of Human Communication or<br>Interpersonal Communication | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score |
| BIOL 101<br>BIOL 106               | General Biology <b>or</b><br>General Zoology   | 5         |                |  |
| ANHS 130                           | Veterinary Terminology   | 2         |                |  |
| VETT 100                           | Veterinary Practice Management   | 2         |                |  |
| VETT 111                           | Sanitation and Animal Care   | 2         |                |  |
| <b>Total Credit Hours Required</b> |  | <b>18</b> |                |  |

# Veterinary Technology

## Veterinary Receptionist Certificate

404900 Approved 2/2015 (Spring 2016)

| Specific 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  |
| COMM 100 Fundamentals of Speech or<br>COMM 102 Fundamentals of Human Communication or<br>COMM 223 Interpersonal Communication | 3         |                | ENGL 90 with a minimum grade of S or appropriate placement score  |
| BSAD 221 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         |                |   |
| VETT 111 Sanitation and Animal Care   | 2         |                |   |
| <b>Total Credit Hours Required</b>  | <b>16</b> |                |   |

# 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 ..... | 65-70 Credits |
| MIG Certificate .....                          | 22-23 Credits |
| MIG/TIG Certificate .....                      | 22-23 Credits |
| Welding Construction Certificate .....         | 22-24 Credits |

## A.A.S. Welding Technology and Management

204700 Revised 8/2010 (Spring 2011)

| 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 <b>or</b><br>HIST 121 United States History since 1865 <b>or</b><br>POLS 135 Introduction to Political Science <b>or</b><br>POLS 136 Introduction to American National Politics <b>or</b><br>POLS 137 Introduction to State and Local Politics                | 3            |                |  |
| Choose one of the following Math options:<br><b>Option #1</b><br>MATH 103R Technical Math I w/ Review <b>or</b><br>MATH 103 Technical Math <b>or</b><br>MATH 120 College Algebra<br>And<br>MATH 104 Technical Math II <b>or</b><br>MATH 130 Trigonometry<br><b>Option #2</b><br>MATH 150 PreCalculus | 5-8          |                | MATH 31 with a grade of S or appropriate placement (MATH 104)<br>MATH 95 with a grade of C or higher or appropriate placement (MATH 120)<br>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, SOSOC  | 3-5          |                |  |
| <b>Minimum Total General Education Credit Hours</b>  | <b>20</b>    |                |  |
| <b>Specific Program Requirements</b>   |              |                |  |
| CSIS 100 Digital Literacy  | 2            |                |  |
| EHSS 111 Introduction to Health & Safety for General Industry <b>or</b><br>EHSS 112 Introduction to Health & Safety for Construction   | 1            |                |  |
| INTE 124 Employment Strategies for Technical Careers   | 2            |                |  |
| 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 (stick) Lecture  | 1            |                | WELD 121 or concurrent enrollment  |
| WELD 141 Shielded Metal Arc Welding I (stick) Lab  | 2            |                | WELD 140 or concurrent enrollment  |
| WELD 150 Gas Metal Arc Welding I (MIG)(stick) Lecture  | 1            |                | WELD 121 or concurrent enrollment  |
| WELD 151 Gas Metal Arc Welding I (MIG)(stick) Lab  | 2            |                | WELD 150 or concurrent enrollment  |
| WELD 160 Gas Tungsten Arc Welding I (TIG) Lecture  | 1            |                | WELD 121 or concurrent enrollment  |
| WELD 161 Gas Tungsten Arc Welding I (TIG) 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 (stick) Lecture   | 1            |                | WELD 141   |
| WELD 241 Shielded Metal Arc Welding II (stick) Lab   | 2            |                | WELD 240   |
| WELD 250 Gas Metal Arc Welding II (MIG) Lecture  | 1            |                | WELD 151   |
| WELD 251 Gas Metal Arc Welding II (MIG) Lab  | 2            |                | WELD 250   |
| WELD 260 Gas Tungsten Arc Welding II (TIG) Lecture   | 1            |                | WELD 161   |
| WELD 261 Gas Tungsten Arc Welding II (TIG) Lab   | 2            |                | WELD 260   |
| WELD 270 Flux Core Arc Welding Lecture   | 1            |                | WELD 151 or concurrent enrollment  |
| WELD 271 Flux Core Arc Welding Lab   | 2            |                | WELD 270 or concurrent enrollment  |
| WELD 290 Management Skills for the Trades  | 3            |                | WELD 231 and one WELD 100 level lecture & lab  |
| Electives: BSAD, ETEC 152, ETEC 169, CIMM 100 or CIMM 130  | 3-5          |                |  |
| <b>Total Credit Hours Required</b>   | <b>65-70</b> |                |  |

## Welding

## Welding MIG Certificate (AWS modular certification)

403900 Approved 9/2010 (Spring 2011)

| Specific Program Requirements      |                                       | Credits      | Semester Taken | Prerequisites                                     |
|------------------------------------|---------------------------------------|--------------|----------------|---|
| COLL 100                           | First Year Seminar                    | 1            |                |   |
| MATH 103R                          | Technical Math I w/ review or higher  | 3-4          |                | Appropriate score on placement test for MATH 103R |
| 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 (MIG) Lecture | 1            |                | WELD 121 or concurrent enrollment                 |
| WELD 151                           | Gas Metal Arc Welding I (MIG) Lab     | 2            |                | WELD 150 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 270                           | Flux Core Arc Welding Lecture         | 1            |                | WELD 151 or concurrent enrollment                 |
| WELD 271                           | Flux Core Arc Welding Lab             | 2            |                | WELD 270 or concurrent enrollment                 |
| <b>Total Credit Hours Required</b> |                                       | <b>22-23</b> |                |   |

# Welding

## Welding MIG/TIG (AWS modular certification)

403200 Approved 9/2010 (Spring 2011)

| Specific Program Requirements                     | Credits      | Semester Taken | Prerequisites                                 |
|---|--------------|----------------|---|
| COLL 100 First Year Seminar                       | 1            |                |   |
| MATH 103R Technical Math I w/ review or higher    | 3-4          |                |   |
| 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 (MIG) Lecture    | 1            |                | WELD 121 or concurrent enrollment             |
| WELD 151 Gas Metal Arc Welding I (MIG) Lab        | 2            |                | WELD 150 or concurrent enrollment             |
| WELD 160 Gas Tungsten Arc Welding I (TIG) Lecture | 1            |                | WELD 121 or concurrent enrollment             |
| WELD 161 Gas Tungsten Arc Welding I (TIG) 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 |
| <b>Total Credit Hours Required</b>                | <b>22-23</b> |                |   |

## Welding

## Welding Construction Certificate

404400 Approved 12/2013 (Spring 2014)

| Specific Program Requirements                  | Credits      | Semester Taken | Prerequisites                                      |
|--|--------------|----------------|--|
| COLL 100 First Year Seminar                    | 1            |                |  |
| MATH 103R Technical Math I w/ review or higher | 3-5          |                | MATH 31 with a grade of S or appropriate placement |
| 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 Lecture    | 1            |                | WELD 121 or taken concurrently                     |
| WELD 141 Shielded Metal Arc Welding Lab        | 2            |                | WELD 140 or taken concurrently                     |
| WELD 150 Gas Metal Arc Welding I Lecture       | 1            |                | WELD 121 or taken concurrently                     |
| WELD 151 Gas Metal Arc Welding I Lab           | 2            |                | WELD 150 or taken concurrently                     |
| WELD 160 Gas Tungsten Arc Welding I Lecture    | 1            |                | WELD 121 or taken concurrently                     |
| WELD 161 Gas Tungsten Arc Welding I Lab        | 2            |                | WELD 160 or taken concurrently                     |
| <b>Total Credit Hours Required</b>             | <b>22-24</b> |                |  |

## Course Descriptions

This section describes each of the for-credit courses offered by Metropolitan Community College. Each entry includes the course number and title, the number of credit hours earned by a student who successfully completes it and the number of hours the class meets each week as well as the number of laboratory, studio or clinical scheduled each week. There is also a brief description of what's covered in the course.

NOTE: Not all courses are offered at every location or every semester. Students should see their campus advisors or counselors to determine when the classes they want or need are available. For the most up-to-date information, please check the online catalog at [www.mcckc.edu](http://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.

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## ANHS - ANIMAL HEALTH SCIENCE

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*MCC-Maple Woods*  
Christopher Morrow

### ANHS 100 INTRODUCTION TO ANIMAL HEALTH SCIENCE CAREERS

1 credit. 1 hour. (Lecture 1 HOUR.)  
Introduction to careers in the animal health industry. Covers education, career outlook, compensation and responsibilities.

### 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.

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## ANTHROPOLOGY

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*MCC-Blue River*  
Melissa Eaton

*MCC-Longview*  
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 290 SPECIAL TOPICS IN ANTHROPOLOGY

1-3 credits. 1-3 hours. (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.

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## ARABIC

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### ARAB 101 ELEMENTARY MODERN ARABIC I

4-5 credits. 4-5 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 102 ELEMENTARY MODERN ARABIC II

4-5 credits. 4-5 hours. (Lecture 4 HOURS.)  
*Prerequisite: ARAB 101.*  
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

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## ART

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### MCC-Blue River

DeAnna Skedel

### MCC-Longview

Daniel Reneau

### MCC-Maple Woods

Carlos Bass

### MCC-Penn Valley

Mary Beth Moley  
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.  
MOTR: PERF 105

### 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 104 3D COMPUTER ANIMATION I

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

*Prerequisite: GDES 110 or CSIS 110 or CSIS 115.*  
This course is an introduction to the fundamental concepts and techniques of the art of 3D computer animation. Using advanced 3D animation, modeling, editing, and graphics software students will learn to model and animate objects, characters, and environments.



### **ART 105 DIGITAL 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 101

### **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: DRAW 100

### **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.)

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 an intermediate level of complexity in skill and mastery of execution.

**ART 150 HISTORY OF ART I**

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

Historical events and their influence on the development of architecture, painting, and sculpture from prehistoric times through the medieval periods in Western Civilization.

**ART 151 HISTORY OF ART II**

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

Western civilization through the historical developments and relationships of architecture, painting, and sculpture from the Renaissance to present day.

**ART 157 HISTORY OF GRAPHIC DESIGN**

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

Students will obtain an overview of the evolution of graphic communication from pre-history through Postmodern Design and the Digital Revolution. Students will be able to identify the works of influential artists, movements, and the impacts of world historical events, technology, and social tendencies on graphic design.

**ART 159 AMERICAN ART HISTORY**

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

Development of art in America, from Indian and colonial to contemporary times. The history of America through its relationship of architecture, sculpture, and painting.

**ART 164 LETTERING**

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

The design of letter forms. Hand-lettering techniques with marker, brush, pen and ink.

**ART 165 CARTOONING**

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

*Prerequisite:* ART 110.

Fundamentals of cartoon drawing styles and techniques used in advertising, greeting cards, gag, caricature and editorial cartoons.

**ART 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 105

**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 204 3D COMPUTER ANIMATION II**

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

*Prerequisite:* ART 104.

Students will explore advanced concepts of the art of 3D computer animation in this course. They will further develop their understanding of animation as they explore in greater detail the processes of character development, storyboard development, modeling, materials, lighting, effects, actions, lip-synching, keyframing, camerawork, rendering, and compositing.

**ART 205 PRE-HISPANIC ART HISTORY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Survey of the art and architecture of Mesoamerica and South America prior to the arrival of the Spanish. Part I of the course will explore the civilization of the Olmec, the Zapotec, Teotihuacan, the Maya, the Aztec, as well as other ancient Civilizations of Central America and Mexico. Part II will highlight the art and architecture of South America, including civilizations in Ecuador, Peru and Bolivia.

**ART 212 LIFE DRAWING I**

3 credits. 6 hours. (Lecture 1 HOUR. Laboratory 5 HOURS.)  
*Prerequisite:* ART 110.  
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.

**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.

**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 241 SPECIAL PROJECTS IN ART**

1-3 credits. 2-6 hours. (Laboratory 2-6 HOURS.)

**ART 242 PHOTOGRAPHY III**

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

*Prerequisite:* ART 239.

Individual student projects developing visual communication of imagery. Further studies in black and white photographic processes and techniques. Color photo option.

**ART 243 PHOTOGRAPHY IV**

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

*Prerequisite:* ART 242.

Use of student-generated projects to develop abilities of individual students. Professional competence in use of photographic equipment and materials.

**ART 244 DIGITAL PHOTOGRAPHY**

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

*Prerequisite:* GDES 110.

Exploration of photographic techniques and themes using the computer, digital camera, and scanners. The industry standard software for image editing will be utilized.

**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 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 280 SPECIAL STUDIES**

1-2 credits. 2-6 hours. (Laboratory 2-6 HOURS.)

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

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## AUTOMOTIVE TECHNOLOGY

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### *MCC-Longview*

Danny Blurton  
Peter Eskew  
David Patience  
Rory Perrodin

### **AUTO 103 FUNDAMENTALS TO AUTOMOTIVE TECHNOLOGY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
This course is an introduction to the various mechanical and electrical systems of the automobile. Students will also learn basic service techniques while understanding the costs associated with purchasing, maintaining, and repairing an automobile.

### **AUTO 105 COOPERATIVE WORK EXPERIENCE I**

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 250 DIESEL DIAGNOSIS AND REPAIR**

6 credits. 9 hours. (Lecture 3 HOURS. Laboratory 5 HOURS.)

*Prerequisites: AUTO 150 and AUTO 166.*

Discussion of diesel engine construction and operation as compared to gasoline engines. Study of diesel engine air, fuel, emissions, and electronic control systems. Study of how diesel engines and systems operate and how to diagnose, service, and repair these systems.

**AUTO 260 ADVANCED DIAGNOSIS**

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

*Prerequisite: Be a student in good standing in the General Motors 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 278, 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 278. 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.

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## **BASIC SKILLS**

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### **BASK 39 SENTENCES TO PARAGRAPHS**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

Moving from sentence to paragraph writing. Topic sentences, coherence, focus, and organization.

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## BIOLOGY

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### **MCC-Blue River**

Mehdi Borhan  
Shari Harden  
Todd Martin  
Rachel Smith

### **MCC-Longview**

Alex Harris  
Keet Kopecky  
Greg Loftin  
Jason Thornley  
Lavon Tonga

### **MCC-Maple Woods**

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

### **MCC-Penn Valley**

Mahmoud Bishr  
Terrence Davin  
Andrew Greene  
Nancy Harrington  
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 001L

### **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 001L

### **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 001L, 100L

### **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 001L, 100L

### **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 001L

### **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 001L

### **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.

MOTR: LIFS 100

### **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. 5 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)

Study of biological principles including; genetics, evolution, population, and ecosystems.

MOTR: BIOL 100L

### **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 001

**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 198 SERVICE-LEARNING IN BIOLOGY**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)  
This is an experiential learning opportunity that links concepts and principles of biology to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the disciplinary course topic and learning objectives.

**BIOL 202 ECOLOGY**

5 credits. 7 hours. (Lecture 3 HOURS. Laboratory 4 HOURS.)  
*Prerequisite: BIOL 101 or 104, or BIOL 106, or BIOL 123 or BIOL 124.*  
Study of interrelationships between organisms and their environment. Site visits to primary and secondary forests, grasslands, and aquatic ecosystems.

**BIOL 204 GENETICS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: BIOL 101 or BIOL 104, or BIOL 106, or BIOL 123 or BIOL 124.*  
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, HLSC 108, BIOL 109, BIOL 110, BIOL 123, or BIOL 124.*  
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 100L

**BIOL 214 PRINCIPLES OF GENETICS**

4 credits. 6 hours. (Lecture 3 HOURS. Laboratory 3 HOURS.)  
*Prerequisites: BIOL 101 or BIOL 104 or BIOL 106 or BIOL 123 or BIOL 124.*  
Basic principles of heredity in animals, plants, and microorganisms. Mendelian and other principles of transmission genetics and cytogenetics. Molecular genetics of gene structure and function. Introduction to population genetics.

**BIOL 220 SPECIAL TOPICS IN BIOLOGY**

1-5 credits. 1-10 hours. (Laboratory 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: BIOL 101, BIOL 104, or BIOL 106.*

Principles of ecology and natural history applied to flora and fauna of selected international field site. Students will spend at least 18 days in the field within selected countries acquiring in-depth knowledge of major biological taxa, ecosystems, and processes.

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**BUSINESS ADMINISTRATION**


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**MCC-Blue River**

Lynn Canaday

**MCC-Longview**

Randy Kidd  
Zach McNeil

**MCC-Maple Woods**

Kimberly Luken  
James Moes

**MCC-Penn Valley**

Sheryl Farnan

**BSAD 100 INTRODUCTION TO ACCOUNTING**

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

Introduction to the steps of the accounting cycle. Practical background in accounting for professional offices and/or merchandising businesses.

**BSAD 101 ACCOUNTING PRINCIPLES I**

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

Practice and application of the accounting principles involved in the process of preparing financial statements in accordance with the Generally Accepted Accounting Principles. Includes accounting procedures for cash, accounts receivable, inventory, depreciation and payroll.

**BSAD 102 ACCOUNTING PRINCIPLES II**

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

*Prerequisite: BSAD 101 or two years of high school accounting.*

Practice and application of the accounting principles involved in partnerships and corporations. Departmentalization, budgeting, and statement analysis.

**BSAD 103 BUSINESS ENGLISH**

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

Apply the English concepts and critical thinking skills to business writing and workplace applications via the Internet. Review of fundamentals of grammar, sentence structure, punctuation, and capitalization.

**BSAD 105 HUMAN RESOURCES MANAGEMENT**

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

This course provides an overview of the human resources management functions within an organization and the human resources management profession generally.

**BSAD 109 PRINCIPLES OF SUPERVISION**

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

This course is an integrated approach involving a variety of issues confronting supervisors and provides practical solutions within a diversified workforce and a global marketplace. The course explores how supervisors relate to employees, other supervisors and upper management, and emphasizes skills applications couples with Internet activities that require students to seek current information.

**BSAD 113 FIELD EXPERIENCE I**

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

Independent study in business related areas under the supervision of a faculty member for students currently employed a minimum of 15 hours a week.

**BSAD 114 FIELD EXPERIENCE II**

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

*Prerequisites: BSAD 113.*

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. Students are required to be employed a minimum of 30 hours a week and will complete a business related project.

**BSAD 120 ORGANIZATIONAL BEHAVIOR**

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

Course investigates the impact that individuals, groups, and organizational structures have on behavior in the workplace. The student will develop individual competencies with emphasis in business environments. The acquired competencies can be applied toward improving individual and organizational effectiveness.

**BSAD 127 MANAGEMENT INTERNSHIP I**

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

On-the-job experience approved by the coordinator.

**BSAD 128 MANAGEMENT INTERNSHIP II**

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

*Prerequisite: BSAD 127.*

On-the-job experience approved by the coordinator.

**BSAD 150 INTRODUCTION TO BUSINESS**

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

Overview of all phases of business, including ownership, marketing, personnel, finance, managerial controls, and the relationship of business to the social and economic environment in which it operates.

**BSAD 151 PERSONAL FINANCE**

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

Principles of personal financial planning enabling the student to achieve personal economic satisfaction and long-term financial security. Topics will include career planning, taxes, banking, consumer strategies, housing, transportation, insurance, investments, retirement and estate planning.

**BSAD 153 ACCOUNTING INFORMATION SYSTEMS**

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

*Prerequisite: BSAD 101.*

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

**BSAD 154 MANAGERIAL ACCOUNTING**

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

*Prerequisite: BSAD 101.*

Interaction between the fields of accounting and management with emphasis on analysis of accounting records for aiding managerial decision making.

**BSAD 155 ACCOUNTING USING SPREADSHEETS**

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

*Prerequisite: BSAD 101.*

The emphasis of this course is to teach the solving of accounting problems utilizing spreadsheet programs as a tool.

**BSAD 161 PROFESSIONAL DEVELOPMENT AND BUSINESS CAREERS**

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

This course prepares students to match a career choice with their education, training, interests, abilities and current job market information. Topics and process will include self-assessment, career investigation and planning, employment communication, professional ethics and diversity issues.

**BSAD 185 CUSTOMER SERVICE**

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

*Prerequisite: BSAD 120, BSAD 150, BSAD 221, CSIS 115, MATH 20 & have demonstrated*

*keyboarding proficiency of 35 words a minute with 90% accuracy.*

Fundamental principles of serving customer needs. Instruction and practice in identifying and providing for customer needs, handling situations on the telephone, developing and using telemarketing strategies, and establishing professional work standards.

**BSAD 198 SERVICE-LEARNING IN BUSINESS**

1-3 credits. 1-3 hours. (Lecture 1 HOUR.)

This is an experiential learning opportunity that links concepts and principles of business to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the business course topic and learning objectives.

**BSAD 202 INTERMEDIATE ACCOUNTING I**

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

*Prerequisite: BSAD 102.*

Practice and application of financial reporting accounting in accordance with the generally accepted accounting. Principles. Includes financial statements and related disclosures, asset measurement, income determination, valuation of liabilities and investments.

**BSAD 204 BUSINESS MANAGEMENT**

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

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

**BSAD 205 MARKETING**

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

The principles of marketing involves the structure of marketing institutions in a global environment. The course includes analysis of marketing functions, consumer behavior, segmentation, market research, product planning, pricing, promotion, distribution and marketing strategies. Internet and electronic mail activities are integrated to develop competencies in data collection, application and task analysis.

**BSAD 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. Hands-on applications, activities and simulations. IAW Council of Logistics management guidelines will be emphasized.

**BSAD 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.

**BSAD 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.

**BSAD 213 WAREHOUSE AND DISTRIBUTION CENTERS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
This 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 center. The major components are warehousing and distribution center paradigms, system design, locations, technology and financial dimensions.

**BSAD 219 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.

**BSAD 221 BUSINESS COMMUNICATIONS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ENGL 90 with a minimum grade of S or appropriate placement score.*  
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. Current methods of communication by technology are covered with direct applications utilizing Internet, Email, PowerPoint presentations, electronic files, employee and data privacy, resumes and interviewing techniques. Emphasis is placed on formal reports within the APA and MLA formats/structures.

**BSAD 224 ENTREPRENEURSHIP EXPERIENCE**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: BSAD 219.*  
The Entrepreneurship Experience combines classroom lecture and the opportunity to further develop specific business skills as student teams work to assess and resolve problems of small businesses in the local area. Student will perform the research necessary to provide guidance and solutions to the small business challenges presented by the client. High quality written communication and presentation skills will be expected for all published and created work.

**BSAD 228 PROBLEMS IN SMALL BUSINESS OPERATIONS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: BSAD 219.*  
Introduces the fundamentals of business management, including planning, raising capital, using business information, managing employees, and marketing products and services. The course focuses on principles needed to operate a small business and is designed for those who may eventually have their own businesses or for those who desire to upgrade their skills in their present businesses.

**BSAD 252 INDIVIDUAL INCOME TAX**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: BSAD 101.*  
Principles of the Internal Revenue Code as applied to individual returns. Forms required from the employer and the individual. Preparation of individual tax form 1040 and accompanying schedules.

**BSAD 254 BUSINESS LAW I**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Identification and discussion of principles of law related to business transactions. Topics covered include: contracts, agency, employment, negotiable instruments, personal property, and bailments.

### **BSAD 255 BUSINESS LAW II**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Identification and discussion of principles of law related to business transactions. Topics include: sale of goods, partnerships, corporations, real property, security devices, bankruptcy, and estates.

### **BSAD 270 LEGAL ENVIRONMENT OF BUSINESS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Provides a survey of laws that are important to persons as citizens of the United States and as participants in its economic system.

### **BSAD 290 BUSINESS CAPSTONE**

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

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## **BUILDING MAINTENANCE**

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### ***MCC-Business and Technology***

Mark Gardner

### **BLDM 109 GENERAL CONSTRUCTION PRINCIPLES AND TRADE TOOLS**

4 credits. 4 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)  
*Prerequisite: MATH 31 can be taken as a co-requisite.*  
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 can 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.

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## **CHEMISTRY**

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### ***MCC-Blue River***

James Bryan  
Shveta Chaudhary  
Angie Peck

### ***MCC-Longview***

Monty Helm

### ***MCC-Maple Woods***

Pat Chernovitz  
DaeKeun Kwon

### ***MCC-Penn Valley***

Mercy Anyika  
Douglas Martin  
Michael Sweetland

### **CHEM 101 SURVEY OF CHEMISTRY**



5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)  
Survey of the principles of chemistry and the role and significance of chemistry in the modern world.  
MOTR: CHEM 001L

**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 001L

**CHEM 107 PREPARATORY GENERAL CHEMISTRY** 

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

*Prerequisite:* MATH 95 with a grade of C or higher or appropriate placement or one unit of high school algebra.

Introduction to the elementary principles of chemistry with emphasis on chemical calculations.

MOTR: CHEM 001L

**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 100L

**CHEM 112 GENERAL COLLEGE CHEMISTRY II**

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

*Prerequisite:* CHEM 111.

Chemical equilibrium, kinetics, electrochemistry, thermodynamics, and the reactions of the elements and their compounds explained in terms of bonding and energy relationships. A brief introduction to the chemistry of organic compounds is included.

**CHEM 205 INTRODUCTORY ORGANIC CHEMISTRY FOR HEALTH SCIENCES**

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

*Prerequisite:* CHEM 105 or CHEM 111.

Basic concepts of organic and biological chemistry for health science students.

**CHEM 221 ORGANIC CHEMISTRY I**

5 credits. 9 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. 9 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.

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## CHINESE

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**CHIN 101 ELEMENTARY CHINESE I** 

4-5 credits. 4-5 hours. (Lecture 4-5 HOURS.)

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

MOTR: LANG 105

**CHIN 102 ELEMENTARY CHINESE II** 

4-5 credits. 4-5 hours. (Lecture 4-5 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

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## COMMUNITY HEALTH WORKER

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**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.

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**COMPUTER INTEGRATED MACHINING  
& MANUFACTURING**

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*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.

**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. 2.5 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)

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 120 CNC PROGRAMMING FUNDAMENTALS**

2 credits. 2 hours. (Lecture 1.5 HOURS. Laboratory 1 HOUR.)

*Prerequisites: CIMM 105 and CIMM 110 or CIMM 115 or concurrent enrollment.*

The student will learn the fundamentals of Computer Numerical Control (CNC) programming, write a basic lathe and mill program, load and prove out a program. 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 130 MACHINING FOR RELATED OCCUPATIONS**

5 credits. 8 hours. (Lecture 2 HOURS. Laboratory 6 HOURS.)

This course is designed to introduce the student to common machining practices. The student will learn layout, measuring tools, benchwork, machine setup and operation required to operate saws, drill presses, lathes and mills. This course is designed for the student pursuing degrees that require a knowledge of machining.

**CIMM 140 EDM-SINKER**

3 credits. 4.5 hours. (Lecture 1.5 HOURS. Laboratory 3 HOURS.)

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 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. 3 hours. (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 199 SPECIAL PROBLEMS AND PROJECTS**

1-3 credits. 2-3 hours. (Laboratory 2-6 HOURS.)

*Prerequisite: 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, BENCHWORK & 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, Benchwork, and Layout upon successful completion of the performance tests and theory exams. NIMS documents the skills of the individuals through the skill standard developed through a consortium.

**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, 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. 5hours. (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.

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## COLLEGE

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*Offered at all campuses*

### 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.

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## COMMUNICATION STUDIES

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### **MCC-Blue River**

Dee Mathison

### **MCC-Longview**

Bill Cue

### **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 minimum grade of S or appropriate placement 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 minimum grade of S or appropriate placement 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 minimum grade of S or appropriate placement 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 minimum grade of S or appropriate placement 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.

### COMM 118 INTRODUCTION TO PUBLIC RELATIONS I

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

*Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement score.*

An overview of the history and practices of public relations. Students will practice writing various public relations materials and examining field and case studies. Topics will include sections on unethical public relations practices and the relationship of public relations to the press and to society.

### COMM 128 INTRODUCTION TO FILM

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

*Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement 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 130 DIRECTED STUDIES IN COMMUNICATIONS

1-3 credits. 1-3 hours. (Independent Study 1-3 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 131 DIRECTED STUDIES IN DEBATE**

1-3 credits. 1-3 hours. (Independent Study 1-3 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 198 SERVICE-LEARNING IN COMMUNICATIONS**

1-3 credits. 1-3 hours. (Lecture 1-3 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 200 MEDIA INTERNSHIP I**

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

*Prerequisite: At least 6 hours from any two of the following courses in COMM: 112, 118, 263.*

This internship is designed to provide students with practical experience working at a local media outlet.

### **COMM 201 ADVANCED PUBLIC SPEAKING**

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

*Prerequisite: COMM 100.*

This course will provide students with additional practice in public speaking situations with special emphasis on organization, development of ideas, and mechanics of delivery.

### **COMM 203 MEDIA INTERNSHIP II**

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

*Prerequisites: COMM 200.*

This internship is designed to provide students with additional practical experience working at a local media outlet.

### **COMM 204 SMALL GROUP COMMUNICATION**

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

*Prerequisite: ENGL 90 with a minimum grade of S or appropriate placement score.*

A study of strategies and communication relationships unique to small groups. Emphasis on the development of both leadership and participation skills.

MOTR: COMM 125

### **COMM 223 INTERPERSONAL COMMUNICATION**

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

*Prerequisite: ENGL 90 with a minimum grade of S or appropriate placement 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 228 AFRICAN FILM**

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

*Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement score.*

An overview of contemporary African culture and history through the medium of movies by African filmmakers. Themes will include the legacies of colonialism, identity formation, globalization, and the changing sex roles in modern Africa.

### **COMM 233 INTERCULTURAL COMMUNICATION**

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

*Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement 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.

### **COMM 263 DIGITAL VIDEO PRODUCTION**

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

*Prerequisites: ENGL 90 with a minimum grade of S or appropriate placement 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.

### **COMM 264 DIGITAL VIDEO EDITING**

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

*Prerequisites: COMM 263 (formerly MSCM 263).*

This course builds on the topics presented in COMM 263 and provides students with the skills necessary to create sophisticated video productions using digital video editing software. Students will use advanced editing techniques, create special effects for video and audio, use multi-track audio and audio restoration techniques, create video programs for television and the internet, and produce a digital portfolio.

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## **CRIMINAL JUSTICE**

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**MCC-Blue River**

Gary Hacker

**MCC-Longview**

Rick Turner

**MCC-Penn Valley**

Karen Curls

Douglas Thompson

### **CRJU 101 INTRODUCTION TO CRIMINAL JUSTICE**

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

Philosophical and historical background of law enforcement, courts, and corrections. Organization, purpose, and functions of criminal justice agencies on the local, state, and federal levels. The respective roles of personnel in justice agencies in the United States. Career requirements and opportunities in these fields.

### **CRJU 105 AMERICAN CORRECTIONS**

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

*Prerequisite: CRJU 101*

This course will introduce students to the history of corrections, inmate characteristics, elements of supervision, classification system, and security procedures. Students will examine probation and parole issues, contraband control, prisonization, and re-entry back into the community.

### **CRJU 118 LEGAL ASPECTS OF CORRECTIONS**

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

*Prerequisites: CRJU 101* Law and procedures are examined and discussed that focus on prisoner's rights, treatment, and care and custody of inmates, Supreme Court cases regarding inmate rights, and the legal processes accorded a detainee from arrest until released.

### **CRJU 122 PROCEDURAL LAW**

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

This course will present to the student the fundamental concepts of constitutional law as applied to law enforcement. Rules of evidence, admissions and confessions, Miranda, arrest procedures, and search and seizure issues will be taught. A review of relevant case law and how it affects contemporary law enforcement practices will also be presented.

### **CRJU 126 CORRECTIONS IN THE COMMUNITY**

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

This course examines correctional issues and roles of the community in the reintegration and rehabilitation of offenders. Community-based programs, legislative issues, financial support, community resources and impact of social change on corrections are reviewed.

### **CRJU 132 COMMUNITY RELATIONS**

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

This course focuses on the dynamics of police and community relationships. Psychological and sociological aspects of police-community relations from the perspectives of the police and ethnic groups, the debate of unequal justice under the law, and efforts towards partnership are introduced.

### **CRJU 162 CORRECTIONAL PSYCHOLOGY**

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

Psychological and Sociological theoretical approaches related to the behavior of criminal justice and mental health clients. Diagnostic approaches used in mental health and juvenile or adult correctional settings. Application of case assessment and evaluation process. Individual, group and family therapy approaches utilized with mental health and criminal justice clients.

### **CRJU 165 CRIMINOLOGY**

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

The course will introduce students to theories associated with criminal behavior and the manifestation of crime. A historical evolution of crime and punishment is introduced along with concepts, terms, and the criminal justice subsystem.

### **CRJU 167 SPECIAL TOPICS IN CRIMINAL JUSTICE**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

Guided readings, discussions, writings and/or field experience(s) in criminal justice. Various topics are offered such as computer crimes and gender injustices. Topics are intended to supplement core courses.

**CRJU 168 JUVENILE 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 201 CRIMINAL JUSTICE PRACTICUM I**

3 credits. 3 hours. (Field Studies 3 HOURS.)  
*Prerequisite: The student must complete 15 credit hours of Criminal Justice including CRJU 101 before taking this course.*

This course provides students with opportunities to gain practical work experience under the supervision of professionals with experience in the criminal or legal field.

**CRJU 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 204 CRIMINAL INVESTIGATIONS II**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: CRJU 203.*  
This course will present to the student techniques and information for investigating deaths, sex crimes, assaults, stealing, robbery, property crimes, burglary, bombs, and arson. Examine evidence, collection, and crime laboratory analysis procedures will also be presented.

**CRJU 215 JUVENILE LAW**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Introduction to juvenile law, jurisdiction over and disposition of the juvenile offender, court processing, adjudicatory process, and the Uniform Juvenile Court Act.

**CRJU 223 CRIMINAL LAW I**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Introduction to criminal law. Classification and analysis of crimes and criminal acts. Criminal law as a means of preservation and protection of life and property.

**CRJU 224 CRIMINAL EVIDENCE**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: CRJU 101.*  
Nature, types, and degrees of criminal evidence; rules governing admissibility, competency, and relevancy. Presentation of physical and other material evidence, direct and circumstantial evidence, hearsay rules, and exceptions.

**CRJU 228 FUNDAMENTALS OF PROBATION AND PAROLE**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Historical development of probation and parole from early correctional procedures through modern approaches. Pre-sentence investigation, conditions of probation, and suspended sentences. Prerelease programs, parole conditions, role of probation, and parole conditions, role of probation, and parole personnel.

**CRJU 230 MISSOURI CRIMINAL LAW**

3 credits. 3 hours. (Lecture 3 HOURS.)  
This course will study the Revised Statutes of Missouri and relevant Federal Statutes relating to general code provisions, justifications, homicide, assaults, kidnapping, sexual offenses, drug offenses, robbery, arson, burglary, stealing, armed criminal action, offenses against public order.

**CRJU 244 GROUP AND INDIVIDUAL COUNSELING IN CORRECTIONS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: CRJU 105.*  
This course introduces students to basic principles of human behavior and techniques for changing attitudes and behaviors within a group or individual settings. Counseling settings will focus on correctional facilities both traditional and community-based and correctional populations.

**CRJU 248 CONSTITUTIONAL LAW**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 U.S. Supreme Court rulings that affect law enforcement. Major constitutional decisions, federal statutes, interstate rules, and cases involving constitutional amendments affecting law enforcement jurisdiction and civil liberties.

**CRJU 275 ALCOHOL AND DRUG ADDICTION**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 Exploration of the field of alcohol and drug use, biological, physical, psychological, and social causation theories with particular attention directed toward local and national initiatives in alcohol and drug abuse.

**CRJU 280 ADDICTION COUNSELING WITH SPECIAL POPULATIONS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 Cultural, racial, age, and gender differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.

**CRJU 285 ADDICTION CLIENT MANAGEMENT**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 Case management procedures utilized with addicted clients. Assessment, planning, evaluation, and record keeping employed in addiction treatment. Case presentation techniques. Ethical issues. Case management and recovery.

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**COMPUTER SCIENCE INFORMATION SYSTEMS**


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***MCC-Blue River***

Brian Hurley  
 Melissa Napper

***MCC-Business & Technology***

Alex Hamilton

***MCC-Longview***

Cynthia Herbert  
 Dennis Jirkovsky

***MCC-Maple Woods***

Gary May  
 Gerald Morrison  
 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, and several software applications. The internet, internet safety, and internet-based applications are also covered. A keyboarding component is included.

**CSIS 102 CUSTOMER SERVICE PRINCIPLES**

1 credit. 1hour. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

A course in the principles of customer service as it applies to the IT help desk environment. Students gain a solid base of knowledge in customer service concepts and strategies, meeting customer wants and needs, providing superior customer service, handling difficult customers and building permanent customer relations.

**CSIS 103 DOCUMENT PROCESSING I**

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

Introduction to simple tabulations, basic business letters, simple reports, centering and basic document layout. Keyboarding using a personal computer.

**CSIS 104 DOCUMENT PROCESSING II**

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

*Prerequisites: CSIS 103.*

Advanced practice in formatting, paginating, and creating business letters, tabulation, manuscripts, reports, and rough drafts using the computer.

### **CSIS 105 DESKTOP CLIENT SUPPORT**

3 credits. 3 hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)

This course prepares students to take the Microsoft Certified Technology Specialist exam. Students will learn to implement, administer and troubleshoot the Microsoft Windows client operating system. Topics include installation, upgrades, restoration, user profiles and accounts, and the TCP/IP protocol.

### **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  $\zeta$ model Internet $\zeta$  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, RIPng, 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 123 PROGRAMMING FUNDAMENTALS**

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

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

Introduction to the principles of good design and the characteristics common to all programming languages. Experience writing code in a particular programming language, and compare to other common programming languages. Write well structured, procedural programs based on problem solving strategies.



**CSIS 128 WEB DEVELOPMENT**

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

*Prerequisite: CSIS 110 or CSIS 115.*

An in-depth introduction to the creation of web pages for an Internet site. Create individual web pages that use all the basic components, then build a web site that follows good design and navigation principles. Interactive and multimedia features will be added to the site. Issues concerning the Internet will be discussed.

**CSIS 129 INTRODUCTION TO E-COMMERCE**

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

*Prerequisite: CSIS 110.*

Introduction to Electronic Commerce 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 141 DISCRETE STRUCTURES COMP SCIENCE I**

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

*Prerequisite: MATH 120 or MATH 150.*

Mathematical logic, sets, relations, functions, mathematical induction, Boolean algebra, algebraic structures. The theory inducted will be applied to appropriate of computer science.

**CSIS 143 DATABASE DESIGN AND MANAGEMENT**

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

*Prerequisite: CSIS 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 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 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.*

This course provides a comprehensive overview and hands-on experience with the Linux operating system.

**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**

#### **ASSURANCE**

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 172 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 174 VIRTUALIZATION AND CLOUD COMPUTING CONCEPTS**

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

*Prerequisite:* CSIS 172 with a grade of C or better.

This course covers a variety of technologies found on modern networks. Topics include cloud computing, virtualization, virtual networks, wireless networking, remote management, and network troubleshooting. Students will gain experience implementing and managing a virtual data center using industry standard tools. This course helps prepare students for the CompTIA Cloud+ certification exam.

### **CSIS 175 SERVICE AND SUPPORT OF LOCAL AREA NETWORKS**

3 credits. 3.5 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)

*Prerequisite:* CSIS 172.

This hands-on course teaches experienced network administrators how to install, maintain, and troubleshoot networks. The course covers installation and upgrade procedures for the latest versions of network operating system software.

### **CSIS 177 DATABASE APPLICATION AND DESIGN WITH ACCESS**

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

*Prerequisite:* CSIS 110 or CSIS 115.

This course is designed to provide students with an understanding of Microsoft Access by utilizing fundamental hands-on exercises. The student will develop skills through table, query, form, and report creation. In addition, advanced skills in report, form, and SQL techniques will be emphasized.

### **CSIS 178 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 maps to many of the objectives on the CompTIA Security+ certification exam.

### **CSIS 180 CURRENT TOPICS**

1-4 credits. 1-4 hours. (Lecture 1-4 HOURS.)

Technical and applicational implications of innovations in hardware and software. Approval of instructor.

### **CSIS 182 ENTERPRISE SECURITY MANAGEMENT**

3 credits. 3hours. (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 202 HEALTHCARE IT PRINCIPLES**

3 credits. 3hours. (Lecture 2.5 HOURS. Laboratory 1 HOUR.)

*Prerequisites:* CSIS 111 and CSIS 151.

This course prepares students to take the CompTIA Healthcare IT Technician exam. Students will learn the best practices for protecting health information following government regulations and laws, troubleshoot computer and network issues within an electronic health record system, and understand the medical organization operation.

### **CSIS 208 SECURE E-COMMERCE**

3 credits. 3hours. (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 MICROCOMPUTER APPLICATIONS**

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

*Prerequisite: CSIS 115.*

Implementation and in-depth use of microcomputer software packages. Specific hands-on work with word processor, spreadsheet, database, and presentation software applications.

**CSIS 216 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 219 NETWORK TROUBLESHOOTING: CCNP4**

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

*Prerequisite: CSIS 213.*

CCNP4: Network Troubleshooting is the last of four course leading to the Cisco Certified Network Professional (CCNP) certification. CCNP: 4 teaches students about troubleshooting network problems. The course focuses on the documenting and baselining a network, troubleshooting methodologies and tools, and Layer 1 to 7 troubleshooting.

**CSIS 221 INTRODUCTION TO COMPUTER ARCHITECTURE**

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

*Prerequisite: CSIS 123 & 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.)

*Prerequisites: MATH 104 or higher, CSIS 123.*

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**

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

*Prerequisite: CSIS 123 & MATH 95 with a grade of C or higher or appropriate placement.*

Introduction to object-oriented programming for students with procedural background. Data encapsulation, information hiding, built-in classes and libraries, inheritance, polymorphism, simple graphical user interfaces, user-defined classes and event-driven programming. Basic object-oriented design, maintainable software, software reuse, class hierarchies, design patterns and Universal Modeling Language. Uses object-oriented language.

### **CSIS 228 ADVANCED WEB DEVELOPMENT**

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

*Prerequisite: CSIS 128.*

Building on the topics discussed in CSIS 128, this course provides in-depth coverage of 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 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 higher or appropriate placement.*

Develop sophisticated GUI programs that work in a World Wide Web or intranet environment. Programs deal with database, multimedia, hypertext, network operating system, client/serve and n-tier configurations, security and privacy.

### **CSIS 241 DISCRETE STRUCTURES FOR COMPUTER SCIENCE II**

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

*Prerequisite: 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.

### **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 262 ADVANCED DIGITAL MEDIA DESIGN AND DEVELOPMENT**

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

*Prerequisite: CSIS 162.*

This course expands upon the theories, concepts and practical applications presented in Introduction to Multimedia. Students will learn how to create and edit more complex audio elements, learn to use authoring tools, create an optical media based multimedia application and discuss the most current issues facing multimedia developers.

### **CSIS 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 269 SECURING WIRELESS NETWORKS**

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

*Prerequisite:* CSIS 113.

This introductory course to Wireless LANs focuses on the design, planning, implementation, operation and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands on skills in the following areas: Wireless LAN setup & troubleshooting; 802.11 (a, b, and g) technologies, products & solutions; Radio Technologies; WLAN applications and site surveys; Resilient WLAN products, design, installation, configuration and troubleshooting; WLAN security; Vendor interoperability strategies; Emerging wireless technologies

### **CSIS 271 DATA STRUCTURES AND ALGORITHM ANALYSIS**

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

*Prerequisite:* 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 273 NETWORK SECURITY II**

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

*Prerequisite:* CSIS 272.

This course focuses on the overall security processes in a network with particular emphasis on hands-on skills in the following areas: Security policy design and management; Security technologies, products and solutions; Firewall and secure router design, installation, configuration, and maintenance; Intrusion Detection System (IDS) implementation using routers and firewalls; Virtual Private Network (VPN) implementation using routers and firewalls.

### **CSIS 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 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.

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## CONSTRUCTION MANAGEMENT

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*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 and CSMG 101.*

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.

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## DANCE

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### 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.

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## DENTAL ASSISTING

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*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. 3 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 operatory 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.

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## **EARLY CHILDHOOD EDUCATION AND DEVELOPMENT**

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*MCC-Penn Valley*

**Jennifer Copeland**

### **ECED 101 FUNDAMENTALS OF EARLY CARE AND EDUCATION**

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

*Prerequisite: ENGL 90 and READ 11/31 with a minimum grade of S or appropriate placement score.*

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 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: ENGL 30/90 with a grade of C or higher or appropriate placement test score and 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 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 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 minimum grade of S or appropriate placement 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 minimum grade of S or appropriate placement 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 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 with a grade of C or higher or appropriate placement.*

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 with a grade of C or higher or appropriate placement.*

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

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## EDUCATION

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**MCC-Maple Woods**

Russell Powlas

**MCC-Penn Valley**

Carrie Pickerel-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 – (GLOBAL DIVERSITY)**

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.

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## **ENVIRONMENTAL HEALTH AND SAFETY**

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### **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 204.*

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)

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**EMERGENCY MEDICAL SERVICES**

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**MCC-Penn Valley**

**Christina Akins**

**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. 4 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. 4 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. 3 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 an 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.

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**ENGLISH**

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**MCC-Blue River**

David Collins  
Theresa Hannon  
Rich Higgason  
Katherine Melles

**MCC-Longview**

Zoe Albright  
Anne Dvorak  
Robyn McGee  
Pat McKeown  
Jan Rog  
Eric Sullivan  
Susan Satterfield

**MCC-Maple Woods**

T. Joel Conway  
Charissa Motley  
Michelle Potts  
Melissa Renfrow  
David Sharp  
Michael Warren

**MCC-Penn Valley**

Craig Bartholomaus  
Thomas Black  
Christine Howell  
Anita Leverich  
Ashley Meyer  
Lisa Spaulding

**Stephanie Zerkel-Humbert**

**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 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 minimum grade of S or appropriate placement 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 111 VOCABULARY**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)  
Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

### **ENGL 129 DIRECTED READING**

1-3 credits. 1-3 hours. (Independent Study 1-3 HOURS.)

Directed reading in a field chosen by the student with the advice and direction of the instructor. In-depth investigation of a particular author, genre, or area of literature.

### **ENGL 198 SERVICE-LEARNING IN ENGLISH**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

This is an experiential learning opportunity that links concepts and principles of English to real-world application through community service. Includes 40-hours of on-task service to a community organization, agency, or public service provider per credit hour. The community service placement agency and service assignment will vary, dependent on the speech or drama course topic and learning objectives.

### **ENGL 201 CREATIVE WRITING I**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ENGL 101.*

Various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction.  
MOTR: CRWT 100

### **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 205 PRINCIPLES OF AMERICAN JOURNALISM**

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

*Prerequisite:* ENGL 101.

This course explores the underlying principles of journalism, changing practices in journalism, relations among journalism and other social institutions, and current issues and problems facing journalists in the digital age. The course places U. S. journalism in a global context.

### **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: CRWT 100

### **ENGL 210 CREATIVE WRITING: WRITING**

#### **CHILDREN'S LITERATURE**

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

*Prerequisite:* ENGL 101.

Writing various types of literature for children from preschool to junior high.

MOTR: CRWT 100

### **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 100

### **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 100

### **ENGL 217 SCIENTIFIC WRITING**

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

*Prerequisite:* ENGL 101.

Course focuses on developing skills in scientific writing for students interested in or majoring in the sciences. Prepares students to compose written products appropriate to contexts requiring scientific communication and documentation.

### **ENGL 218 INTRODUCTION TO LITERATURE**



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

Reading, discussion, and analysis of short stories, plays, and poems. Interpretation, evaluation, and enjoyment of these forms.

MOTR: LITR 100

### **ENGL 219 ADVANCED SCREENWRITING**

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

*Prerequisite:* ENGL 209.

Review of professional screenwriting standards; revision and marketing of a completed full-length screenplay.

### **ENGL 220 BRITISH LITERATURE TO 1750**



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

Survey of British literature from the early Middle Ages to the middle of the 18th century.

MOTR: BRLT 101


### **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: BRLT 102


**ENGL 222 AMERICAN LITERATURE TO 1860**   
3 credits. 3 hours. (Lecture 3 HOURS.)  
Survey of American literary works to the Civil War.  
MOTR: AMLT 101

**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: AMLT 102

**ENGL 230 SCIENCE FICTION**  
3 credits. 3 hours. (Lecture 3 HOURS.)  
Introduction to science fiction. Its current position as an independent genre making a unique contribution to the social comment of the 21st century.


**ENGL 232 DETECTIVE FICTION**  
3 credits. 3 hours. (Lecture 3 HOURS.)  
Representative works of detective fiction from Poe to the present.


**ENGL 234 FILM AS LITERATURE**  
3 credits. 3 hours. (Lecture 3 HOURS.)  
Viewing, discussion, and analysis of films. Interpretation, evaluation, and enjoyment of works within this literary form.


**ENGL 240 MYTHOLOGY**   
3 credits. 3 hours. (Lecture 3 HOURS.)  
The origins, purposes, and meanings of myth in past and present human experiences as seen through mythological stories and characters.


**ENGL 242 THE BIBLE AS LITERATURE**  
3 credits. 3 hours. (Lecture 3 HOURS.)  
Selected passages from Old and New Testaments as illustrations of different types of literature (stories, drama, poetry). Analysis of the literary qualities of the Bible.


**ENGL 250 MASTERPIECES OF AMERICAN LITERATURE**  
3 credits. 3 hours. (Lecture 3 HOURS.)  
Masterpieces of American literature that represent American culture and themes.


**ENGL 254 WORLD LITERATURE I**   
3 credits. 3 hours. (Lecture 3 HOURS.)  
Representative works of world literature up to 1600 AD and their significance to the 21st century reader.  
MOTR: LITR 200


**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 200

**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 105

**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: 105

**ENGL 265 AFRICAN LITERATURE**   
3 credits. 3 hours. (Lecture 3 HOURS.)  
This course is a survey of African literature from various genres and historical periods. Students will read and discuss oral stories, poems, short stories, plays, and novels and examine social, political, and cultural forces that have shaped the African experience.

## 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 105

## 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 270 SPECIAL TOPICS

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)  
Selected topics of current interest. Available to individual students or to small groups through arrangement with an instructor.

## ENGL 299 SHAKESPEARE

3 credits. 3 hours. (Lecture 3 HOURS.)  
Study of Shakespeare's life and major works. Consideration of the significance of the playwright and his plays for both Elizabethan and 21st century audiences.

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## ENGINEERING

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### MCC-Longview

Thomas Caron  
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 113 ENGINEERING DESIGN

### MICROCOMPUTER APPLICATIONS

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisite: MATH 95 with a grade of C or higher or appropriate placement.*

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 121 METALLURGY FOR ENGINEERS

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

*Prerequisites: CHEM 111.*

Introduction to the structure and properties of metals and alloys. Introduction to processes used to modify the structure and properties of metallic materials, including alloying, deformation and heat treating.

## ENGR 204 PROGRAMMING FOR ENGINEERS AND SCIENTISTS

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

*Prerequisites: MATH 180.*

Includes analysis and synthesis of structured computer algorithms in Visual Basic Applications for Excel and MATLAB. 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 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.

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## **ENGLISH AS A SECOND LANGUAGE**

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### **ESL 2 NOVICE I: SPEAKING AND LISTENING**

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

*Prerequisite: Appropriate ESL placement test score.*

The study and practice of speaking and listening at the level of isolated words and formulaic phrases in areas of immediate need. Development of survival level aural/oral skills for beginning ESL students.

### **ESL 3 NOVICE I: READING AND VOCABULARY**

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

*Prerequisite: Appropriate ESL placement test score.*

The study and practice of survival level reading. Introduction of basic reading skills in English.

### **ESL 4 BASIC WRITING**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: Applied Language Institute approval.*

The study and practice of survival level writing skills including spelling, capitalization and some punctuation. Basic sentence structure and completion of simple standard forms.

### **ESL 5 BASIC GRAMMAR**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: Applied Language Institute approval.*

The study and practice of survival level sentence structures and words. Basic level sentences, questions, directions, and directions, and descriptions that relate to students' immediate surroundings and some life skill areas.

### **ESL 6 BASIC READING**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: Applied Language Institute approval.*

The study and practice of survival level reading English vocabulary context. Basic reading comprehension, and the introduction of dictionary skills.

### **ESL 7 BASIC SPEAKING/LISTENING**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: Applied Language Institute approval.*

The study and practice of speaking and listening for survival level social functions in English. Production of isolated words and phrases in areas of need. Development of survival level oral/aural skills for beginning ESL students.

### **ESL 8 NOVICE 1: GRAMMAR**

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

*Prerequisite: Appropriate ESL placement test score.*

The study of basic sentence structure and words in writing and speaking. Students will study statements, negatives and questions in a variety of contexts.

### **ESL 9 NOVICE 1: COMPOSITION**

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

*Prerequisite: Appropriate ESL placement test score.*

The study and practice of basic sentence structure and completion of simple standard forms in writing using survival level vocabulary.

### **ESL 10 ESL COMPOSITION I**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: ESL 04.*

The study and practice of writing skills in the skills in the present and past, and the introduction of some organizational patterns; multiple sentence structures, descriptions, and simple narratives.



**ESL 11 GRAMMAR I**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: ESL 05.*

The study and practical application of some sentence structures and word parts. Simple sentences, questions, directions, and descriptions in the present and past tenses.

**ESL 12 ESL SPEAKING & LISTENING I**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: ESL 07.*

The study and practice of speaking and listening for basic social functions. Practice of basic descriptions and the development of oral/aural skills.

**ESL 13 ESL READING AND VOCABULARY I**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: ESL 06.*

The study and practice of reading with English vocabulary in context. Reading comprehension, identifying the topics of short readings, and using some dictionary skills.

**ESL 16 NOVICE II: SPEAKING AND LISTENING**

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

*Prerequisite: ESL 02 or appropriate ESL placement test score.*

The study and practice of speaking and listening for survival level social functions. Development of aural/oral skills for beginning ESL students.

**ESL 17 NOVICE II: READING AND VOCABULARY**

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

*Prerequisite: ESL 3 or appropriate ESL placement test score.*

The study and practice of reading English vocabulary and short narratives in instructional context. Vocabulary is limited to life-skill areas.

**ESL 18 NOVICE II: GRAMMAR**

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

*Prerequisites: ESL 008 or appropriate ESL placement test score.*

The study and practical application of basic sentence structures including statements, negatives and questions. The study of parts of speech as they relate to level appropriate contexts.

**ESL 19 NOVICE II: COMPOSITION**

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

*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 an 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.)  
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: Applied Language Institute approval.*

The comprehensive study of standard English skills for advanced students. College level materials focusing on current issues as the basis for writing exercises and for classroom activities and presentations.

**ESL 56 ADVANCED II: SPEAKING AND LISTENING**

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

*Prerequisite: ESL 46 or appropriate ESL placement test score.*

The study and practice of comprehension and production of standard English in academic discourse. Academic note-taking; post-secondary-level materials focusing on current issues as the basis of exercises and presentations.

**ESL 57 ADVANCED II: READING AND VOCABULARY**

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

*Prerequisite: ESL 47 or appropriate ESL placement test score.*

The study and practice of reading, and the development of vocabulary in academic level English. Variety of college level texts focusing on current issues as the basis of critical analysis. Improvement of reading skills, and the ability to contextually identify unfamiliar vocabulary in complex readings.

**ESL 58 ADVANCED II: GRAMMAR**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ESL 048 or appropriate ESL placement test score.*  
The study and practice of grammatical structures in standard English prose. Emphasis on the relationship between ideas and the construction of sophisticated sentences in academic discourse.

**ESL 59 ADVANCED II: COMPOSITION**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ESL 49 or appropriate ESL placement test score.*  
The study and the practice of rhetorical principles in standard English prose. Critical thinking and research skills as well as fluency and accuracy in academic writing.

**ESL 97 ENGLISH AS A SECOND LANGUAGE I**

3 credits. 3 hours. (Lecture 3 HOURS.)  
English for student who have a low-intermediate level of proficiency and who wish to improve all areas language learning. The study and practice of integrated English skills focusing on reading, writing, structure, and conversation.

**ESL 98 ENGLISH AS A SECOND LANGUAGE II**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ESL 97.*  
English structure, pronunciation, reading and writing for students who have an intermediate level of proficiency and who wish to improve all areas of language learning.

**ESL 99 ENGLISH AS A SECOND LANGUAGE III**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: ESL 98.*  
English structure, pronunciation, reading and writing for students who have a high-intermediate level of proficiency and who wish to improve all areas of language learning. Conversation, reading, writing and structure are addressed.

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**ENGINEERING TECHNOLOGY**

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***MCC-Business & Technology***

James Cline  
Robert Dumler  
Marcus Million

**ETEC 110 BASIC ELECTRONICS**

4 credits. 6 hours. (Lecture 2 HOURS. Laboratory 4 HOURS.)  
*Prerequisite: MATH 95 with a grade of C or higher or appropriate placement.*

This course is an introductory course for the individual who is moving into an industrial maintenance or related activity. Behavior of electricity, sources of electricity, Ohms' and Watts' laws, electrical power distribution, transformers, electrical safety, electrical measurements and basic components are covered.

**ETEC 114 DC CIRCUIT ANALYSIS**

4 credits. 4 hours. (Lecture 3 HOURS. Laboratory 2 HOURS.)  
*Prerequisite: MATH 120 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: Prerequisite: MATH 95 with a grade of C or higher or appropriate placement.*

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: Prerequisite: MATH 95 with a grade of C or higher or appropriate placement.*

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 CADD I, MICROSTATION**

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

*Prerequisite: ETEC 152.*

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 189 ETEC INTERNSHIP I**

1 credit. 5 hours. (Field Studies 1 HOUR.)

*Prerequisite: ETEC 152.*

This course is designed to give the student real world experience in an engineering department of an engineering or architectural office. The student will strengthen design techniques as well as the soft skills required of modern industry under the supervision of a mentor.

**ETEC 190 ETEC INTERNSHIP II**

2 credits. 10 hours. (Field Studies 2 HOURS.)

*Prerequisite: ETEC 152.*

This course is designed to give the student real world experience in the engineering department of an engineering or architectural office. The student will strengthen design techniques as well as the soft skills required of modern industry under the supervision of a mentor.

**ETEC 199 SPECIAL PROJECTS IN ETEC**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

*Prerequisite: ETEC 152.*

Independent study in Engineering Technology or related areas under supervision of the faculty member.

**ETEC 200 APPLIED STATICS & MECHANICS**

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

*Prerequisites: MATH 104 or MATH 130.*

Foundation for mechanical and structural design calculations and procedures. Topics include vectors, free body diagrams, force analysis, truss design, column and beam selection, bearing plate design, and bolted connections.

**ETEC 210 INTRODUCTION TO COMMERCIAL ARCHITECTURE**

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

*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 BUILDING INFORMATION MODELING, REVIT**

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

*Prerequisite: ETEC 152 or concurrent enrollment or 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 262 TECHNICAL ILLUSTRATION**

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

*Prerequisite: ETEC 152.*

An introduction to a professional technical illustration and animation software tool. Topics covered are object modeling and editing, lights, shadows, materials, backgrounds, scenes, images and basic animation. A comprehensive final project is included in the course.

**ETEC 265 INTRODUCTION TO CIVIL DESIGN**

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

*Prerequisites: ETEC 152.*

An introduction to civil drafting and design using surveying and engineering data to draw civil engineering plans. Topics included are legal descriptions, plan and profile drawings, topographic mapping, cross-sections, and required calculations. An introduction to a Civil specific CADD package is included.

**ETEC 268 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 PARAMETRIC MODELING, INVENTOR**

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

*Prerequisite: ETEC 152 or concurrent enrollment 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 PARAMETRIC MODELING, SOLIDWORKS**

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

*Prerequisite: ETEC 152 or concurrent enrollment.*

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 PARAMETRIC MODELING AND PROTOTYPING, INVENTOR**

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

*Prerequisite: ETEC 270.*

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 PARAMETRIC MODELING & PROTOTYPING, SOLIDWORKS**

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

*Prerequisite: ETEC 271.*

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 275 BUILD PROJECT**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisite: ETEC 220.*

This is a capstone course, and the student should be in the final semester of the program. The student will work with the instructor to build an electronic project, which will require a demonstration of proficiencies in the assembly, testing, and troubleshooting phases of electronics.

**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. 3 hours. (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.

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## FOREIGN LANGUAGE INTERPRETING

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### 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.*

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.

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## FRENCH

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*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: FREN 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

### 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.

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## FIRE SCIENCE TECHNOLOGY

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*MCC-Blue River*

Charles Perry

### FSTE 101 INTRODUCTION TO THE FIRE SERVICE

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

*Prerequisite:* *Acceptance into the Public Safety Center of Excellence.*

This course focuses on the introduction to the fire service. Psychological and sociological aspects of firefighting, community involvement, and ethics will be discussed and applied. The student will also be introduced to basic firefighting equipment and skills.



**FSTE 107 FIRE SERVICE PHYSICAL FITNESS I**

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

*Prerequisite: Admission to the Fire Academy.*

First in a series of classes designed to develop the student's level of physical fitness related to the fire service and fire service testing (C-PAT). Emphasis will be given to the individuals muscle strength and endurance, cardiovascular endurance, flexibility, and body composition. Includes assessment, planning, and participation in an individual fitness program based on the International Fire Chief's Association and the International Association of Fire Fighters' C-PAT criteria. The student will be shown and explained the C-PAT process and will have access to specific C-PAT equipment, training free weights, weight machines, and a variety of cardiovascular equipment.

**FSTE 108 FIRE SERVICE PHYSICAL FITNESS II**

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

*Prerequisite: FSTE 107.*

Second in a series of classes designed to develop the student's level of fire service physical fitness. This course will expand on the concepts introduced in FSTE 107, in addition to offering an introduction to C-PAT the student will began training on and using the fire service C-PAT equipment. Emphasis is given to the individual program of each student.

**FSTE 109 FIRE SERVICE PHYSICAL FITNESS III**

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

*Prerequisite: FSTE 108.*

Last in a series of classes designed to develop the student's level of fire service physical fitness. This course will expand on the concepts introduced in FSTE 107/108, in addition to offering a variety of advanced techniques and programming ideas to complete the C-PAT test in the allotted time.

**FSTE 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.)

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.)

This course is designed to provide instruction in the handling of hazardous materials in an emergency situation. Upon successful completion of this program and the state exam, the student will become state certified in hazardous materials awareness and operations.

**FSTE 172 FIREFIGHTING STRATEGY AND TACTICS**

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

*Prerequisites: Principles of Emergency Services, 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.)

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. This course is also designed to instruct the student in all phases of basic firefighter techniques. The student will be eligible for Fire Fighter I state certification upon completion of the course and successful completion of the Fire Fighter I state certification exam.

**FSTE 183 INCIDENT AND DISASTER MANAGEMENT**

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

This course describes how emergency and disaster incidents should be managed by immersing the student in the incident and unified management systems. It also provides the student with a detailed look at disaster mitigation planning.

**FSTE 189 FIRE FIGHTER II**

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.)

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.)

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 200 FIRE SERVICE SUPERVISION**

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

This course will involve the student in learning proper methods of leadership and supervision as it pertains to today's first line service supervisor. It will encompass basic supervisory techniques and help the student to apply them to their special problems in supervising in today's fire service.

**FSTE 201 THE FIRE SERVICE MANAGER**

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

*Prerequisites: FSTE 200.*

This course is the second of three courses designed to provide information fire personnel in the areas of supervision, management and administration. It shows the history of general management principles, and how they fit in today's fire service. It also provides basic information on the information on the variety of areas that a fire service manager may become a part of as a manager.

**FSTE 202 FIRE AND EMERGENCY SERVICES ADMINISTRATION**

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

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 203 MANAGING IN TODAY'S FIRE SERVICE**

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

*Prerequisite: ENGL 101 & FSTE 200 & FSTE 201.*

The student shall have also completed a minimum of 45 credit hours of course work in the Fire Science Program. This course is an internship. The student will meet with various members of a fire department management team. The student will choose an area of the organization and provide an in-depth report on its functions, process, and operations. It will compare and contrast this area with studies accomplished in class as well as other organizations of similar size. This report will form the backbone of this student's final evaluation.

**FSTE 204 PRINCIPLES OF FIRE AND EMERGENCY SERVICES SAFETY AND SURVIVAL**

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

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.)

This course explores the theories and fundamentals of how and why fires start, spread, and how they 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 207 FIRE PROTECTION HYDRAULICS AND WATER SUPPLY**

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

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

**FSTE 208 OCCUPATIONAL SAFETY AND HEALTH IN THE EMERGENCY SERVICES**

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

*Prerequisites: Missouri State Firefighter I&II, 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 AND FIRE PROTECTION**

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

*Prerequisites:* FSTE 179.

This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

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## **GRAPHIC DESIGN**

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**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 105

### **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.

MOTR: PERF 105

### **GDES 150 COMPUTERS IN DESIGN II**

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

*Prerequisite:* GDES 110.

Advanced projects and tools are explored using the computer as a design tool utilizing layout, drawing, and image-editing software. Students develop advanced skills with the software and improved graphic design aesthetics. Photoshop, Illustrator, and InDesign is the software used.

### **GDES 160 GRAPHIC DESIGN I**

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

*Prerequisite:* GDES 150 & READ 11/31 & formal acceptance into program.

An introduction to the principles of the graphic design field. This includes the study of typography, layout, production methods, and career opportunities. Creative problem solving using hand tools and the computer.

### **GDES 210 GRAPHIC DESIGN II**

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

*Prerequisite:* GDES 160.

Advanced graphic design concepts which include analyzing client needs, idea and execution processes, defining successful elements of good visual communication, defining and analyzing trends of the graphic design industry. Explore these concepts through advanced projects utilizing traditional and computer tools.

### **GDES 220 GRAPHIC DESIGN FILE PREPARATION**

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

*Prerequisites:* GDES 150 with a C or higher 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**

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

*Prerequisite:* GDES 150.

Concept and message development, design and production, publishing of web sites, visual design, color, typography, and digital graphics for the web will be stressed. Text-editing, web-authoring, and image-editing software will be used.

### **GDES 250 GRAPHIC DESIGN III**

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

*Prerequisite:* GDES 210.

This course will focus on advanced design problems for the crossover of print media into digital/electronic, interactive media, and other non-traditional formats as a campaign for communicating and/or promoting a message or ideas.

### **GDES 255 ADVANCED WEB DESIGN**

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

*Prerequisite: GDES 245.*

Advanced site management, visual design, implementing style sheets for text formatting and layout, adding media; designing with HTML/XHTML, image-editing software, Dreamweaver and Flash.

### **GDES 264 ART PORTFOLIO-GRAPHIC DESIGN**

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

*Prerequisite: GDES 210 or concurrent enrollment.*

Selection and presentation of a Graphic Design portfolio along with interviewing techniques and employment searches. The student should be in last semester of the Graphic Design program.

### **GDES 280 ADVANCED COLOR CORRECTION**

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

*Prerequisite: GDES 150 with a C or higher 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.

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## **GEOGRAPHY**

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**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 110L

### **GEOG 111 GEOGRAPHY OF THE WESTERN WORLD**

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

A regional survey of North and South America, Europe, Australia and New Zealand. Emphasis on each region's unique attributes and on how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

### **GEOG 112 GEOGRAPHY OF THE EASTERN WORLD**

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

A regional survey of the Middle East, Africa, and Asia. Emphasis on each region's unique attributes and how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

### **GEOG 113 CULTURAL/HUMAN GEOGRAPHY**



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

Addresses techniques of geographic interpretation, and cultural and political diversity, the relationship to physical environment, availability of water, food, and other natural resources, language, religion, industry, spatial relationships of cities and settlements, population, ethnic characteristics, migration, folk and popular cultures, and the effects of globalization.

MOTR: GEOG 101

**GEOG 114 INTRODUCTION TO GEOGRAPHY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 Presents a dynamic view of the breadth of discipline of geography. Provides a geographic perspective of the interrelationship of earth and atmosphere and their relationship of the earth and atmosphere and their influence on population, culture, and lifestyle. Explores geographic methods of gathering and analyzing information and modern tools for these functions. Also focuses on applied geography in local and international settings in areas such as marketing, urban planning, political relationships, and natural resource assessment.

**GEOG 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 207 GEOGRAPHY OF THE UNITED STATES AND CANADA**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 A study of the unique physical and cultural aspects of regions within the United States and Canada. Includes map interpretation, land features, climate, settlement patterns, cities, industry, natural and recreational resources, comparison of economic and political systems.

**GEOG 210 ECONOMIC GEOGRAPHY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
 Overview of economic geography covering topics such as demographics, population processes, economic development, growth of regional global economy, multinational corporations, economic alliances, transportation, urban economics, manufacturing, energy and agriculture.

**GEOG 220 GIS DATABASE AND DESIGN**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisites: GEOG 120.*  
 Concepts of Geo-database design and management in Geographic Information Systems (GIS), SQL statements, geographic data types and functions, data entry, techniques of geographic information structure and indexing, querying techniques, searches, and spatial analysis, creation and use of metadata real-world applications.

**GEOG 224 APPLICATIONS IN GEOGRAPHIC INFORMATION SYSTEMS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisites: GEOG 120 & GEOG 220.*  
 Applications in Geographic Information Systems. Data collection, incorporation of local and global data, and analysis of spatial information that can be used to investigate major application areas, national GIS policy.

**GEOG 228 ADMINISTRATIVE ISSUES IN GIS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisites: GEOG 120.*  
 Addresses issues unique to a GIS operation such as implementation issues, decision making procedures, strategies for success, legal issues, involvement of management, NCGIA Guidelines, marking within an organization, strategic planning, and industry outlook.

**GEOG 230 GEOGRAPHIC INFORMATION SYSTEMS INTERNSHIP**

1-3 credits. 63-188 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.

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**GEOLOGY**


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|---------------------|------------------------|
| <b>MCC-Longview</b> | <b>MCC-Maple Woods</b> |
| Victor Mèledge-Adé  | John Horn              |
| Carl Priesendorf    |                        |

**GEOL 101 PHYSICAL GEOLOGY**

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)  
 Study of plate tectonics, rocks, minerals, volcanoes, earthquakes, resources, geologic time, and the processes that affect the surface and the interior of the earth. Laboratory analysis of rocks and minerals. Interpretation of topographic and geologic maps as investigative tools. Optional field trips.  
 MOTR: GEOL 100L

**GEOL 102 HISTORICAL GEOLOGY** 

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

History of the earth from its origin as a planet to the present time. Succession of geologic formations and their contained fossils in revealing the evolution of the earth and forms of life throughout the four and a half billion years of geologic time. Laboratory analysis of geologic problems and identification of fossils. Optional field trip.

MOTR: GEOL 100L

**GEOL 103 ENVIRONMENTAL GEOLOGY** 

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

Introduces fundamental concepts and philosophy of environmental study; discusses natural hazards with underlying causes and human interaction with the environment; applies environmental concepts to problems of pollution, garbage, and hazardous waste; explores the source, types, availability, and evaluates intelligent use of geologic resources; suggests techniques for hazard prevention and remediation; addresses current media topics concerning the environment.

MOTR: GEOL 100L

**GEOL 110 OCEANOGRAPHY** 

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

Ocean as part of Earth's dynamic and ecologic systems. Influence of the ocean on atmosphere, climate, and land processes. Ocean stewardship, problems, and policy.

MOTR: PHYS 010L

**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: PHYS 010L

**GEOL 186 SOLAR WATER AND SPACE HEATING**

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

Solar radiation applied to heating water and air, introduction to safe design and installation of solar thermal systems with emphasis on domestic hot water.

**GEOL 199 SPECIAL TOPICS**

1-3 credits. 1-3 hours. (Lecture 1 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 214 GEOLOGY FIELD STUDY IN THE MIDWESTERN U.S.**

1-3 credits. 1-3 hours. (Field Studies 1-3 HOURS.)

*Prerequisite: GEOL 101.*

Study of selected locations in the Midwest during a field trip. Location of field trip varies. Apply basic geologic principles and collect rock and mineral samples.

**GEOL 215 GEOLOGY FIELD STUDY**

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

*Prerequisite: GEOL 101.*

Study of selected locations in the Western United States during a field trip. Location of field trip varies. Apply basic geologic principles and collect rock and mineral samples.

**GEOL 226 SOLAR THERMAL DESIGN AND INSTALLATION**

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

*Prerequisite: GEOL 186 & INTE 260.*

Design, installation and maintenance of solar thermal systems, with special emphasis on residential domestic hot water.

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**GERMAN**

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**GERM 101 ELEMENTARY GERMAN I** 

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

Introduction to speaking, reading, and writing German.

MOTR: LANG 105

**GERM 102 ELEMENTARY 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. German 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.

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**GUIDED STUDIES**

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**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 199 SPECIAL TOPICS IN GUIDED STUDIES**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

Guided readings, discussions, and activities related to college adaptation, resilience, and success. Topics and material will vary by instructor each semester. Specific readings and activities to be determined by instructor.

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## HEALTH INFORMATION MANAGEMENT

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*MCC-Penn Valley*  
Patricia Elliot  
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.

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**HISTORY**


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| <b>MCC-Blue River</b><br>Patrick Kirkwood<br>William Worley                 | <b>MCC-Longview</b><br>Diane Boldt<br>Patricia McGovern<br>Randall Moore |
| <b>MCC-Maple Woods</b><br>Crystal Johnson<br>Crystal Moore<br>William Young | <b>MCC-Penn Valley</b><br>Lyle Gibson<br>Greg Sanford                    |

**HIST 120 UNITED STATES HISTORY TO 1865** 

3 credits. 3 hours. (Lecture 3 HOURS.)  
Survey of American history and institutions from pre-Columbian times through the Civil War. Examines economic, social, cultural, intellectual, and political development. Federal and Missouri constitutions.  
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 199 SPECIAL TOPICS IN HISTORY**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)  
*Prerequisites: ENGL 101.*

Guided readings and discussion in history. Topics and material will vary by instructor each semester. Specific reading lists, activities and writing assignments to be determined by the instructor. This course is intended to go into detail and research beyond the material covered in the United States or Western Civilization survey courses.

### **HIST 202 MATERIAL CULTURE AND THE AMERICAN PAST**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: HIST 120 or 121.*

Introduction to the major themes, issues, and methods relevant to the study of material culture. Covers rise of material culture studies with focus on how objects inform the historical record. Readings and discussion address broad questions including: How do museums inform national identity? What do landscapes and buildings reveal about race, class, and gender relations? When is historical preservation a political act and what does it mean to re-enact? Kansas City metropolitan area used as a lens through which to frame these questions.

### **HIST 203 INTRODUCTION TO PUBLIC HISTORY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: Any history course.*

Public history is the application of historical methods outside of colleges and universities, people who work in museums, archives, and historical associations practice public history, as can state and federal policy makers. This course examines issues confronting public historians including methods for collecting and presenting history, the relationship between history and memory, and the politics of practicing history in public.

### **HIST 226 AMERICAN FRONTIERS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Survey of the American frontier experience 1500-1890. Exploration and settlement by Spanish, French, English, and Americans. Cultural conflicts, collisions and interactions between European peoples, African Americans and Native Americans. Examination of the frontier process in Missouri.

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## **HEALTH SCIENCES**

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### **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.

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## **HUMANITIES**

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### **HUMN 103 INTRODUCTION TO INTERNATIONAL STUDIES** 🌐

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

This course will prepare students to be citizens of the world through an understanding of the interconnectedness of the human experience and discussion of global issues from many different perspectives. Topics presented will enable students to reflect upon how individuals in various cultures — past, present and future — are united in their humanity.

### **HUMN 105 LEADERSHIP DEVELOPMENT**

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

*Prerequisite: Honors program enrollment.*

Study of leadership principles using examples from classical literature, film, and historical events. Interdisciplinary approach.

### **HUMN 133 FOUNDATIONS OF WESTERN CIVILIZATION**

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

Ancient civilizations from primitive human beginnings to premodern era. Greece and Rome—government, religion, philosophy, art, architecture, drama, and social institutions. Exploration of the thoughts and feeling of people of the premodern period about themselves, their place in the universe, and the human condition.

**HUMN 134 MODERN WESTERN CIVILIZATION**

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

May be taken without HUMN 133. Background of the premodern world. The modern state-Renaissance and Reformation, industrialism, war, revolution, and imperialism. Relationship of western civilization to developments in other parts of the world. Exploration of the thoughts and feelings of modern human beings about themselves, their place in the universe, and the human conditions.

**HUMN 140 HUMANITIES PAST AND PRESENT** 🌐

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

An overview of the history and philosophy of human culture as seen through the arts and the study of their impact on life today.

**HUMN 141 LATIN AMERICAN HUMANITIES** 🌐

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

This course introduces students to many forms of Latin American culture, past and present, including art, architecture, music, literature, and film. The course includes an overview of geography, indigenous peoples, colonization and nation formation needed to understand cultural practices and influences.

**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.

**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.

**HUMN 200 HONORS SEMINAR I**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 201 HONORS SEMINAR II**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 202 HONORS SEMINAR III**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 203 HONORS SEMINAR IV**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 204 HONORS SEMINAR V**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 205 HONORS SEMINAR VI**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 206 HONORS SEMINAR VII**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

**HUMN 207 HONORS SEMINAR VIII**

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

This course examines some of the profound and enduring ideas that have influenced the development of major political, cultural, social, and economic systems. Readings in such topics as the Judeo-Christian tradition, humanism, the scientific revolution, and the democratic revolution will be used to critically assess the fundamental ideas that provide the basis for much of our knowledge and experience. Topics will vary every semester.

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## HUMAN SCIENCES

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**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.

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## HEATING, VENTILATION AND AIR CONDITIONING

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**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 211 DESIGN AND ESTIMATING**

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

*Prerequisite: HVAC 111.*

Design and function of air conditioning ductwork. Calculations for proper distribution. Construction and installation of duct systems for residential and commercial heating and cooling.

**HVAC 221 COMMERCIAL REFRIGERATION**

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

*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 291 SPECIAL TOPICS**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

*Prerequisites: HVAC 109, 111, 120 & 135.*

Independent study in HVAC/R related areas under the supervision of the faculty member.

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**INDUSTRIAL TECHNOLOGY**


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**MCC-Business & Technology**

**Roger Claypool**

**James Frevert**

**Joseph Roche**

**INTE 101 INTRODUCTION TO INDUSTRIAL AND ENGINEERING TECHNOLOGY**

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

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 111 MICROCOMPUTER HARDWARE REPAIR**

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

This course introduces the student to maintenance, upgrading, setup, and expansion of industrial microprocessor hardware. Students will explore microprocessor architecture, functions, and components as well as methods and procedures for installation, troubleshooting, and modifications of industrial microprocessor systems. Emphasis will be on the use of microprocessor hardware and software used in an industrial setting.

**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 120 INDUSTRIAL TECHNOLOGIES INTERNSHIP I**

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

This course is designed to give the student real world experience in the industrial technologies field. The student will perfect techniques and job responsibilities learned in prior courses under the direction of a mentor.

**INTE 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 131 SPECIAL PROBLEMS AND PROJECTS**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

**INTE 140 FUNDAMENTALS OF INDUSTRIAL 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 220 INDUSTRIAL TECHNOLOGIES INTERNSHIP II**

3 credits. 3 hours. (Lecture 0 HOUR.)

This course is designed to give the student real world experience in the industrial technologies field. The student will perfect techniques and job responsibilities learned in prior courses under the direction of a mentor.



**INTE 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).*

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.*

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 272.*

This course will assist the student in developing and creating documentation to support a portfolio to present to prospective employers. The student will use the skills they have acquired in previous classes to convert several Motor Control relay logic systems to the most current PLC programming software. They will create safety procedures to use in the workplace related to Programmable Logic Controllers. The student will learn how to use function block diagram programming in PLCs.

**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 299 ADVANCED SPECIAL PROBLEMS, PROJECTS, AND CAPSTONES**

3-4 credits. 5-6 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: Instructor approval.*

Independent study in Industrial Technologies related areas under the supervision of the faculty member.

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**LIBRARY AND INFORMATION STUDIES**

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**MCC-Blue River**

Jared Rinck

**MCC-Maple Woods**

Linda Carter

Mary Northrup

**MCC-Longview**

Diane Martin

**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.

**LIBR 110 COLLEGE RESEARCH AND INFORMATION LITERACY**

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

This course is designed to develop college level information literacy skills focusing on library and internet resources. Students will build critical thinking skills while learning to determine information needs and to effectively and efficiently locate, evaluate and manage information through lecture and participatory activities. Emphasis will be placed on concepts which relate to the organization of information in any media.

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## LINEMAN

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*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.

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**LAW ENFORCEMENT**

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*MCC-Blue River*

**Gary Hacker**

**Douglas Thompson**

**LWEN 100 INTRODUCTION TO PUBLIC SAFETY**

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

Students will be review the history of law enforcement and be introduced to career requirements and opportunities within the law enforcement community.

**LWEN 101 INTRODUCTION TO LAW ENFORCEMENT**

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

*Prerequisite: 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 102 PUBLIC SAFETY TELECOMMUNICATIONS**

5 credits. 8 hours. (Lecture 2 HOURS. Laboratory 6 HOURS.)

*Prerequisite: COLL 100.*

This course will provide the information necessary to understand the job of a public safety telecommunicator and is the foundation to begin working in police, fire and EMS or a combined service communications center. The course will serve as an introduction to the critical principles that support public safety and the techniques for handling domestic violence, potential suicide, hostage, and civil unrest situations as a public safety telecommunicator. Techniques to overcoming barriers, achieving effective communications, handling difficult callers, listening effectively and resolving conflicts will be addressed.

**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.

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**MATHEMATICS**

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***MCC-Blue River***

George Green  
Stacey McMillen  
Cheryl Winter

***MCC-Business and  
Technology***

Jennifer Butler

***MCC-Longview***

Beth Bletscher  
Jeffrey Houghton  
Jennifer Johnson  
Le Ann Lotz-Todd  
Jason Pallett  
Kristi Reid  
Diane Sweet  
My An Tran  
Whitney Turner

***MCC-Maple Woods***

Aubrey Battrum  
Carol Cordova  
Terry Hobbs  
Berg Heskin  
Saeeda Irfan  
Bill Morgan  
Zouhair Tamsamani  
Andrea Vorwark

***MCC-Penn Valley***

Tim Chappell  
Christopher Hacker  
Roy Hutcheon  
Nic LaHue  
Gregory Mitchell  
Alicia Valdivieso  
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 appropriate placement.*

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 appropriate placement.*

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 100 MATHEMATICS FOR BUSINESS**

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

*Prerequisites: MATH 31 with a grade of S or appropriate placement.*

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 appropriate placement.*

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 appropriate placement.*

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 or appropriate placement.*

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 110 INTERMEDIATE ALGEBRA**

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

*Prerequisite: MATH 40 or 40L with a grade of C or higher or appropriate placement.*

The study of simplification of complex fractions, solutions to rational equations, solution of linear equations and inequalities with applications, solutions of absolute value equations and inequalities, quadratic functions and equations with applications, ratios and proportions, solutions of linear systems of equations with applications, rational exponents and radicals, introduction to functions and graphs, and graphing linear equations in 2 variables.

**MATH 115 STATISTICS**

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

*Prerequisite: MATH 85 or 95 with a grade of C or higher or appropriate placement.*


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 95 with a grade of C or higher or appropriate placement.*  
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 ill-defined 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.*  
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 120

**MATH 130 TRIGONOMETRY**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: MATH 120 with a grade of C or higher or appropriate placement.*  
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 150.*  
Mathematical logic, sets, relations, functions, mathematical induction, Boolean algebra, algebraic structures. The theory introduced will be applied to appropriate areas of computer science.

**MATH 150 PRECALCULUS** 

5 credits. 5 hours. (Lecture 5 HOURS.)  
*Prerequisite: MATH 95 with a grade of C or higher or appropriate placement.*  
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 or appropriate placement.*  
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 196 SPECIAL TOPICS I**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)  
Mathematical topics of special interest.

### MATH 210 ANALYTIC GEOMETRY AND CALCULUS III

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

*Prerequisite: MATH 190.*

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.

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## MUSIC

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#### **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 102

### 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 102

### 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 102

### 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, sight-reading, and transposition.

### MUSI 116 EVOLUTION OF JAZZ

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

A study of the rich ethnic background and evolution of jazz music and its many styles. African, African-American, and European cultures will be examined in terms of the role each has played, and continues to play, in defining and influencing American culture through jazz. Important performers, composers, musicians, educators, and writers of jazz will be identified with respect to their contributions to the art form. Critical listening activities supplement the course content. Requirement Designation: Global Diversity

MOTR: MUSC 100

**MUSI 117 SPECIAL PROBLEMS IN MUSIC**

1-3 credits. 1-3 hours. (Lecture 1 HOUR.)  
Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

**MUSI 120 CLASS VOICE I**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)  
Fundamentals of sight singing in major and minor keys. Fundamentals of correct voice production, breathing, and breath control. Elementary vocal literature in English. Development of stage presence and poise.

**MUSI 121 CLASS VOICE II**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)  
*Prerequisite: MUSI 120.*  
Advanced sight singing in major and minor keys. Develop independence necessary for private voice instruction. Elementary Italian art songs and more difficult vocal repertoire in English.

**MUSI 125 CLASS GUITAR I**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)  
Open to all students interested in learning proper fundamentals of playing guitar, including improvisation.

**MUSI 126 CLASS GUITAR II**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)  
*Prerequisite: MUSI 125.*  
Open to all students interested in further development of playing guitar, including improvisation.

**MUSI 130 PRIVATE INSTRUCTION I**

1 credit. 0.5 hour. (Laboratory 2 HOURS.)  
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

**MUSI 131 PRIVATE INSTRUCTION I**

2 credits. 1 hour. (Laboratory 4 HOURS.)  
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

**MUSI 132 PRIVATE INSTRUCTION II**

1 credit. 0.5 hour. (Laboratory 2 HOURS.)  
*Prerequisite: MUSI 130 or MUSI 131.*  
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

**MUSI 133 PRIVATE INSTRUCTION II**

2 credits. 1 hour. (Laboratory 4 HOURS.)  
*Prerequisite: MUSI 130 or MUSI 131.*  
Private instruction in strings, brass, guitar, percussion, piano, voice, or woodwinds. Music from the standard repertoire as well as technical exercises on the instrument. Special enrollment fee in addition to regular tuition.

**MUSI 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 102

**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. Requirement Designation: Global Diversity  
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.

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## **OCCUPATIONAL THERAPY ASSISTANT**

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### **MCC-Penn Valley**

Amber Jenkins  
Elisabeth Koch

### **OTHA 100 INTRODUCTION TO OCCUPATIONAL THERAPY**

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

Introduction to the history, philosophy, and practice of occupational therapy. Exploration of diversity and the role it plays in health care.

### **OTHA 102 DOCUMENTATION GUIDELINES**

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

*Prerequisite: Admission to the Occupational Therapy Assistant program.*

Guidelines for documentation of occupational therapy services.

### **OTHA 103 CLINICAL CONDITIONS**

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

*Prerequisite: Admission to the Occupational Therapy Assistant program.*

Etiology, clinical process and prognosis of common diseases and illnesses. Effect of disease or illness on an individual's performance and the impact this has on the person, family and society.

### **OTHA 106 THERAPEUTIC INTERVENTIONS I**

4 credits. 5.5 hours. (Lecture 2.5 HOURS.

Laboratory 3 HOURS.)

*Prerequisite: Admission to the Occupational Therapy Assistant program.*

Basic therapeutic interventions, techniques, applications and legislation pertinent to OT practice. Learn OT's role in promoting health and wellness.

### **OTHA 114 INTRODUCTION TO FIELDWORK**

0.5 credit. 0.5hours. (Lecture 0.5 HOUR.)

*Prerequisite: Formal admission into the Occupational Therapy Assistant Program.*

Introduction 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**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

*Prerequisite: OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116, EMS 100, (HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210 )) with a grade of C or higher & Admission to the Occupational Therapy program.*

Therapeutic interventions, techniques, technology and assessments pertinent to OT practice with specific populations.

### **OTHA 120 PEDIATRICS**

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

*Prerequisite: OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116, EMS 100, (HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210 )) with a grade of C or higher & Admission to the Occupational Therapy program.*

Occupational therapy practice as it relates to individuals from birth to early adolescence. Study of normal growth and development.

### **OTHA 121 LEVEL I FIELDWORK II**

1 credit. 3 hours. (Clinical 3 HOURS.)

*Prerequisite: OTHA 102 & OTHA 103 & OTHA 106 & OTHA 114 & OTHA 116 & Concurrent Enrollment in OTHA 120 & EMS 100 & (HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210)) with a grade of C or higher & Admission to the Occupational Therapy program.*

Directed experience in a specified community setting.

**OTHA 130 ANALYSIS OF PHYSICAL PERFORMANCE**

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

*Prerequisite: OTHA 102, OTHA 103, OTHA 106, OTHA 114 and OTHA 116, EMS 100, (HLSC 108 or BIOL 109 or (BIOL 110 & BIOL 210 )) with a grade of C or higher & Admission to the Occupational Therapy program.*

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 173 SPECIAL TOPICS**

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

*Prerequisite: Concurrent enrollment in PTA or OTA programs or completion of an Associate's or advanced degree in physical therapy or occupational therapy.*

A study of advanced topics relevant to the current practice of rehabilitation. Cross-listed as PTHA 173.

**OTHA 201 MENTAL HEALTH**

2.5 credits. 3 hours. (Lecture 2 HOURS. Laboratory 1 HOUR.)

*Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 & Admission to the Occupational Therapy program.*

Occupational therapy assessment and treatment techniques in the mental health setting.

**OTHA 202 PHYSICAL DYSFUNCTION**

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

*Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 & Admission to the Occupational Therapy program.*

Occupational therapy assessment and treatment used with the physically and cognitively challenged population.

**OTHA 203 GERONTOLOGY**

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

*Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 & Admission to the Occupational Therapy program.*

Concepts and process of aging. The role of occupational therapy with the elderly.

**OTHA 208 THERAPEUTIC INTERVENTIONS II**

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

*Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 & Admission to the Occupational Therapy program.*

Advanced therapeutic interventions and techniques used to enhance functional ability and independence in daily life tasks and occupations.

**OTHA 212 LEVEL I FIELDWORK III**

2 credits. 6 hours. (Clinical 6 HOURS.)

*Prerequisite: OTHA 118, OTHA 120, OTHA 121, OTHA 130 & OTHA 154 & Admission to the Occupational Therapy program.*

Directed experience in specified 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 & 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 & Admission to the Occupational Therapy program.*

Directed clinical experience in different practice areas of occupational therapy.



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## PARALEGAL

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*MCC-Penn Valley*  
Gordon Wells Jr.

### **PARA 100 INTRODUCTION TO PARALEGAL PRACTICE**

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

An introduction to the American legal system and the role of the paralegal. Students will examine the philosophical and historical background of law, legal context, organization, purpose and ethics. Paralegal career requirements, opportunities and responsibilities are presented. Systems approaches to law office management including billing practices, timekeeping and law office library systems are reviewed.

### **PARA 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 199 SPECIAL TOPICS IN LEGAL STUDIES**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

*Prerequisite:* PARA 100.

The open topic format of this course provides students opportunities to study, analyze, and discuss selected topics of law or current issues related to paralegals or the legal profession. Instruction will vary by topic and may include lecture, guided readings, discussions, research, writing, and/or field experiences. Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or paralegal program degree requirements.

**PARA 224 CRIMINAL EVIDENCE**

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

*Prerequisite:* PARA 100.

An introduction and overview of Federal and State laws and rules pertaining to criminal evidence including admissibility, competency, relevancy, presentation of physical and other material evidence, direct and circumstantial evidence, hearsay and exceptions to the hearsay rule.

**PARA 248 CONSTITUTIONAL LAW**

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

*Prerequisite:* PARA 100.

The course will examine the United States Constitution and Amendments with special attention to governmental powers, limitations on those powers, commerce, and the rights guaranteed to individuals by the 4th, 5th, 6th, 8th, and 14th Amendments.

**PARA 278 EMPLOYMENT LAW**

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

*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 285 MEDIA LAW**

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

*Prerequisite:* PARA 100.

The course examines the First Amendment, free speech theory and its common law origin, history and the significance of a free press, prior restraints, regulation of media, and balancing the rights to a fair trial, and a free press. Civil law including defamation and invasion of privacy as well as current developments involving the Internet and social networking are introduced.

**PARA 290 INTERNSHIP IN PARALEGAL PRACTICE**

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

*Prerequisite:* PARA 100, PARA 104, PARA 176, PARA 177 or PARA 185.

The student must complete 15 credit hours of Paralegal courses before taking this course. This course is a capstone to the Paralegal Program and provides student with opportunities to gain practical work experience under the supervision of an attorney in the legal field.

**PARA 292 LITIGATION**

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

*Prerequisite:* PARA 100.

Introduces the student to the essential role which paralegals play in the initial, pretrial and trial process in civil litigation.

**PARA 294 BANKRUPTCY**

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

*Prerequisite:* PARA 100.

This bankruptcy course is designed to provide the student an overview of bankruptcy laws and procedures, the history of bankruptcy, and summary of the bankruptcy code and 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 299 SPECIAL TOPICS IN LEGAL STUDIES**

1-3 credits. 1-3 hours. (Lecture 1-3 HOURS.)

*Prerequisite:* PARA 100.

The open topic format of this course provides students opportunities to study, analyze, and discuss selected topics of law or current issues related to paralegals or the legal profession. Instruction will vary by topic and may include lecture, guided readings, discussions, research, writing, and/or field experiences. Repeatable for different topics. No more than six credits of special topics courses may be applied toward elective and/or paralegal program degree requirements.

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## **PHYSICAL EDUCATION**

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### **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 113 VOLLEYBALL I**

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

Techniques, skills, and rules of volleyball.

### **PHED 114 VOLLEYBALL II**

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

*Prerequisite:* PHED 113.

Advanced techniques, skills, and strategies of volleyball.

### **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 119 BASKETBALL I**

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

Techniques, skills, and rules of basketball.

### **PHED 120 BASKETBALL II**

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

*Prerequisite:* PHED 119.

Advanced techniques, skills, and rules of basketball. Team and league play.

### **PHED 121 AEROBICS I**

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

A program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

### **PHED 122 AEROBICS II**

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

*Prerequisite:* PHED 121.

An advanced program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

**PHED 123 BENCH AEROBICS**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Concentrates on strengthening and toning the legs while working the cardiovascular system. By using the bench step-up format, low-impact exercises are incorporated into this class. All fitness levels can be accommodated in the same class by having the student change the height of the bench.

**PHED 126 LIFETIME FITNESS I**

2 credits. 4 hours. (Laboratory 4 HOURS.)  
*Prerequisite: Successful completion of preliminary health screening or permission of personal physician.*  
First in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course introduces basic concepts of lifetime fitness development, health, and exercise programming. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 127 LIFETIME FITNESS II**

2 credits. 4 hours. (Laboratory 4 HOURS.)  
*Prerequisite: PHED 126 and successful completion of preliminary health screening or permission of personal physician.*  
Second in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course expands on concepts introduced in PHED 126. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 128 LIFETIME FITNESS III**

2 credits. 4 hours. (Laboratory 4 HOURS.)  
*Prerequisite: PHED 127 and successful completion of preliminary health screening or permission of personal physician.*  
A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on the concepts introduced in PHED 126 and 127. Additional concepts integrated include strength and body composition. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 129 LIFETIME FITNESS IV**

2 credits. 4 hours. (Laboratory 4 HOURS.)  
*Prerequisite: PHED 128 and preliminary health screening or permission of personal physician.*  
A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on concepts introduced in PHED 126, 127, and 128. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 130 FITNESS WALKING**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Designed to introduce the student to walking as a form of cardiovascular fitness. Students will learn the proper form for fitness walking as well as proper intensity monitoring techniques.

**PHED 131 JOGGING AND DISTANCE TRAINING**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Basic principles and precautions are covered in setting up a beginning and/or advanced running program. This course is designed for those who wish to run for fitness or competition.

**PHED 135 FENCING I**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.

**PHED 136 FENCING II**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
*Prerequisite: PHED 135.*  
Advanced techniques of foil fencing.

**PHED 137 TENNIS I**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Skills, rules, and practice in the techniques and strategy of tennis.

**PHED 141 BOWLING I**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
History of bowling. Development of individual skills and techniques. Facilities, etiquette, equipment, league organization, and abridged rules.

**PHED 142 BOWLING II**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
*Prerequisite: PHED 141.*  
Improvement of performance skills and techniques. Form, rhythm, and coordination. Individual bowling and league play.

**PHED 143 SELF-DEFENSE**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
A course designed for both men and women emphasizing "street self-defense." Effective physical techniques and strategies to avoid or terminate threatening actions or a violent attack will be introduced.

**PHED 144 KARATE I**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
Fundamental skills and techniques in the art of karate.

**PHED 145 KARATE II**

1 credit. 2 hours. (Laboratory 2 HOURS.)  
*Prerequisite: PHED 144.*  
Intermediate techniques in the art of karate.

**PHED 146 KARATE III**

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

*Prerequisite: PHED 145.*

Further development of intermediate techniques in the art of karate.

**PHED 147 KARATE IV**

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

*Prerequisite: PHED 146.*

Advanced techniques in the art of karate.

**PHED 151 INTRODUCTION TO EXERCISE SCIENCE, PHYSICAL EDUCATION AND RECREATION**

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

An introductory course for the student considering a career in exercise science, physical education and recreation. History, philosophy and careers in physical activity will be explored.

**PHED 154 PRINCIPLES OF GROUP EXERCISE INSTRUCTION**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

To teach individuals the methods and principles necessary to safely and effectively lead a group fitness (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 155 CARE AND PREVENTION OF ATHLETIC INJURIES**

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

Athletic training procedures for prevention of injury. Recognition and treatment of athletic injuries.

**PHED 156 PRINCIPLES OF STRENGTH TRAINING**

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

Principle of strength training is designed for the student enrolled in the Exercise Science program that intends to work in the field of health & wellness in order to teach strength training and for the person that would like to become personal trainer certified.

**PHED 157 PRINCIPLES OF HEALTH**

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

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 173 WRESTLING I**

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

Wrestling (free style) to develop body control and techniques as well as to develop self-confidence, Physical fitness, and protective skills.

**PHED 174 WRESTLING II**

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

*Prerequisites: PHED 173.*

Advanced wrestling (free style) to develop body control and techniques as well as to develop self-confidence, Physical fitness, and protective skills.

### **PHED 178 SCUBA DIVING**

1 credit. 1.5 hours. (Lecture 0.5 HOUR. Laboratory 1 HOUR.)

Scuba Diving is a course that develops the basic knowledge and skills needed to safely enjoy recreational diving. Successful completion of this course will prepare the student for Open Water Certification Training dives through the Professional Association of Diving Instructors (PADI) or the National Association of Underwater Instructors (NAUI).

### **PHED 179 AQUA AEROBICS I**

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

Exercise program of choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

### **PHED 180 AQUA AEROBICS II**

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

*Prerequisite: PHED 179.*

Exercise program of advanced choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

### **PHED 197 TOPICS IN PHYSICAL EDUCATION**

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

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

### **PHED 198 TOPICS IN PHYSICAL EDUCATION**

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

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

### **PHED 199 TOPICS IN PHYSICAL EDUCATION**

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

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

### **PHED 235 KINESIOLOGY- EXERCISE SCIENCE**

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

*Prerequisites: HLSC 108 or BIOL 110.*

Discussion of the anatomy and function of the musculoskeletal system which will include muscular origin and insertion and the mechanics of muscular action. Knowledge of body mechanics and the body as a lever system will assist in the ability to analyze movement.

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## **PHILOSOPHY**

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**MCC-Maple Woods**

Doug Fishel

**MCC-Longview**

Michael Connelly

**MCC-Blue River**

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.

### **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** CORE #2  
NOT TRANSFER  
GUARANTEED

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 general principles and specific cases.  
MOTR: PHIL

**PHIL 200 LOGIC** CORE #2  
NOT TRANSFER  
GUARANTEED

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 201 HISTORY OF PHILOSOPHY I**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite: PHIL 100.*  
Survey of the major aspects of philosophical thought from the ancient Greeks to the end of the Middle Ages.

**PHIL 203 ETHICS** CORE #2  
NOT TRANSFER  
GUARANTEED

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: ETHC 100

**PHIL 204 CONTEMPORARY PHILOSOPHIES OF VALUE**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Analysis of modern philosophies of personal and social value. Major contemporary "academic" and "popular" thinkers.

**PHIL 205 PROFESSIONAL ETHICS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
This course is designed to introduce the student to the discipline of ethics and several philosophical questions and problems found within it. It will include an examination of the dominant classical and contemporary theories of ethics and decision-making models. The applied ethics component of the course will focus on professional issues in business, technology, health care, law, journalism, academia, and other workplace settings.

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**PHYSICS**

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**MCC-Longview**

D.J. Box  
Anne Nienhueser

**MCC-Penn Valley**

Plarenta Bredehoff

**PHYS 101 INTRODUCTORY PHYSICS** CORE #2  
NOT TRANSFER  
GUARANTEED

4 credits. 4 hours. (Lecture 4 HOURS.)  
*Prerequisites: MATH 31 with a grade of S or appropriate placement.*  
A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism and atomic physics. Emphasis on the concepts of physics.  
MOTR: PHYS 001

**PHYS 101L INTRODUCTORY PHYSICS WITH**

**LAB** CORE #2  
NOT TRANSFER  
GUARANTEED

5 credits. 6 hours. (Lecture 4 HOURS. Laboratory 2 HOURS.)  
*Prerequisites: MATH 31 with a grade of S or appropriate placement.*  
A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics.  
MOTR: PHYS 001L

**PHYS 104 FOUNDATIONS OF PHYSICAL SCIENCE** CORE #2  
NOT TRANSFER  
GUARANTEED

4 credits. 4 hours. (Lecture 4 HOURS.)  
*Prerequisites: MATH 31 with a grade of S or appropriate placement.*  
Fundamental principles and concepts of classical and modern physics, astronomy, chemistry and earth science, and their relationships.  
MOTR: PHYS 010

## 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 appropriate placement.*

Fundamental principles and concepts of classical and modern physics, astronomy, chemistry and earth science, and their relationships. Includes a lab component.

MOTR: PHYS 010L

## PHYS 106 GENERAL ASTRONOMY

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

*Prerequisites: MATH 31 with a grade of S or appropriate placement.*

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 appropriate placement.*

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 112 TECHNICAL PHYSICS

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

*Prerequisite: MATH 104.*

Principles of mechanics, thermodynamics, sound, electricity, magnetism, light, and nuclear physics with emphasis on applications to technology.

MOTR: PHYS 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 100L

## 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 (C or higher) 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.

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## PRACTICAL NURSING

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**MCC-Penn Valley**

**Camica Asberry**

Meskerem Desta

**Patricia Duncan**

Christina Heard

Helina Kebede

Jennifer Lyons

## PNUR 100 PERSONAL AND VOCATIONAL CONCEPTS

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

*Prerequisites: HLSC 108 or 109 & Admission to the Practical Nursing program.*

An introduction to the role of the student in the program and the role of the practical nurse, including history, nursing trends, health care teams and health care delivery systems. The impacts of social, cultural, ethnic and spiritual issues on health care as well as ethical and legal responsibilities are presented.



### **PNUR 103 FUNDAMENTALS OF PRACTICAL NURSING**

10 credits. 14 hours. (Lecture 8 HOURS. Clinical 6 HOURS.)

*Prerequisites: BIOL 109 or BIOL 110 and BIOL 210 with a C or higher & Admission to the PN Program.*

The Fundamentals of Practical Nursing course introduces the student to the role of the practical nurse in the provision of basic nursing care to diverse populations across the life span. Professional communication, critical thinking, theory concepts, the nursing process and evidenced based practice are taught. Clinical experiences allow the learner to apply knowledge and skills introduced in the lab and classroom. The concepts introduced and incorporated into the care of individuals are: basic needs; biological, nutrition, psychological, social and spiritual, hygiene, physiological functioning, safety, cultural diversity, societal influences, developmental stages and principles of teaching/learning.

### **PNUR 110 PHARMACOLOGY**

4 credits. 6 hours. (Lecture 3 HOURS. Clinical 3 HOURS.)

*Prerequisite: PNUR 103 & Admission to the Practical Nursing program.*

Introduction of basic pharmacology information for safe administration of medications by the practical nurse. Calculating accurate dosages for safe administration of medications and understanding the legal and ethic responsibilities related to medication administration is required. Drug classifications, common drugs to each class, usual dosage, and mechanism of action, side effects, contraindications, cautions, nursing implications and patient educational needs are presented.

### **PNUR 128 MENTAL HEALTH NURSING**

4 credits. 5 hours. (Lecture 3.5 HOURS. Clinical 1.5 HOURS.)

*Prerequisite: PNUR 110 & Admission to the Practical Nursing program.*

Basics for understanding mental illness and its treatment, nursing theory, therapeutic modalities and clinical applications for the major DSM-IV-TR disorders will be presented. The role and functions of the LPN (guided by scope of practice & standards) in addressing a client's psychosocial needs in mental health practice settings will be introduced.

Assessment, therapeutic communication, nursing approach and pharmacologic interventions will be emphasized. Clinical component of course allows student opportunity to develop a skill set to use in diverse practice settings to meet client needs.

### **PNUR 132 THE CHILDBEARING FAMILY**

4 credits. 5 hours. (Lecture 3.5 HOURS. Clinical 1.5 HOURS.)

*Prerequisites: PNUR 110 & Admission to the Practical Nursing program.*

This course is an introduction to maternity and pediatric nursing. Prenatal development, prenatal care, nursing care during labor and birth with a focus on the family after birth is integrated into the course. Nursing care using basic nursing skills in caring for the term, preterm and post-term newborn is included in the course and clinical components. Care of the hospitalized pediatric client and health care adaptations for the child and family is taught. Common pediatric disorders, illnesses, and diseases are reviewed by body systems. Medication administration and pediatric dosage calculations are incorporated. The clinical component allows the student the opportunity to further develop nursing knowledge using evidence based practice, assessment skills, self-awareness, and demonstrate competency of nursing care.

### **PNUR 136 VENOUS ACCESS AND INTRAVENOUS INFUSION**

1.5 credits. 2 hours. (Lecture 1 HOUR. Laboratory 1 HOUR.)

*Prerequisites: PNUR 110 & Admission to the Practical Nursing program.*

This course will prepare the student practical nurse to perform limited intravenous fluid therapy treatment using the knowledge, skills, and competency required to perform such therapy safely and in accordance to Missouri Rule 4 CSR 200.6010.

### **PNUR 138 NURSING OF THE ADULT I**

8 credits. 12 hours. (Lecture 6 HOURS. Clinical 6 HOURS.)

*Prerequisite: PNUR 110.*

This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. This course teaches nursing related to the body systems of: respiratory, cardiac, special senses, urinary and musculoskeletal. Common diseases and disorders of each system along with the etiology, pathophysiology, clinical manifestations, medical and pharmacological management, and nursing management are emphasized. The nursing process and critical thinking are utilized to identify nursing problems, patient/client goals, planning, intervention and evaluation that meet the patient/client needs.

### **PNUR 144 NURSING OF THE ADULT II**

8 credits. 12 hours. (Lecture 6 HOURS. Clinical 6 HOURS.)

*Prerequisite: PNUR 138 with a grade of C or higher, Admission to the Practical Nursing program.*

This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. This course teaches nursing related to the body systems of: endocrine, neurological, gastrointestinal, reproductive and integumentary. Common diseases and disorders of each system along with the etiology, pathophysiology, clinical manifestations, medical and pharmacological management, and nursing management are emphasized. The nursing process and critical thinking are utilized in a leadership capacity to identify nursing problems, patient/client goals, planning, intervention and evaluation that meet the patient/client needs.

### **PNUR 146 LEADERSHIP**

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

*Prerequisite: PNUR 138 with a grade of C or higher & Admission to the Practical Nursing program.*

This course focuses on leadership principles needed for the practical nurse (PN) to function in an effective manner in the leadership role. Concepts and theories of leadership, communication, group process, legal responsibilities, ethical issues, decision-making, cultural competence and health care trends will be discussed.

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## **POLITICAL SCIENCE**

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**MCC-Longview**  
**John Shively**

**MCC-Maple**  
**Woods**  
**Perri Lampe**

**MCC-Penn**  
**Valley**  
**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 AMERICAN NATIONAL POLITICS**

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

Principles of political science. Examination of the development, organization, and function of the national government. Its relationship to the cultural, economic, and social institutions of the United States, Federal and Missouri constitutions.

MOTR: POSC 101

### **POLS 137 INTRODUCTION TO STATE AND LOCAL POLITICS**

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

Surveys the theory of politics and government in America at the State and Local levels with special attention to Missouri. Includes US, Missouri constitution.

### **POLS 138 PRACTICUM IN PUBLIC ADMINISTRATION**

1-6 credits. 1-5 hours. (Field Studies 1-6 HOURS.)

*Prerequisite: POLS 135, POLS 136, or POLS 137 with a minimum grade of B.*

Field work in a public agency/legislative office in an entry-level position to obtain exposure to public service. The credit for this course will vary depending upon the hours spent working for the agency and agreement between instructor and student.

### **POLS 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 199 SPECIAL TOPICS IN POLITICAL SCIENCE**

1-3 credits. 1-3 hours. (Lecture 1-3 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 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.

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## **PSYCHOLOGY**

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### **MCC-Blue River**

Kimberly Glackin

### **MCC-Longview**

Angela Bahner  
Susan Benoit  
Matthew Westra

### **MCC-Maple Woods**

Julia Bishop  
Robert Williams

### **MCC-Penn Valley**

Cebra Sims

## **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 148 GROUP PROCESSES**

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

*Prerequisite: PSYC 140.*

Analysis of group behavior and functioning. Examination of group and member interaction. Identification of traits promoting effective and ineffective groups. Exploration of the impact of group processes on various aspects of human development and functioning.

## **PSYC 162 CORRECTIONAL PSYCHOLOGY**

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

*Prerequisite: PSYC 140.*

Psychological theories of crime and delinquency. Diagnostic approaches used in juvenile and adult correctional settings. Psychopathology. Classification procedures. Individual and group counseling techniques in mental health.

## **PSYC 210 INTERVIEWING AND INTERPERSONAL COMMUNICATIONS**

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

*Prerequisite: PSYC 144.*

Development of skills necessary for effective performance in the helping professions despite differences in basic values and social backgrounds.

## **PSYC 220 PSYCHOLOGY OF PREJUDICE**

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

*Prerequisite: PSYC 140.*

This course offers an analysis of psychological theory and research as mechanism for understanding privilege, prejudice, and discrimination. The class will explore meanings of difference and prejudice based on race/ethnicity, gender, class, religion, physical ability, age, and sexual orientation. Themes include cultural values and characteristics of diverse groups, development and causes of social perception, reasons for persistence and maintenance of stereotypes and prejudice, and ways to change or reduce group stereotypes and prejudice.

### **PSYC 230 DEATH AND DYING**

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

*Prerequisite: PSYC 140.*

This course offers a survey of the historical and contemporary issues related to death and dying. It explores cultural, ethnic, individual, social, and ethical views regarding end of life practices. Additionally, the course provides students with basic skills for understanding the psychological and developmental aspects of death and living.

### **PSYC 240 CHILD DEVELOPMENT**

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

*Prerequisite: PSYC 140.*

Critical factors in understanding development: internal growth forces, self-factors, external adjustment processes. Emphasis on interrelatedness of developmental processes.

### **PSYC 243 HUMAN LIFESPAN DEVELOPMENT**

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

*Prerequisite: PSYC 140.*

Discussion of the physical, social, emotional, and personality changes occurring during the life of the individual from conception through death. Emphasis is placed on the similarities and differences in development across and within cultures.  
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.

### **PSYC 270 SOCIAL PSYCHOLOGY OF AGING**

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

*Prerequisite: PSYC 140.*

Social and psychological problems of older persons in contemporary society. Personality change. Environmental conditions and the aging process in late life.

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## **PHYSICAL THERAPIST ASSISTANT**

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**MCC-Penn Valley**

**Randall Leighton**

**Rachel McGraw**

### **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.

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## RADIOLOGIC TECHNOLOGY

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*MCC-Penn Valley*  
Dana Adler  
Kimberly Thebeau-Siercks

### **RATE 150 INTRODUCTION TO RADIOLOGIC TECHNOLOGY**

2 credits. 2 hours. (Lecture 2 HOURS.)  
Introduction to the profession of radiologic technology including the scope of practice, roles, responsibilities and duties of a radiologic technologist.

### **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 & concurrent enrollment in RATE 165 & RATE 173.*  
Anatomy, radiographic procedures, patient positioning and image evaluation of the chest, bony thorax, abdomen, upper extremity, pelvis, hips, and lower extremity.

### **RATE 173 RADIOGRAPHY SKILLS PRACTICE LAB I**

0.5 credit. 1 hour. (Laboratory 1 HOUR.)  
*Prerequisite: RATE 160 & concurrent enrollment in RATE 165 & RATE 172.*  
This course will develop the student's ability to perform basic skills expected of a radiologic technologist.

### **RATE 174 RADIOGRAPHY SKILLS PRACTICE LAB II**

0.5 credit. 1 hour. (Laboratory 1 HOUR.)  
*Prerequisite: RATE 165, RATE 171, RATE 172, and RATE 173 with a grade of C or better and concurrent enrollment in RATE 175, RATE 176 and RATE 180*  
This course will develop the student's ability to perform basic skills expected of a radiologic technologist.

### **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 174 and RATE 175.*  
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.*  
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 174 and RATE 180.*  
 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 174, 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 facial bones, paranasal sinuses, special bone studies and biliary system; advanced contrast media exams and procedural adaptations for trauma patients, mobile and surgical radiographic procedures.

**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.

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**READING**


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*MCC-Blue River*  
 Nicole Baker

*MCC-Maple Woods*  
 Gail Freeman

*MCC-Penn Valley*  
 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 13 LINGUISTIC COMPREHENSION I  
(COMPANION FOR READ 10)**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite:* Placement based on testing.  
Development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, word recognition, structural analysis, and vocabulary development.

**READ 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 18 LINGUISTIC COMPREHENSION II  
(COMPANION FOR READ 11)**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite:* READ 13/33 or appropriate placement test score.  
Development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, and organizational patterns, vocabulary development and textbook strategies.

**READ 19 PHONOLOGY II**

1 credit. 1 hour. (Lecture 1 HOUR.)  
*Prerequisite:* 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 20 PHONOLOGY II**

2 credits. 2 hours. (Lecture 2 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 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 38 LINGUISTIC COMPREHENSION II  
(COMPANION FOR READ 31)**

3 credits. 4 hours. (Lecture 2 HOURS. Laboratory 2 HOURS.)  
*Prerequisite:* READ 13/33 or appropriate placement test score.  
Further development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main idea and supporting details, inference, and organizational patterns, vocabulary development, and textbook strategies. Lab component.

**READ 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 103 LINGUISTIC COMPREHENSION III  
(COMPANION FOR READ 100)**

3 credits. 3 hours. (Lecture 3 HOURS.)  
*Prerequisite:* READ 18/38 or appropriate placement test score.  
Enhancement of ability to comprehend printed material at the college level. College-level vocabulary, critical and analytical reasoning, and text strategies through auditory and visual input.



**READ 108 COLLEGE SUCCESS SKILLS**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Campus orientation, introduction to college environment resources, and campus socialization. Skills for achieving educational goals such as awareness of learning styles, textbook strategies, listening and note taking skills, memory skills, test preparation, and test taking strategies. Life skills such as interpersonal skills, goal setting, time management principles and tools, and stress management.

**READ 199 INSTRUCTIONAL TECHNIQUES IN READING AND SPELLING I**

3 credits. 6 hours. (Lecture 6 HOURS.)  
Trains trainers in multi-sensory concepts, approaches, and instructional methods for improving students' reading and spelling. Phonology of the English language, development of phonemic awareness and phonetic analysis abilities, and Socratic questioning techniques.

**READ 201 INSTRUCTIONAL TECHNIQUES II**

3 credits. 3 hours. (Lecture 3 HOURS.)  
Trains trainers in multi-sensory approaches and Socratic questioning techniques for improving students' reading, spelling, and language comprehension and retention. Basic techniques and standardized procedures of administering and scoring a battery of diagnostic instruments for assessing literacy development.

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**PROFESSIONAL NURSING**

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***MCC-Penn Valley***

**Amy Abma**  
**Kathy Alford**  
**Robin Bellamy**  
**Roger Bidwell**  
**Crista Gulick**  
**Brenda Kotar**  
**Charlotte Paige**  
**Nancy Spangler**  
**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 & 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 & 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: BIOL 208, PSYC 243, RNUR 126, & RNUR 131 & 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 208, PSYC 243, RNUR 126, & RNUR 131 & Admission to the Professional Nursing program.*

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: BIOL 208, PSYC 243, RNUR 126, & RNUR 131 & 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 & one of the following: HIST 120, 121, POLS 135, 136 or 137.*

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: Admission to nursing program; BIOL 208, RNUR 126, RNUR 131, RNUR 134, RNUR 138, RNUR 141.*

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 126, RNUR 131, RNUR 134, RNUR 138, RNUR 141.*

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 is incorporated in theory and clinical practice.

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## SIGN LANGUAGE INTERPRETING

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### SIGN 101 AMERICAN SIGN LANGUAGE I

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

An introductory course in American Sign Language designed to develop basic expressive and receptive communication skills by introducing culturally appropriate signed concepts related to the immediate environment. Students will engage in common communicative events and interactions to acquire a basic working vocabulary and grammar. Cultural awareness and appropriateness is introduced to develop appropriate linguistic/cultural behaviors and awareness of and respect for deaf culture. American Sign Language is the language of instruction.

### SIGN 102 AMERICAN SIGN LANGUAGE II

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

*Prerequisite: SIGN 101.*

The second American Sign Language course in the sequence designed to further develop communication skills by examining grammatical features of American Sign Language. Students will develop vocabulary and conversational skills by progressing from common, concrete communicative events and interactions to language usage expressing abstract ideas. Emphasis is on the comprehension and production of increasingly complex linguistic structure focusing on dialogues and conversational expressions. Cultural awareness and appropriateness will also be further examined and applied. American Sign Language is the language of instruction.

### SIGN 103 DEAF CULTURE 🌐

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

A course designed to provide students with an understanding of American Deaf culture and the factors that contribute to defining the Deaf Community as a distinct cultural minority, focusing on an awareness and understanding of cultural diversity and preservation of language. Students will examine cultural identity, group norms, rules of social interaction, values, and traditions held by members who are deaf. Societal attitudes regarding deafness and issues such as cultural oppression and language power by the majority culture will be discussed, as well as the contributions of folklore, literature, plays and works of art made by persons who are deaf to the larger American culture and to their own community organizations. The impact of modern technology, emerging issues, trends and advocacy within the Deaf Community are presented. Requirement Designation: Global Diversity

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## SOCIOLOGY

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*MCC-Blue River*

Cynthia Heddlesten

*MCC-Longview*

Tammie May

Julia Spence

*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, inter-relational 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 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."

**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 165 CRIMINOLOGY**

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

This course will introduce students to theories associated with criminal behavior and the manifestations of crime. A historical evolution of crime and punishment is introduced along with concepts, terms, and the criminal justice subsystem.

**SOCI 168 JUVENILE DELINQUENCY**

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

Definitions 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.

**SOCI 169 FAMILY VIOLENCE AND SEXUAL ABUSE**

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

Introduction to concepts related to interpersonal violence. Categories of abuse studied are spousal, child, sibling, ritual, elderly, gay and lesbian. The course emphasizes legal, social and psychological aspects of abuse.

**SOCI 170 GENERAL ANTHROPOLOGY**

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

Survey of physical and cultural anthropology. Concentrates on concept of culture, social institutions, and organization: economy, politics, family, religion, law, and language, human evolution, human sexuality, and archaeology.

**SOCI 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 210 NATIVE AMERICANS IN CONTEMPORARY SOCIETY** 🌐

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

Focuses on socioeconomic factors impacting Native Americans in modern society and social construction of Native identity, with particular emphasis on the struggle to maintain and direct changes in the tribal communities in such areas as education, family structures, tribal governments, and religion. Requirement Designation: Global Diversity

**SOCI 220 MARRIAGE AND FAMILY LIVING**

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

This course will introduce students to the study of family living in the United States. Attention will be given to the research methods and theoretical framework for understanding family from a sociological perspective. Consideration will also be given to the diversity of family in contemporary society.

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**SOCIAL SCIENCE**

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**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.

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## **SOCIAL WORK**

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### **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 166 BEHAVIOR INTERVENTION TECHNIQUES WITH ADOLESCENTS**

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

*Prerequisites: SOWK 100 and SOWK 160.*

Course explores the theory and application of behavior intervention techniques with youth in residential and community based settings. Solution-focused interventions and effective communication strategies with youth are also examined. This course is designed for those interested in entering the fields of social work, counseling, youth work, psychology, corrections, and other helping professions.

### **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 171 CRISIS INTERVENTION**

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

*Prerequisite: SOWK 100.*

Crisis intervention involves the short term use of specific skills and strategies to help people in crisis cope with turmoil resulting from specific emergency situations or events. Crisis intervention is an approach to helping relationships that is distinctive from other counseling models. This course is designed to familiarize students to basic crisis theory with the application of helping strategies in basic crisis intervention.

### **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 201 SOCIAL WORK FIELD EXPERIENCE**

3 credits. 3 hours. (Lecture 2 HOURS. Field Studies 1 HOUR.)

*Prerequisite: SOWK 100, SOWK 220.*

Initial field experience in a social service, mental health, juvenile treatment, or other community service agency.

### SOWK 203 SOCIAL WORK SEMINAR

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

*Prerequisite:* SOWK 100, concurrent enrollment in SOWK 201, Social Work instructor consent.

The Social Work Seminar in conjunction with the student's Social Work Practicum I is designed to integrate the knowledge, values and skills presented in the classroom with the field practicum experience. In this seminar, students will be required to critique their own practice skills and discuss the dimensions of social work practice from their emerging professional experiences. Students will share their field placement experiences with other students while also learning from those students who are undertaking their practicum experiences.

### 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.

### SOWK 275 DYNAMICS OF DRUG AND ALCOHOL ABUSE

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

*Prerequisites:* SOWK 100.

This introductory course is designed to help students better understand the variables of substance abuse, dependence, prevention, intervention, and treatment. This course will look at the effects of substance abuse on individuals, families, groups, and society. Students will develop an understanding of the knowledge, skills and attitudes necessary to effective treatment approaches as well as the multi-faceted aspects associated with drugs/alcohol use abuse and dependence. Students will understand how the multi-discipline field of Social Work is used in the treatment of substance abuse.

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## SPANISH

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*MCC-Blue River*  
Jennifer Rogers

*MCC-Longview*  
Carol Kuznacic

*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: SPAN 101

### 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: SPAN 102

### 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 111 ACCELERATED ELEMENTARY SPANISH I

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

*Prerequisite:* Prior elementary Spanish at the college level or two years high school Spanish.

An accelerated elementary Spanish course for students who may need to brush up on the basics before continuing onto Elementary Spanish II. Students will enhance communication skills (listening, reading, speaking, and writing) while reviewing Spanish grammar. Informal study of culture of selected Spanish-speaking countries.

### SPAN 203 INTERMEDIATE SPANISH I

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

*Prerequisite:* SPAN 102 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.

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**LAND SURVEYING**

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**MCC-Longview**  
**David Gann**

**SRVY 135 ELEMENTARY SURVEYING**

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

*Prerequisites:* MATH 130 or MATH 150 with a

*minimum grade of C or appropriate placement score.* 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.



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## SURGICAL TECHNOLOGY

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*MCC-Penn Valley*  
Roger Massey

### **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, MATH 20/20L or appropriate placement score & 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.

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## THEATER

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**MCC-Maple Woods**

**Daniel Wright**

## THEA 106 THEATER APPRECIATION CORE 42 NOT TRANSFER GUARANTEED

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

*Prerequisites:* ENGL 90 with a minimum grade of S or appropriate placement 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 100

## THEA 112 ORAL INTERPRETATION OF LITERATURE

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

*Prerequisites:* ENGL 90 with a minimum grade of S or appropriate placement score.

This course will provide an analysis and presentation of literary works to increase appreciation of and skill in reading aloud in individual and group performances.

## THEA 114 THEATER AND THE WESTERN WORLD CORE 42 NOT TRANSFER GUARANTEED

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

*Prerequisites:* ENGL 90 with a minimum grade of S or appropriate placement 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.

MOTR: THEA 104

## THEA 115 ACTING IN A VIDEO AND/OR DIGITAL

### MEDIUM CORE 42 NOT TRANSFER GUARANTEED

3 credits. 4.5 hours. (Lecture 1.5 HOURS.

Laboratory 3 HOURS.)

This course is an introduction to performance in a video and/or digital medium. Basic performance techniques and test analysis will be explored, culminating in a final performance project.

MOTR: PERF 100

## THEA 116 CHILDREN'S THEATER CORE 42 NOT TRANSFER GUARANTEED

3 credits. 4.5 hours. (Lecture 1.5 HOURS.

Laboratory 3 HOURS.)

This course is an introduction to children's theatre and the various forms of children's theatre based not only on theatrical styles but age levels as well. This class is designed for the adult student actor with emphasis on performance before a live audience. Various imagination games will be employed to help student actors learn how to communicate to a child audience.

MOTR: THEA 100B

## THEA 120 ACTING I CORE 42 NOT TRANSFER GUARANTEED

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 minimum grade of S or appropriate placement score.*

Identify and apply the elements of play production necessary to produce a theatrical performance through reading, observation and practical experience.

MOTR: PERF 104

**THEA 122 THEATER PRACTICUM**

1-3 credits. 2-6 hours. (Laboratory 2-6 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 132 DIRECTED STUDIES IN THEATER**

1-3 credits. 1-3 hours. (Independent Study 1-3 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.

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**VETERINARY TECHNOLOGY**

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**MCC-Maple Woods**

**Christopher Morrow**

**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 PRINCIPLES OF ANIMAL SCIENCE I**

4 credits. 5.5 hours. (Lecture 2.5 HOURS.

Laboratory 3 HOURS.)

Principles of handling, housing, and management of animals. Basic dietary and sanitation requirements. Restraint and handling, administration of medications, bathing, skin scraping, and basic laboratory tests. Emphasis on animal physiology including the cell, muscle, nervous, respiratory, and cardiovascular systems. Introduction to anesthesia and general animal nursing.

**VETT 108 CLINICAL MATHEMATICS FOR VETERINARY TECHNICIANS**

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

*Prerequisite: 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 PRINCIPLES OF ANIMAL SCIENCE II**

4 credits. 5.5 hours. (Lecture 2.5 HOURS.

Laboratory 3 HOURS.)

*Prerequisite: VETT 101 & Admission to the Veterinary Technology program.*

Anesthesia and the physiology of the digestive, urinary, endocrine, and reproductive systems. Blood and specimen collection, basic bandaging, and introduction to surgical preparation and radiographic processing.

**VETT 111 SANITATION & ANIMAL CARE**

2 credits. 3 hours. (Lecture 1 HOUR. Laboratory 2 HOURS.)

Introduction to microorganisms, sanitation, disinfectants, sterilization, and zoonotic diseases and public health problems. Introduction to parasitology and vermin control, specimen preservation, instrument identification, cleaning, and sterilization, sanitary procedures in patient care.

**VETT 200 VETERINARY HOSPITAL TECHNOLOGY I**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisites: VETT 101 & VETT 110 & Admission to the Veterinary Technology program.*

Administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparations and postoperative procedures, parenteral fluid administration, and intravenous hookups. Introduction to orthopedics, electrocardiography, bone marrow cytology, and pharmacology.

**VETT 201 CLINICAL PATHOLOGY TECHNIQUES I**

4 credits. 7 hours. (Lecture 1 HOUR. Laboratory 6 HOURS.)

Introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis, and parasitology, urinalysis and urine sediment valuation.

**VETT 202 VETERINARY ANATOMY**

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

*Prerequisite: BIOL 101 or 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 HOSPITAL TECHNOLOGY****II**

3 credits. 5 hours. (Lecture 1 HOUR. Laboratory 4 HOURS.)

*Prerequisite: VETT 200 & Admission to the Veterinary Technology program.*

Introduction of anesthetics, surgical assisting, bandaging, casting, blood transfusions, surgical preparations, and post-operative care. Administration of parenteral fluid and emergency treatments. Introduction to ophthalmology and dermatology.

**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.

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## **WELDING**

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### ***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.*

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.*

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 (STICK) LECTURE**

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

*Prerequisite: WELD 121.*

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 (STICK) LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

*Prerequisite: WELD 140.*

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 (MIG) LECTURE**

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

*Prerequisite: WELD 121.*

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 (MIG) LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

*Prerequisite: WELD 150.*

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 (TIG) LECTURE**

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

*Prerequisite: WELD 121.*

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 (TIG) LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

*Prerequisite: WELD 160.*

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 230 LAYOUT & FABRICATION LECTURE**

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

*Prerequisite: WELD 130 and one WELD 100 level lecture & one WELD 100 level lab.*

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 230 and one WELD 100 level lecture & one WELD 100 level lab.*

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 (STICK) 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 (STICK) 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 (MIG) 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 (MIG) 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 (TIG) 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 (TIG) 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 LECTURE**

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

*Prerequisite: WELD 151.*

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 LAB**

2 credits. 3.5 hours. (Lecture 0.5 HOUR. Laboratory 3 HOURS.)

*Prerequisite: WELD 270.*

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.

## Executive Cabinet

Kimberly Beatty, Chancellor  
MCC-Administrative Center  
Certification, Sojourner-Douglass College  
B.A., Morgan State University  
M.A., Morgan State University  
Ed.D., Morgan State University

Michael Banks, Vice Chancellor of College and  
Community Relations  
MCC-Administrative Center  
B.A., St. Louis University  
M.F.A., Southern Illinois University, Carbondale  
Ph.D., St. Louis University

John Chawana, Vice Chancellor of Institutional  
Effectiveness, Research and Technology  
MCC-Administrative Center  
B.A., University of Nairobi  
MSc., University of North Texas  
MCRP, University of Texas – Arlington  
Ph.D., University of Texas – Arlington

Sandra Garcia, Chief Legal Officer  
MCC-Administrative Center  
B.A., Baylor University  
M.A., University of Texas – San Antonio  
J.D., Texas Southern University

Jacqueline Gill, President  
MCC-Blue River and Business Technology  
B.S., Texas A&M College Station  
MSW, University of Texas-Arlington  
M.Ed., Texas A&M at Commerce  
Ed.D., Texas A&M at Commerce

Utpal Goswami, President  
MCC-Maple Woods  
B.A., Delhi University  
M.A., Boston University  
Ph.D., Southern Methodist University

Tyjaun Lee, President  
MCC-Penn Valley  
B.A., Ohio University  
M.A., Ohio University  
Ph.D., Ohio University

Carlos Penalzo, Vice Chancellor of Instruction and Chief  
Academic Officer  
MCC-Administrative Center  
A.S., Queensborough College  
B.A., Queen's College  
M.Phil., City University of New York  
Ph.D., City University of New York

Kathrine Swanson, Vice Chancellor of Student Success  
and Engagement  
MCC-Administrative Center  
B.S., North Michigan University  
M. Ed., Montana State University  
Ed.D., University of North Texas

Vacant, President  
MCC-Longview

Vacant, Vice Chancellor of Financial and Administrative  
Services  
MCC-Administrative Center

## Administration

Marvin R. Aaron, Associate Dean of Student  
Development and Support Services  
MCC-Penn Valley  
B.A., Wayland University  
M.A., Eastern New Mexico University  
Ed.S., Eastern New Mexico University  
Ph. D., University of Missouri–Kansas City

Patricia Amick, Associate Vice Chancellor, Financial  
Services and Administrative Systems  
MCC-Administrative Center  
B.S., Iowa State University  
B.S., Iowa State University

Deborah Ball, Director of Budget and Planning  
MCC-Administrative Center  
A.A., North Central Missouri College  
B.S., Columbia College

Brian C. Bechtel, Associate Dean  
MCC-Maple Woods  
B.S., University of Nebraska–Lincoln  
M.A., University of Missouri–Kansas City  
Ed.D., University of Missouri–Columbia

Domenick R. Brouillette, Director of Support Services  
MCC-Administrative Center  
B.S., Central Missouri State University  
M.B.A., University of Iowa

Jon L. Burke, Dean, Student Development  
MCC-Blue River  
B.A., Armstrong Atlantic State University  
M.S., Florida State University  
Ed.D., University of Georgia

Cynthia Cerrentano, Dean of Instruction  
MCC-Penn Valley  
B.A., Northern Illinois University – DeKalb  
M.A., Northern Illinois University – DeKalb  
Ph.D., Northern Illinois University – DeKalb

Tarana Chapple, Associate Dean of Instruction  
MCC-Penn Valley  
B.A., Hampton University  
M.A., Seaton Hall University

Evelyn Claiborne, Director of Nursing Programs  
MCC-Penn Valley- Health Science Institute  
M.S., University of Mary  
M.B.A., University of Mary

Bill Dial, Associate Vice Chancellor, Human Resources  
MCC-Administrative Center  
B.S., University of Kansas  
M.S., Lindenwood University  
Ph.D., Cappelia University

Brandi D. Fockler, Director, Employee Benefits  
MCC-Administrative Center  
A.A., MCC-Longview  
B.S., Park University

Kim Fernandes, Director of Student Disability  
MCC-Administration Center  
B.A., Truman State University  
M.A., Truman State University

Melissa Giese, Director, Institutional Research and  
Assessment  
MCC-Administrative Center  
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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  
MCC-Maple Woods  
B.S., Missouri State University  
M.S., University of Arkansas

Gerald L. Morrison, Computer Science Information  
Systems  
MCC-Maple Woods  
B.S., Oklahoma State University

Christopher C. Morrow, Veterinary Technology  
MCC-Maple Woods  
D.V.M., University of Missouri-Columbia

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

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, Mathematics  
MCC-Longview  
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

Angela Peck, Chemistry  
MCC-Blue River  
B.S., Washington State University  
M.S., University of Kansas

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-Maple Woods  
Interim Chair  
Math, Physics, and Communication  
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-Longview  
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.S., University of Missouri – St. Louis

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

Clayton Robinson, Counselor  
MCC-Maple Woods  
M.A., Webster University

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MCC-Longview  
M.A., Arizona State University

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MCC-Blue River  
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A.A., Barton County Community College  
B.S., Fort Hays State University  
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MCC-Penn Valley  
A.A., Metropolitan Community College  
B.A., University of Missouri - Kansas City  
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B.A., Iowa State University  
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B.S.N., University of Missouri-Columbia  
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MCC-Longview  
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B.S., University of Kansas  
M.S., University of Kansas  
Ph.D., University of Kansas

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MCC-Longview  
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B.S., Central Missouri State University

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Conditioning  
MCC-Business and Technology

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B.A., Buena Vista University  
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B.S., Central Missouri State University  
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MCC-Penn Valley  
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MCC-Penn Valley  
B.S., Avila College  
M.S., Kansas State University

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MCC-Maple Woods  
B.A., University of Missouri–Columbia  
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B.A., Rhodes College  
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MCC-Longview  
B.A., University of Missouri-Kansas City  
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Coordinator  
MCC-Administrative Center  
B.A., Southeast Missouri State University  
M.A., Kansas State University

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MCC-Penn Valley  
B.S., University of Kansas  
M.A., University of Kansas  
M.A., University of Missouri–Kansas City  
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MCC-Blue River  
B.F.A., University of Akron  
M.F.A., Art Institute of Chicago

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MCC-Penn Valley  
B.Ed., Central Methodist College  
M.Ed., Lesley University

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MCC-Blue River  
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B.A., University of Missouri–Columbia  
B.S.B.A., University of Missouri–Columbia

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M.S., Central Missouri State University

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Instructor/Coordinator  
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M.S.M., Iowa State University  
Ph.D., Iowa State University

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MCC-Penn Valley  
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Ph. D., University of Nebraska–Lincoln

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B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City

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MCC-Penn Valley  
B.S., Missouri Western State College  
M.S., University of Wisconsin/Stout

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B.A., University of Michigan  
M.A., The California State University

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MCC-Longview  
B.S.Ed., University of Missouri-Columbia  
M.S., University of Missouri-Columbia

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MCC-Penn Valley  
B.S., Saint Norbert College  
M.S., University of Pittsburg

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MCC-Blue River  
B.S., University of Mohammed  
V.M.S., Paul Sabtier University  
Ph.D., Paul Sabtier University

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MCC-Penn Valley HSI  
B.S., Webster University  
M.S., Webster University  
D.N.P., Capella University

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MCC-Blue River  
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Certificate, University of Virginia

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Conditioning  
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Certificate in Heating and Refrigeration

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B.S., Illinois State University  
D.C., Palmer College of Chiropractic

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MCC-Maple Woods  
D.V.M., Oklahoma State University

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B.F.A., Kansas City Art Institute  
M.F.A., University of Miami

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B.F.A., Kansas City Art Institute  
M.F.A., University of Miami

- Darlene Town, Art  
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B.F.A., Central Missouri State University  
M.A., Central Missouri State University
- Lee Townsend, Nursing  
MCC-Penn Valley  
B.S.N., Arkansas State University  
M.S.N., Arkansas State University
- My An Tran, Mathematics  
MCC-Longview  
B.S., University of California  
M.M., University of California  
Ph.D., University of California
- 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
- Whitney Turner, Mathematics  
MCC-Longview  
B.A., Albion College  
M.S., University of Connecticut
- Handady H. Udupa, Dental Assisting  
MCC-Penn Valley  
B.D.S., Bangalore University-Bangalore, India
- Alicia R. Valdivieso, Mathematics  
MCC-Penn Valley  
B.S., University of La Verne  
M.S., University of California
- Andrea L. Vorwerk, Mathematics  
MCC-Maple Woods  
B.A., William Jewell College  
M.S., University of Missouri–Rolla
- 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
- Gordon E. Wells Jr., Paralegal  
MCC-Penn Valley  
B.S., University of Kansas  
J.D., University of Kansas
- Matthew R. Westra, Psychology  
MCC-Longview  
A.A., Golden West College  
B.A., California State University–Fullerton  
M.S., California State University–Los Angeles
- 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 & Drama  
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
- 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 At Little Rock  
M.A., University of Arkansas At Little Rock
- Joseph H. Anway (1973-1998), Business  
MCC-Longview  
A.A., Graceland College  
B.S., Central Missouri State University  
M.A., Central Missouri State University  
Spec. In Bus. Adm., Central Missouri State University
- Bruce Appel (1989-2006), Outreach Counselor  
MCC-Longview  
M.A., University of Missouri–Kansas City  
Ed.S., University of Missouri–Kansas City
- Rita K. Austin (1969-1986), Foreign Language  
MCC-Longview  
A.B., New York State College For Teachers  
A.M., University of Kansas
- Sharon Bagg (1994-2016), History  
MCC-Blue River  
B.M.E., Emporia State University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Harold E. Baggerly (1964-1995), Engineering  
MCC-Longview  
B.S., University of Kansas  
M.S., University of Kansas
- Melanie A. Bailey (1973-2005), Director, Educational  
Opportunity Center  
MCC-Administrative Center  
B.S., University of Kansas–Lawrence  
M.Ed., Howard University–Washington, D.C.  
Ed.S., University of Missouri–Kansas City
- Candice K. Baldwin (2003 -2017), Librarian  
MCC-Longview  
B.A., Oklahoma College of Liberal Arts  
M.S., University of Illinois–Urbana-Champaign
- John W. Banks (1969-1986), Office Systems  
MCC-Maple Woods  
B.S., Central Missouri State University  
M.A., University of Northern Iowa
- Nancy J. Banks (1990-2000), Nursing  
MCC-Penn Valley  
B.S., In Ed., Southwest Missouri State University  
B.S.N., Avila College  
M.S.N., Kansas University
- Gail Barham (1989-2010), Director, Organizational  
Development  
MCC-Administrative Center  
A.A., Longview  
B.A., University of Missouri–Kansas City  
M.S., Kansas State University
- Lynn Barron (2000-2011), Associate Dean  
MCC-Maple Woods  
B.S., Missouri Western State College  
M.Ed., William Woods University
- Edith Bartholomew (1957-1985), English  
MCC-Penn Valley  
A.B., Wheaton College  
A.M., Northwestern University

## Emeriti\*

Although several retired faculty members and administrators served in more than one capacity during their years with the institution, they are listed here according to the function and the unit to which they were assigned at the time of their retirement.

Stanley R. Abrahamson (1994-2013), Director,  
Automotive Technology  
MCC-Longview  
B.S., Pittsburg State University  
M.S., Pittsburg State University

Toni Y. Alexander (1996-2016), Project Success  
Coordinator  
MCC-Penn Valley  
B.S., University of Kansas  
M.B.A., Baker University

- Carolyn Baskett (1999-2013), Associate Vice Chancellor, Human Resources  
MCC-Administrative Center  
B.S., Alabama A & M University  
M.A., Ottawa University
- Edward Beasley (1968-1993), History  
MCC-Penn Valley  
B.A., Lincoln University  
M.A., Emporia State University  
Ph.D., University of Missouri–Kansas City
- Pamela Beers (1994-2004), Practical Nursing  
MCC-Penn Valley–Pioneer Campus  
Diploma, Providence Hospital School of Nursing  
B.S., St. Mary College
- James O. Beisel (1973-2004), Business  
MCC-Longview  
B.S., Kansas State University, Agriculture  
B.S., Kansas State University, Business Administration  
M.B.A., University of Kansas
- Linda F. Bell (1973-2013), Child Development  
MCC-Penn Valley  
B.S., University of Arkansas, Pine Bluff  
M.S., Emporia State University
- David C. Belt (1999-2015), Biology  
MCC-Penn Valley  
B.S., Missouri Western College  
M.A., Southwest Missouri State University  
M.D., St. Paul School of Theology  
Ph.D., St. Paul School of Theology
- Michael E. Benson (1972-1997), Criminal Justice  
MCC-Penn Valley  
A.A., Kansas City, Kansas Community College  
B.S., Central Missouri State University  
M.A., University of Missouri – Kansas City  
M.S.E., Central Missouri State University
- Milton Benz (1974-1990), Business  
MCC-Penn Valley  
B.S.C., University of North Dakota At Grand Forks  
M.B.A., Central Missouri State University
- Lewis E. Berg (1957-1986), Mathematics  
MCC-Maple Woods  
A.B., De Pauw University  
M.A., Syracuse University
- Patricia A. Berge Langsdorf (1971-2004), Office Systems  
MCC-Maple Woods  
A.B., University of Kentucky  
M.A., University of Missouri–Kansas City
- Joan E. Bergstrom (2006-2014), ABLE Director  
MCC-Longview  
B.S., Lincoln University  
M.Ed., University of Missouri  
Ed.D., University of Missouri
- Dale R. Biagi (1965-1998), Geology & Geography  
MCC-Longview  
A.A., Kaskaskia College  
B.S., Illinois State University  
M.S., Illinois State University
- Jack Bitzenburg (1986-2004), President  
MCC-Business & Technology  
B.S., Central Missouri State University  
M.S., Central Missouri State University
- Sarah F. Bivins (1972-2001), Human Sciences  
MCC-Penn Valley  
B.S., Tuskegee Institute  
M.S., University of Wisconsin
- Aldine Blankenship (1951-1979), Office Systems  
MCC-Penn Valley  
A.A., Northeast Junior College  
A.B., University of Northern Colorado  
M.A., University of Northern Colorado
- Sheryl L. Blasco (1966-1994), Data Processing  
MCC-Penn Valley  
B.S., Emporia State University  
M.P.A., California State University
- Mary Susanne Boatright (2001-2012), Librarian  
MCC-Blue River  
B.A., University of Texas  
M.L.S., University of Texas
- Ann E. Boehm (1983-1989), Psychology  
MCC-Penn Valley  
B.A., College of St. Catherine  
M.Ed., St. Louis University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Nelson F. Borys (2004-2015), Chemistry  
MCC-Longview  
B.S., University of Illinois  
M.S., University of Wyoming  
Ph.D., University of Georgia
- Eleanor Smith Bowie (1971-2002), Director of Title II Project  
MCC-Penn Valley  
B.A., St. Augustine's College  
M.A., North Carolina Central University
- Margaret Boyd (2000-2015), Interim Executive Director, HSI Executive Director, Workforce Development  
MCC-Administrative Center  
B.S., University of Arkansas  
M.S., University of Central Arkansas
- Stephen Brainard (1970-1998), President  
MCC-Maple Woods  
B.S., State University of New York  
M.S., Syracuse University  
Ph.D., University of Missouri–Columbia
- Loree D. Breed (1970-1986), English  
MCC-Longview  
B.A., Avila College  
M.A., University of Missouri–Kansas City  
M.Ph., University of Kansas
- Rebecca A. Breit (1997-2013), Library and Learning Resource  
MCC-Business & Technology  
B.A., University of California-Riverside  
M.Ed., University of Missouri-Columbia
- Ronald L. Brink (1969-1998), Speech and Theater  
MCC-Maple Woods  
Chair, Communications  
B.A., Missouri Valley College  
M.A., University of Denver  
Ph.D., University of Missouri–Kansas City
- Carolyn S. Brown (1989-2013), Director- Resource Development  
MCC-Administrative Center  
A.A.S., Metropolitan Community College  
B.S., Park University
- Beverly J. Brown (1988-2008), Associate Vice Chancellor and Assistant to the Chancellor  
MCC-Administrative Center  
B.S., Birmingham–Southern College  
M.A., University of Alabama  
Ed. D., University of Missouri–Columbia
- Joan Nance Brown (1964-1994), Mathematics  
MCC-Longview  
B.S., Harding College  
M.A., University of Kansas
- Suzanne Brown (1984–1994), Health Information Technology  
MCC-Penn Valley  
B.S., Texas Woman's University  
M.S., Texas Woman's University
- Robert S. Buchanan (1971-1993), English  
MCC-Maple Woods  
A.B., University of Missouri–Columbia  
M.A., University of Missouri–Columbia
- George A. Bunch (1956-1989), Social Science  
MCC-Penn Valley  
B.S., Northwest Missouri State University  
M.S., University of Kansas
- Walter M. Burks (1970-1981), Social Science  
MCC-Maple Woods  
A.B., Rockhurst College  
A.M., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Wilma J. Burnett (1973-1997), Office Systems  
MCC-Penn Valley  
B.S., Southwest Missouri State University  
M.S., Central Missouri State University
- Mark A. Burns (1997-2013), Director, Finance & Business Services  
MCC-Administrative Center  
B.S., Central Missouri State University
- Aaron C. Butler (1974-1982), Business  
MCC-Maple Woods  
A.B., Pittsburg State University  
M.B.A., Harvard University  
Ed.D., Harvard University
- Christine Smith Butler (1986-2011), Director, Resource Development  
MCC-Administrative Center  
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A.A., Penn Valley  
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Kimberly Christensen (1990-2016), Mathematics  
MCC-Maple Woods  
B.A., Aurora University  
M.S., Northern Illinois University  
M.S., Northern Illinois University

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B.S., University of Missouri-Kansas City  
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Arthur M. Brady Jr. (1993-2016), Emergency Medical Technology  
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Gregory A. Christy (1981-1992), Drafting  
MCC-Longview  
B.S., Central Missouri State University  
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MCC-Longview  
B.B.A., Washburn University of Topeka

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B.S.N., Avila College  
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B.S., Central State University, Oklahoma  
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Deborah Craig-Claar (1988-2013), Speech  
MCC-Penn Valley  
B.A., University of Redlands  
M.F.A., Northwestern University  
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Jeremiah Cameron (1963-1989), English  
MCC-Penn Valley  
A.B., University of Indiana  
A.M., University of Chicago  
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MCC-Longview  
B.S.Ed., University of Delaware  
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M.S.E.E., University Missouri-Columbia

Kurt Canow (1986-2013), English  
MCC-Longview  
B.A., Doane College  
M.A., Rice University  
M.A., Southern Illinois University

Janet Cline (1983-2013), Dean of Student Development & Support Services  
MCC-Longview  
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Bruce D. Culley (1971-2008), Business  
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B.S., University of Kansas  
M.S., University of Kansas

Patrick R. Capranica (1965-1995), Social Science  
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B.S., Pittsburg State University  
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John P. Coleman (1969-1988), Art  
MCC-Longview  
B.F.A., Kansas City Art Institute  
M.F.A., Kansas City Art Institute

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MCC-Penn Valley  
R.N., General Hospital and Medical Center  
B.S.N., University of Kansas  
M.A., University of Missouri-Kansas City  
M.S.N., University of Missouri-Kansas City

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B.S., University of Kansas  
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M.A., Dallas Theological Seminary

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M.S., University of Kansas

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B.S., University of Wisconsin-Madison  
M.S., University of Kansas-Lawrence

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B.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City

Paul D. Daminga (1988-2012), Automotive  
MCC-Longview  
B.S., Ferris State University

Clydia A. Case (1971-2002), Counselor  
MCC-Blue River  
B.A., Eastern Kentucky University  
M.Ed., Xavier University  
Ph.D., University of Missouri-Kansas City

Harvey J. Cooke (1968-1995), Business  
MCC-Penn Valley  
Chair, Business  
B.S., Emporia State University  
M.S., Emporia State University

Desmond U. Daniels (1969-1998), Music, Physical Fitness  
MCC-Maple Woods  
B.A., Huston Tillotson College  
M.Mus.Ed., University of Kansas  
Ed.D., Nova University

Vernon L. Case (1967-1993), Data Processing  
MCC-Penn Valley  
B.A., William Jewell College  
M.B.A., University of Missouri-Kansas City

Paula K. Cooley (2001-2011), Learning Assistance Center  
MCC-Maple Woods  
B.A., University of Missouri-Kansas City  
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Orville L. Darby (1956-1982), Economics  
MCC-Longview  
B.A., Wichita State University  
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Theresa Chop (1993-2013), Occupational Therapy Assistant  
MCC-Penn Valley  
B.S., University of Kansas  
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Gene F. Cota (1985-2013), Biology  
Chair, Life Sciences  
MCC-Penn Valley  
A.A., Johnson County Community College  
B.A., Emporia State University  
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Donald H. Day (1974-1986), Electronics  
MCC-Maple Woods  
B.S.E.E., Finlay Engineering College

John Church (1993-2013), Mathematics  
MCC-Longview  
B.A., University of Chicago  
M.A., University of Texas-Austin

William Patrick Coyne (1970-2000), Automotive Technology  
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B.S., Pittsburg State University  
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B.S., Pittsburg State University  
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MCC-Longview  
B.S., Kansas State University  
M.S., Kansas State University

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MCC-Longview  
B.S., Pittsburg State University

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MCC-Penn Valley  
B.A., Southwestern College  
M.S., Kansas State University  
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Theodore M. Dinges (1981-2011), Business  
MCC-Longview  
B.B.A., Washburn University  
J.D., Washburn University

Marilyn Donatello (1982-2006), Dean of Student Services  
MCC-Maple Woods  
B.S., University of Tennessee–Chattanooga  
M.A., University of South Florida

Donald S. Doucette (1994-2008), Vice Chancellor,  
Education and Technology  
MCC-Administrative Center  
B.A., Cornell University  
M.A., Arizona State University  
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Lawrence Downs (1969-1986), Architecture  
MCC-Longview  
B.Arch., Washington University  
M.A., University of Missouri–Kansas City

Perry A. Doyle Jr. (1966-1998), Physics  
MCC-Maple Woods  
A.B., William Jewell College  
M.S., University of Missouri–Rolla

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Services and Risk Management  
MCC-Administrative Center  
B.A., Long Island University  
M.A., New York University

Charles E. Dube (1994-2009), Associate Dean  
MCC-Maple Woods  
B.S., New Mexico State University  
M.B.A., Kansas State University  
M.S.Ed., Kansas State University

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A.B., William Jewell College  
M.A., Central Missouri State University

James Early (1973-2003), Biology  
MCC-Penn Valley  
B.S., Southwest Missouri State University  
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Information Systems  
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B.S., Missouri Western State College  
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B.S., Lincoln University  
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MCC-Longview  
B.A., Hastings College  
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B.S., Fort Hays State University  
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R.N., General Hospital and Medical Center  
B.S.N., University of Kansas  
M.Ed., University of Missouri–Columbia  
M.S.N., Bishop Clarkson College of Nursing and  
Health Sciences

Price Ellis (1969-1995), History  
MCC-Penn Valley  
B.S., Central Missouri State University  
M.S., Central Missouri State University

John K. Enenbach (1969-1995), Criminal Justice  
MCC-Penn Valley  
B.A., Wichita State University  
J.D., University of Missouri–Kansas City

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MCC-Longview  
B.S., Rockhurst College  
M.B.A., University of Missouri–Kansas City  
Ed.D., Nova University

Diane M. Enkelmann (1990-2013), Business  
MCC-Penn Valley  
B.A., Benedictine College  
M.A., University of Missouri–Columbia  
M.B.A., University of Missouri–Columbia

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MCC-Longview  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City

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Information Systems  
MCC-Longview  
A.A., MCC-Longview  
B.S.B.A., Central Missouri State University

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Technical Education  
MCC-Business & Technology  
A.A.S., MCC-Maple Woods  
B.A., MidAmerica Nazarene  
M.Ed., MidAmerica Nazarene  
Ed.D., University of Missouri–Columbia

William Fairbanks (1987-2009), Automotive Chair,  
Technology and Business  
MCC-Longview  
B.S.Ed., Pittsburg State University

Eugene J. Fenster (1991-2018), Biology  
MCC-Longview  
B.A., State University of New York At Buffalo  
M.Ph., The Graduate School and University Center of  
CUNY  
Ph.D., The Graduate School and University Center of  
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Services  
MCC-Administrative Center  
B.S., Alma College

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Development  
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B.S., Park University  
M.S., University of Central Missouri

Connie Flick-Hruska (1985-2013), Counselor  
MCC-Longview  
B.S., Slippery Rock University  
M.Ed., University of Missouri–Columbia

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MCC-Longview  
A.B., University of The Philippines  
M.S., Kansas State University

Edwin Matthew Flynn (1961-1995), Speech and Theater  
MCC-Penn Valley  
A.B., University of Missouri–Columbia  
A.M., University of Missouri–Columbia

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MCC-Penn Valley  
A.A., Metropolitan Community College  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City

Randall Forchee (1995-2010), Engineering  
MCC-Longview  
B.S., University of Missouri–Rolla  
M.S., University of Missouri–Rolla

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and Assistant to the Chancellor  
MCC-Administrative Center  
B.A., Marymount Manhattan College  
M.A., Fordham University

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Occupational and Continuing Education  
MCC-Administrative Center  
B.S.E., University of Arkansas  
M.Ed., University of Arkansas

Cora E. Franklin (2001-2011), Nursing  
MCC-Penn Valley  
B.S., University of Missouri–Kansas City

Jennie Frederick (1993-2011), Art  
MCC-Maple Woods  
B.F.A., Kansas City Art Institute  
M.F.A., Indiana State University

Moirra R. Frey (1986-2013), Chemistry  
MCC-Longview  
B.S., University of Wyoming  
M.S., University of Washington

- Thomas R. Garrett (1966-1989), Counselor  
MCC-Longview  
A.S., Flat River Junior College  
B.S., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia
- John M. Gazda (1957-1993), English  
MCC-Penn Valley  
B.A., University of Kansas  
M.A., University of Kansas  
Ph.D., University of Kansas
- W. Andrew Geoghegan Jr. (1973-2003), Psychology  
MCC-Longview  
B.A., College of William and Mary  
M.A., University of Missouri–Kansas City
- Gary F. Gibson (1968-1992), Business  
MCC-Maple Woods  
B.S.B.A., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia
- Wayne E. Giles (1983-2005), Chancellor  
MCC-Administrative Center  
B.S., Southern Illinois University  
M.S., Southern Illinois University  
Ph.D., St. Louis University
- Timothy L. Gill (2009-2017), Welding  
MCC-Business & Technology  
Certified Welding Inspector (CWI)  
Certified Welding Educator (CWE)  
B.S., University of Missouri–Columbia  
M.S., University of Missouri–Columbia  
Ph.D., University of Missouri–Columbia
- Kenneth W. Gillespie (1971-1998), District Director,  
Physical Plant  
MCC-Administrative Center  
B.S., Central Missouri State University  
M.S., Central Missouri State University
- Louis E. Gillham (1965-1993), Counselor  
MCC-Maple Woods  
B.S., Southwest Missouri State University  
M.S., Central Missouri State University
- Carole R. Gilmore (1990-2008), Foreign Language  
MCC-Penn Valley  
B.A., University of Missouri–Columbia  
M.A., University of Missouri–Columbia
- Florence W. Goldman (1976-1986), Reading  
MCC-Longview  
B.S.Ed., Temple University  
M.Ed., University of Illinois  
Ph.D., University of Missouri–Kansas City
- Marvin Goldstein (1962-1999), Mathematics  
MCC-Longview  
B.S., University of Oklahoma  
M.A., University of Oklahoma
- Deborah Goodall (1995-2013), President  
MCC-Business & Technology  
B.S., University of Colorado  
M.S., Central Missouri State University
- Patricia Goodwin (2003-2010), Director, Able Program  
MCC-Penn Valley  
B.S., University of Minnesota  
M.A., University of Missouri–Kansas City
- Zola Gordy (1995-2013), Retention Coordinator  
MCC-Penn Valley  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- Charles M. Gosselin (1970-1998), Associate Dean of  
Instructional Technology  
MCC-Penn Valley  
B.S., Rockhurst College  
M.S., University of Missouri–Kansas City
- Diana J. Grahn (1990-2013), English  
MCC-Longview  
Chair, Humanities  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- Sharon L. Graves (1987-2011), Practical Nursing  
MCC-Penn Valley  
B.S.N., Central Missouri State University  
M.S.N., Bishop Clarkson College
- Ronald E. Greathouse (1969-2000), Vice Chancellor,  
Administrative Services  
MCC-Administrative Center  
B.S., Pittsburg State University  
M.S., Pittsburg State University
- Fred L. Grogan (1985-2013), President  
MCC-Longview  
B.A., Bates College  
M.A., Arizona State University  
Ph.D., University of Missouri–Columbia
- Radhey Gupta (1974-2003), Mathematics  
MCC-Longview  
B.Sc., Agra University  
M.Sc., Agra University  
M.S., Ohio State University  
Ph.D., Ohio State University
- Gary L. Hacker (2010-2015), Criminal Justice  
MCC-Blue River  
B.A., Mid-America Nazarene University
- Martha Haehl (1987-2008), Mathematics  
MCC-Penn Valley  
B.S., Wayland College  
M.A., University of Kansas
- Richard L. Hair (1973-2000), Sociology  
MCC-Longview  
B.S., Rockhurst College  
M.A., University of Notre Dame  
M.Ed., Xavier University
- Dorothy Hamilton (1973-1986), Nursing  
MCC-Penn Valley  
B.A., Point Loma Nazarene College  
M.A., Point Loma Nazarene College
- Cecil N. Hammonds (1959-1996), District Director,  
Management Systems  
MCC-Administrative Center  
B.S., University of Missouri–Kansas City  
M.S., University of Kansas  
Ph.D., Louisiana State University
- Sharon Hamsa (1992-2013), Mathematics  
MCC-Longview  
B.A., Benedictine College  
M.A., St. Louis University  
M.A., Notre Dame University
- Barbara M. Hankins (1971-1997), Art  
MCC-Longview  
B.F.A., University of Kansas  
M.F.A., University of Kansas  
Ed.D., Nova University
- Jess Harding (2001-2016), Heating/ Ventilation and Air  
Conditioning  
MCC-Business & Technology  
A.A.S., Penn Valley
- Paul Harding, (1989-2005), Heating/Air Conditioning  
MCC-Business & Technology  
A.A.S., MCC-Business and Technology
- Lillian Harrington (1972-1988), Speech and English  
MCC-Penn Valley  
A.B., Benedictine College  
M.A., Catholic University of America
- Dawn Hatterman (1990-2016), Associate Dean  
MCC-Maple Woods  
B.S., Nebraska Wesleyan University  
M.S., University of Missouri–Kansas City
- Kenneth G. Hartman (1993-2005), Political Science  
MCC-Longview  
B.A., Wake Forest University  
M.A., University of Texas At Austin
- John Hawkins (1990-2017), Physics  
MCC-Penn Valley  
B.S., University of Missouri–Columbia  
M.S., University of Missouri–Columbia
- Elbert C. Heath (1972-1999), Physics  
MCC-Penn Valley  
A.A., Graceland College  
B.S., Central Missouri State University  
M.S., University of Missouri–Rolla
- Charles F. Henry (1984-1994), District Director, High  
Technology Training Resource Center  
MCC-Administrative Center  
B.S., Northeast Missouri State University  
M.A., Central Missouri State University
- Joan Henson (1996-2008), Mathematics  
MCC-Penn Valley  
B.A., Molloy Catholic College For Women  
M.S., Adelphi University
- John F. Herbst (1966-1988), Dean of Instructional  
Support Services  
MCC-Penn Valley  
A.B., Benedictine College  
M.L.S., Case Western Reserve University
- David E. Herron (1965-1992), Mathematics  
MCC-Longview  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- Donald J. Herzog (1971-2000), English  
MCC-Longview  
B.S., Wisconsin State University At Lacrosse  
M.A., Kansas State University  
Ed.D., University of Kansas
- Karen Herzog (1971-1999), Dean of Instruction  
MCC-Penn Valley  
B.S.L., Ozark Christian College  
M.A., Kansas State University  
Ph.D., University of Kansas

- Juanan Hill (1992-2008), Applied Language  
MCC-Penn Valley  
M.A., University of Kansas
- Julia Hill (1975-1992), Recruitment Coordinator  
MCC-Penn Valley  
B.S., Lincoln University  
M.S., University of Southern California  
Ed.D., Nova University
- Thomas J. Hillenbrand (1988-2002), English  
MCC-Longview  
A.B., Loyola University of Chicago  
M.A., Loyola University of Chicago
- E. Jay Hilty Jr. (1963-1992), Philosophy  
MCC-Maple Woods  
B.Mus., University of Colorado  
M.A., University of Colorado  
M.Phil., University of Kansas  
Ph.D., University of Kansas
- Joyce S. Hilty (1986-1993), Data Processing  
MCC-Maple Woods  
A.A.S., MCC-Maple Woods  
M.A., University of Colorado  
M.Mus., University of Colorado
- William Hodgkinson, (1989-2011), English  
MCC-Penn Valley  
B.S., Central Michigan University  
M.A., Central Michigan University
- Sharon E. Hogan (1990-2010), Sociology  
MCC-Blue River  
B.S., Central Missouri State University  
B.S.E., Central Missouri State University  
M.A., Central Missouri State University  
Ph. D., University of Missouri–Kansas City
- Jimmie Holiman (1996-2008), Criminal Justice  
MCC-Blue River, Police Academy  
A.A., MCC-Longview  
B.A., Park University  
M.S., Central Missouri State University
- Robert J. Holman (1982-2004), Business  
MCC-Blue River  
Chair, Business, Technology and Public  
Safety  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- Sarah A. Hopkins (1972-1998), Director of MCC-PACE,  
Program For Adult College Education  
MCC-Longview  
B.S. In Ed., Central Missouri State University  
M.A., Central Missouri State University  
Ph.D., University of Kansas
- Dennis Hronek (1973-2000), Associate Dean of  
Occupational /Continuing Education  
MCC-Blue River  
A.S., Hutchinson Junior College  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City
- Carla Huffman (2003-2015), Chemistry  
MCC-Maple Woods  
A.S., Kettering College  
B.S., College of Mt. St. Joseph  
M.A., Miami University of Ohio
- Ruth M. Hulse (1966-1983), Nursing  
MCC-Penn Valley  
A.A., Moberly Junior College  
R.N., Kansas City General Hospital and Medical  
Center  
B.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City
- Patricia P. Illing (1989-2010), Reading  
MCC-Longview  
B.S.Ed, University of Missouri-Columbia  
M.S., University of Kansas
- Priscilla Jackson-Evans (1989-2013), History  
MCC-Longview  
B.A., University of Missouri–Columbia  
M.A., University of Missouri–Columbia
- Mary Ellen Jenison (1989-2006), Director, Able Program  
MCC-Longview  
A.A., MCC-Longview  
B.A., Avila College  
M.A., University of Missouri–Kansas City
- Robert W. Jensen (1982-2004), District Director,  
Financial Services  
MCC-Administrative Center  
B.S., University of Kansas  
M.S., University of Missouri–Kansas City
- Ashley L. Johnson (1975-1989), Assistant to the  
President  
MCC-Maple Woods  
B.A., Valparaiso University  
M.S., Indiana University
- Douglas E. Johnson (2004-2013), Industrial Technology  
MCC-Business & Technology  
B.S., Park College
- Elbert B. Johnson (1982-1993), Economics  
MCC-Longview  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Iowa
- Gary H. Johnson (1993-2011), Computer Science/  
Information Systems  
MCC-Longview  
A.S., Metropolitan Junior College–Kansas City  
B.S./B.A., Avila College  
M.B.A., Avila College
- Jane B. Jones (1966-1984), Biology  
MCC-Penn Valley  
A.A., Junior College of Kansas City  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- John A. Kaczynski (1966-2001), Dean of Instruction  
MCC-Longview  
A.S., Flint Community College  
A.B., University of Michigan–Flint  
M.S., University of Arizona  
Ph.D., University of Missouri-Kansas City
- James E. Karasiewicz (1979-2005), English  
MCC-Maple Woods  
Chair, Communications Division  
B.A., State University College of New York, Buffalo  
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Ph.D., Kansas State University
- Michael K. Keele (1973-2003), District Director, Marketing  
Services  
MCC-Administrative Center  
B.S., Central Missouri State University  
M.A., Webster University
- Leon H. Keens (1964-1995), English, History  
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B.A., University of Kansas  
M.A., University of Kansas  
M.A., University of Missouri–Kansas City
- Kennard D. Kelly (1969-1989), Criminal Justice  
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B.A., Kansas Wesleyan University  
J.D., University of Nebraska
- Margaret S. Kelly (1969-1996), Computer Science/  
Information Systems  
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M.B.A., University of Missouri–Kansas City
- Patricia A. Kemner (1970-1990), Biology  
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- Richard Kimberly (1990-2003), Business  
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B.S., University of Wisconsin–Madison  
M.B.A., University of Wisconsin–Oshkosh  
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Ph.D., Texas A & M University
- Harry A. King (1973-1980), Social Science  
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A.A., Junior College of Kansas City  
B.A., University of Missouri–Kansas City  
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- Sherry Kinney (2002-2011), Nursing  
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B.S.N., Webster University
- Kathryne Kiser (1992-2010), Speech Communication  
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B.A., University of Kansas  
M.A., University of Kansas
- Karen Kistner (1970-1997), District Director, Occupational  
Systems  
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M.S., Emporia State University  
Ed.D., Nova University
- Harold B. Koch (1966-2000), Psychology  
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B.A., University of Missouri–Kansas City  
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- Carl H. Koenig (1980-2002), Computer Science/Information Systems  
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M.S.Ed., University of Kansas  
Ph.D., University of Kansas
- Karen S. Komoroski (1989-2013), Nursing  
MCC-Penn Valley  
B.S.N., Graceland College  
M.N., University of Kansas  
Ed.S., University of Missouri-Kansas City  
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M.A., University of Missouri-Columbia
- Herbert F. Kramer (1956-1991), Mathematics  
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M.S., University of Missouri-Columbia
- Joann Krekel (1973-1994), Media Specialist  
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B.A., Baker University  
M.S., Central Missouri State University
- Virginia Kruse (1959-1979), Foreign Language  
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A.B., University of Kansas  
A.M., University of Kansas
- Joyce S. Kuhn (1989-2013), Speech and Theater  
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B.A., Northern Colorado University  
M.A., Northern Colorado University
- Marilyn S. Lander (1973-1993), Nursing  
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R.N., Tuskegee Institute  
B.S.N., Avila College  
M.A., University of Missouri-Kansas City
- Sandra L. Landuyt (1990-2008), Biology  
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B.S., University of Missouri-Kansas City  
M.S., University of Missouri-Kansas City  
M.A., Loyola University-New Orleans  
Ph.D., University of Missouri-Columbia
- Mary A. Lee (1990-2004), English  
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B.A., Clarke College, Iowa  
M.A., Bradley University, Illinois
- Russel G. Lee (1954-1983), Mathematics  
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B.S., University of Missouri-Columbia  
M.S., University of Missouri-Columbia
- John E. Leheney (1970-1991), Counseling  
MCC-Maple Woods  
B.S., Central Missouri State University  
M.Ed., University of Missouri-Columbia
- Aldo W. Leker (1971-1997), President  
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B.S., Southwest Missouri State University  
M.B.A., University of Missouri-Kansas City
- Cheryl Smith Lewkowsky (1973-2004), Mathematics  
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A.B., William Jewell College  
M.S., Kansas State University
- Mark Lidman (1987-2009), English  
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B.A., University of Virginia  
M.A., Purdue University  
Ph.D., University of Missouri-Columbia
- D. Kim Lindaberry (2000-2011), Art  
MCC-Longview  
B.F.A., Kansas City Art Institute  
M.F.A., Georgia State University
- Elizabeth Lindquist (2001-2011), Dean of Instruction  
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B.A., University of Kansas  
M.Phil., University of Kansas  
Ph.D., University of Kansas
- Orlyn O. Lockard (1966-1989), Drafting and Design,  
Engineering Technology  
MCC-Longview  
B.S.Ed., Central Missouri State University  
M.A., George Peabody College For Teachers  
Ed.S., Central Missouri State University
- Paul D. Long (1993-2016), Vice Chancellor, Academic  
Affairs and Technology  
MCC-Administrative Center  
B.A., University of Missouri - Kansas City  
M.A., University of Kentucky  
Ph.D. University of Missouri - St. Louis
- A. K. Longfellow (1955-1977), Dean of Students  
MCC-Penn Valley  
B.S., Central Missouri State University  
M.S., University of Kansas
- Wanda F. Lord (1962-1985), Office Systems  
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B.S., University of Missouri-Columbia  
M.A., University of Missouri-Kansas City
- Patricia A. Lorenz (1971-2000), Biology  
MCC-Penn Valley  
Chair, Life Sciences  
A.A.S., MCC-Penn Valley  
B.S., St. Louis University  
Ph.D., University of Kansas
- L. Doone Loughery (1972-1991), Office Systems and  
Careers  
MCC-Maple Woods  
B.S.Ed., Northeast Missouri State University  
M.A.Bus.Ed., Northeast Missouri State University
- J. Dennis Lowden (2000-2013), Philosophy  
MCC-Blue River  
B.A., Excelsior College/University of The State of New  
York  
M.A., University of Kansas
- Forrest G. Lowe (1959-1993), Physics  
MCC-Longview  
B.S., Northwest Missouri State University  
M.S., Texas Christian University  
Ed.D., Nova University
- Robert Lowe (1971-1999), District Director, Computer  
Services  
MCC-Administrative Center  
B.S., Pittsburg State University
- Terri Lowry (1992-2013), English  
MCC-Longview  
B.A., University of Missouri-Kansas City  
M.F.A., University of Montana-Missoula
- Jerry Macke (1998-2012), Computer Science  
MCC-Penn Valley  
B.A., St. Thomas College
- Opzerine D. Madison (1981-2003), Nursing  
MCC-Penn Valley  
A.A., MCC-Penn Valley  
R.N., General Hospital and Medical Center  
B.S.N., Avila College  
M.A., Central Michigan University
- Anne Mahoney (1990-2013), Speech & Drama  
MCC-Blue River  
B.A., University of Arkansas  
M.A., University of Kansas
- Carole J. Maltby (1975-2005), Veterinary Technology  
MCC-Maple Woods  
B.S., University of Missouri-Kansas City  
D.V.M., University of Missouri-Columbia
- William J. Mann (1977-1993), Chancellor  
MCC-Administrative Center  
B.S., Northern Illinois University  
M.S., Northern Illinois University  
Ed.D., Northern Illinois University
- Carder H. Manning Jr. (1969-1995), Music  
MCC-Penn Valley  
A.A., Junior College of Kansas City  
B.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City
- Daniel L. Mark. (1990-2008), Biology  
MCC-Maple Woods  
B.A., Drake University  
M.A., Drake University  
Ph.D., University of Illinois
- Kimball V. Marsh (2006-2016), Mathematics  
MCC-Business & Technology  
B.A., Cameron University  
M.A., Kansas University
- José Martinez (1989-2000), Aviation Maintenance  
Technology  
MCC-Maple Woods  
B.S., Central Missouri State University
- Stephanie J. Masquelier (1976-2004), Business  
MCC-Longview  
B.S., Virginia Commonwealth University  
M.Ed., Virginia Commonwealth University
- Pamela G. Matthiesen (1986-2009), Computer Science/  
Information Systems  
MCC-Maple Woods  
B.S., Central Missouri State University
- Mindy McCallum (1989-2017), Dean of Instruction  
MCC-Longview  
B.A., University of Missouri-Kansas City  
M.S., University of Kansas  
Ed.D., University of Kansas

- Louise S. McCants (1983-1988), District Director of Instructional Services  
MCC-Administrative Center  
B.S., Oklahoma State University  
M.S., Oklahoma State University  
Ph.D., Ohio State University
- Debra Lewis McCarty (1989-2012), Reading  
MCC-Maple Woods  
B.S., Northwest Missouri State University  
M.A., University of Missouri-Kansas City
- Johnnie W. McClinton (1971-2001), Dean of Campus Student Services  
MCC-Blue River  
B.A., Baylor University  
M.S.Ed., Baylor University  
Ph.D., University of Missouri-Columbia
- Thomas L. McClure (1969-1999), Psychology  
MCC-Maple Woods  
B.S., Purdue University  
M.A., Ball State University
- Michele McGeeney (1994-2008), Reading  
MCC-Maple Woods  
B.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City
- Flin C. McGhee (1966-2000), Chemistry  
MCC-Penn Valley  
Chair, Physical Science  
B.S., University of Houston  
M.S., Texas A & M University  
Ph.D., University of Kansas
- Sandra McInlay (1995-2017), Director, Health Sciences  
MCC-Penn Valley  
B.S., University of Kansas  
M.S.Ed., University of Kansas
- Fern Meek (1969-1992), Librarian  
MCC-Longview  
B.S., University of Kansas  
M.L.S., Emporia State University
- Barbara Mehnert (1971-1997), Counselor  
MCC-Longview  
B.A., Vassar College  
M.Ed., University of Pittsburgh  
Ed.D., University of Kansas
- Darrel Meyer (1998-2012), Director, Facility Services  
MCC-Administrative Center  
B.S., Kansas State University  
M.P.M., Keller Graduate School
- Linda Spotts Michael (1981-2005), Business  
MCC-Maple Woods  
A.A.S., Junior College of Kansas City  
B.S., Central Missouri State University  
M.B.A., Central Missouri State University
- Connie Migliazzo, (1997-2007) Librarian  
MCC-Blue River  
B.S., University of Missouri-Columbia  
M.L.S., University of Missouri-Columbia
- David C. Miller (1991-2017), History  
MCC-Longview  
B.A., University of California At Riverside  
M.A., University of Kansas  
M.Phil., University of Kansas  
Ph.D., University of Kansas
- Donald Miller (1994-2013), Chemistry  
MCC-Blue River  
B.A., Taylor University  
M.S., Purdue University
- Dorothy Miller (1994-2013), Director, Purchasing  
MCC-Administrative Center  
B.S., Southeast Missouri State University  
M.S., Arkansas State University
- Lauren F. Miller (1972-1997), Philosophy  
MCC-Longview  
Chair, Social Science  
B.A., Antioch College  
M.A., University of Pittsburgh
- Marjorie A. Miller (1971-2004), Office Systems  
MCC-Longview  
B. S., Pittsburg State University  
M.S., Central Michigan University
- Michael E. Miller (1964-1997), English  
MCC-Longview  
Chair, Humanities  
A.A., Junior College of Kansas City  
B.A., University of Kansas  
M.A., University of Kansas  
Ph.D., University of Kansas
- Elizabeth N. Minis (1989-2013), Dean of Student Services  
MCC-Penn Valley  
B.S., Emporia State University  
M.S., Emporia State University  
Ed.D., University of Missouri-Columbia
- Brian Mitchell (1985-2010), Biology  
MCC-Longview  
B.S., Illinois State University  
M.S., Illinois State University  
Ph.D., University of Missouri-Columbia
- George E. Montag (1976-1985), English  
MCC-Longview  
A.B., University of Cincinnati  
M.Ed., Xavier University  
M.A., Xavier University
- Gerald N. Moore (1971-1997), Electronics  
MCC-Maple Woods  
Diploma, Devry Institute of Technology  
A.A., Metropolitan Community College  
B.A., University of Missouri-Kansas City  
M.A., University of Missouri-Kansas City  
Ph.D., University of Missouri-Kansas City
- Robert L. Morris (1969-2006), Art  
MCC-Penn Valley  
B.F.A.E., Kansas City Art Institute  
M.F.A., University of Kansas
- Thomas F. Morris (1965-1996), English  
MCC-Longview  
B.A., University of Kansas  
M.S., University of Kansas
- Elna B. Morrow (1981-1994), Counselor  
MCC-Longview  
B.A., Alabama State University  
M.S., University of Nebraska-Omaha
- Verle D. Muhrer (1971-2004), Philosophy  
MCC-Penn Valley  
B.A., University of Missouri-Columbia  
M.A., University of Missouri-Columbia
- Patricia L. Munn (1981-2013), Biology  
MCC-Longview  
Chair, Natural Sciences  
B.S., University of Missouri-Columbia  
M.S., University of Missouri-Columbia
- Mark A. Murtha (1995-2016), Computer Science  
Information Systems  
MCC-Maple Woods  
A.A.S., MCC- Business & Technology  
A.A., MCC- Maple Woods  
A.A.S., MCC- Maple Woods  
B.A., University of Missouri- Kansas City  
M.A., University of Missouri- Kansas City
- Linda D. Nelson (1996-2017), Associate Dean of Student Services  
MCC-Longview  
B.A., Southwest Missouri State University  
M.A. University of Missouri-Kansas City
- Stewart E. Nelson (1963-1999), History  
MCC-Maple Woods  
A.B., Park College  
M.A., University of Kansas
- Mary Northrup (2001-2017), Librarian  
MCC-Maple Woods  
B.A., St. Norbert College  
M.L.S., University of Wisconsin-Milwaukee
- John R. O'Connell (1990-2013), Physical Education  
MCC-Longview  
B.A., Fort Lewis College, Colorado  
M.A., Adams State College, Colorado
- Hilda Ogilvie (1994-2003), Nursing  
MCC-Penn Valley  
B.S.N., University of Kansas  
M.S.N., University of Missouri-Kansas City
- Jerome L. Ommen (1971-1993), Counselor  
MCC-Longview  
B.S., Concordia Teachers College  
M.S., Central Missouri State University  
Ph.D., University of Missouri-Kansas City
- Carroll O'Neal (1967-2011), Acting Associate Dean of Student Services  
MCC-Penn Valley  
B.A., University of Missouri-Kansas City  
M.P.A., Park College
- Pat Kipp O'Neil (1987-2000), Counselor  
MCC-Blue River  
B.S., Molloy College  
M.A., Hofstra University  
M.A., University of Missouri-Kansas City
- Rebecca M. Owens (1974-2002), Fashion and Human Sciences  
Chair Business and Human Sciences  
MCC-Penn Valley  
B.S., Northwest Missouri State University  
M.Ed., University of Missouri-Columbia

- Clifford Naysmith (1964-2001), Sociology  
MCC-Maple Woods  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- Frances A. Padow (1995-2018), Director, Educational Services  
MCC-Administrative Center  
B.S., Saint Mary College  
M.A., University of Saint Mary
- Michael L. Palmer (1982-2006), Business  
MCC-Maple Woods  
B.S., Kansas State University  
M.B.A., Rockhurst College
- Carolyn A. Parks (1994-2008), Surgical Technology  
MCC-Penn Valley  
A.D.N., Illinois Central College  
B.A.N., University of Illinois–Springfield
- Thomas S. Pennington (1990-2005), Computer Science  
Information Systems  
MCC-Longview  
Chair, Business  
B.S., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia
- Lee Roy Pitts (1972-1997), Biology  
MCC-Penn Valley  
B.S., Pittsburg State University  
M.S., Pittsburg State University
- Mary Jo Podrebarac (1982-1995), Chemistry  
MCC-Penn Valley  
B.A., Avila College  
M.A., University of Kansas
- James L. Pratt (1970-2000), Computer Science  
Information Systems  
MCC-Longview  
Chair, Business  
A.G.E., Flint Junior College  
B.S., University of Michigan  
B.S.E.E., University of Missouri–Columbia  
M.P.H., University of Michigan
- Judith A. Pratt (1982-2006), Counselor  
MCC-Longview  
B.S., Southeast Missouri State University  
M.A., Southeast Missouri State University
- Norman C. Preston (1972-1983), Mechanical Technology  
MCC-Penn Valley  
B.S., Northwest Missouri State University  
M.S., University of Arkansas
- A. Rae Price (1966-1992), English  
MCC-Penn Valley  
B.S., Northwestern University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Carroll S. Price (1969-1992), Criminal Justice  
MCC-Penn Valley  
B.S., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia  
Ed.D., University of California–Los Angeles
- Virginia Ragan, Geology/Geography (1995-2006) MCC-  
Maple Woods  
A.A., MCC-Maple Woods  
B.S., University of Missouri–Kansas City  
M.S., University of Missouri–Kansas City  
Ph. D., University of Missouri–Kansas City
- Vicki D. Raine (1990-2017), Reading  
MCC-Penn Valley  
Chair, Humanities  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- Donald L. Raymond (1969-1983), Geology  
MCC-Maple Woods  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City
- J. Michael Raynor (1987-2006), English  
MCC-Longview  
A.A., Junior College of Kansas City  
B.A., University of Nebraska–Omaha  
Ph.D., University of Florence, Italy
- Harold Reese (1939-1974), English  
MCC-Longview  
B.A., Dakota Wesleyan University  
M.A., Northwestern University
- Larry A. Reichard (1990-2017), Biology  
MCC-Maple Woods  
Chair, Science & Technology  
A.S., Delta College  
B.S., Central Michigan University  
M.S., Michigan State University  
Ed.D., West Virginia University
- Stephen L. Reinbold (1991-2017), Biology  
MCC-Longview  
B.S., Eastern Illinois University  
M.S., Eastern Illinois University  
Ph.D., Illinois State University
- Betty Reynolds (1995-2015), Practical Nursing  
MCC-Penn Valley  
Diploma, Mathers School of Nursing/Southern Baptist-  
Hospital  
B.S.N., University of Mobile  
M.S.N., University of South Alabama
- Karen Sue Richards (1987-2009), Computer Science  
Information Systems  
MCC-Maple Woods  
B.S., Calvary Bible College, Kansas City, Missouri  
B.S., St. Mary College, Leavenworth, Kansas  
M.S., Central Missouri State University
- Burton W. Richardson (1985-1993), Electronics  
MCC-Longview  
B.S., North Carolina State University
- Robert D. Richey (1983-1993), Dean of Instructional Services  
MCC-Maple Woods  
B.S.Ed., Illinois State University  
M.A., University of Illinois
- Robert D. Richmond (1965-1995), English  
MCC-Penn Valley  
B.S., Central Missouri State University  
M.S., University of Missouri–Kansas City
- Gwendolyn K. Robertson (1984-2012), Physical Therapist  
Assistant  
MCC-Penn Valley  
B.S., University of Kansas  
M.A., University of Missouri–Kansas City
- Colvert L. Roll (2007-2013), Criminal Justice  
MCC-Blue River  
B.S., Southwest Missouri State University  
M.Admin of Justice., Wichita State University
- Jan A. Rosenblum (1990-2013), Counselor, Educational Opportunity Center  
MCC-Penn Valley  
B.A., College of Emporia, Kansas  
M.S., Emporia State University
- Juanita L. Ross (1975-2005), Office Systems  
MCC-Maple Woods  
B.S., Bishop College  
M.S., Central Missouri State University
- Ronald G. Rowland (1965-1997), Chemistry  
MCC-Maple Woods  
B.S., Kansas State University  
M.S., Kansas State University
- Nancy Russell (2012-2017), Executive Director of Workforce Development  
MCC-Business and Technology  
B.S., Michigan State University  
M.Ed., Texas A&M University
- David E. Sachen (1969-1997), German, Mathematics  
MCC-Maple Woods  
B.S., Rockhurst College  
M.A., University of Kansas
- Merna S. Saliman (1998-2013), President  
MCC-Maple Woods  
A.A., Arapahoe Community College  
B.A., Loretto Heights College  
M.A., University of Northern Colorado  
Ed.D., University of Northern Colorado
- James H. Sampson (1963-1983), Director of Personnel  
MCC-Administrative Center  
A.B., William Jewell College  
A.M., University of Wyoming
- Albert W. Sandring (1990-1995), Drafting  
MCC-Longview  
B.S.M.E., Kansas State University  
M.B.A., University of Missouri–Columbia
- Margaret P. Sandring (1985-1995), Office Systems  
MCC-Longview  
B.S., Central Methodist College  
M.S., Central Missouri State University
- Barbara Schaefer (1994-2011), Counselor  
MCC-Blue River  
B.S., Southeast Missouri State University  
M.A., Southeast Missouri State University
- Eugene Schieber (1990-2003), Dean of Technical Education  
MCC-Maple Woods/MCC-Business & Technology  
B.S., Northwest Missouri State  
M.A., Northwest Missouri State  
Ed.Spec., University of Missouri–Kansas City
- Elliott Schimmel (1998-2013), History  
MCC-Longview  
Chair, Social Sciences  
B.A., Fairleigh Dickinson University  
M.A., Syracuse University  
Ph.D., Florida State University

- Beverly J. Schwaab (1980-1989), Librarian  
MCC-Longview  
A.A., Junior College of Kansas City  
B.A., Baker University  
M.S., Central Missouri State University
- Jennifer Scott (1995-2013), Health Information Technology  
MCC-Penn Valley  
B.S., University of Kansas
- Jean Bartz Scurlock (1957-1986), Chemistry  
MCC-Longview  
A.B., University of Kansas  
A.M., Smith College
- Corrine E. Shaw (1994-2003), Practical Nursing  
MCC-Penn Valley  
A.D.N., Kansas City Kansas Community College  
B.S.N., MidAmerica Nazarene College
- M. Catherine Sheely (1990-2007), English  
MCC-Penn Valley  
B.A., Aquinas College, Michigan  
M.L.A., Baker University
- Leah Shelton (2000-2010), Access Counselor  
MCC-Blue River  
B.A., William Jewell  
M.A., University of Missouri–Kansas City
- Larry E. Sherwood (1971-1996), Mathematics  
MCC-Penn Valley  
B.S., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Charles E. Shields (1967-1995), District Director, Purchasing & Auxiliary Services  
MCC-Administrative Center  
A.A., North Central Missouri College  
B.S., University of Missouri–Columbia
- James A. Shimel (1980-2006), Manufacturing Technology  
MCC-Business & Technology  
B.S., Finlay Engineering College
- Rosemary Shocklee-Fusaro (1996-2010), Nursing  
MCC-Penn Valley  
B.S.N., Avila College  
M.Ed., University of Missouri–Kansas City  
M.S.N., University of Missouri–Kansas City
- Thomas H. Sicking (1968-1994), English, Journalism  
MCC-Penn Valley  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ed.D., Nova University
- Dorothy L. Simmons (1981-1991), Nursing  
MCC-Penn Valley  
R.N., General Hospital and Medical Center  
B.S.N., Avila College
- Mary A. Simpson (1975-2013), Reading  
MCC-Blue River  
B.A., Claflin College  
M.A., Florida A & M University
- Sue M. Sinton (1973-1992), Nursing  
MCC-Penn Valley  
R.N., St. Joseph Hospital School of Nursing  
B.A., University of Missouri–Kansas City  
M.A., University of Chicago
- Bob Skrukrud, (1989-2015) Mathematics  
MCC-Maple Woods  
B.S., Winona State University  
M.S., Truman State University
- Robert A. Slater (1969-1998), English  
MCC-Maple Woods  
B.S., Northeast Missouri State University  
M.F.A., University of Iowa
- Jane A. Smeltzer (1995-2011), Director, Financial Services  
MCC-Administrative Center  
B.S., University of Missouri–Columbia  
M.B.A., University of Missouri–Kansas City
- David Smith (2001-2013), English  
MCC-Blue River  
B.A., Old Dominion University  
M.A., Old Dominion University  
Ph.D., University of North Carolina–Chapel Hill
- James Smith (1998-2017), Art  
MCC-Longview  
Chair, Business, Arts & Automotive  
B.F.A., Kansas City Art Institute  
M.A., University of Iowa  
M.F.A., University of Iowa
- Robert J. Smith (1993-2010), Counselor, Educational Opportunity Center  
MCC-Penn Valley  
M.A., University of Missouri–Kansas City
- Shirley Fieth Smith (1969-1991), Office Systems  
MCC-Longview  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- Jacqueline I. Snyder (1995-2010), Chancellor  
MCC-Administrative Center  
A.A., Kansas City Kansas Community College  
B.S. Ed., Kansas State University–Emporia  
M.S., University of Kansas  
Ed. D., University of Kansas
- Theda Y. Sorenson (1987-1994), Counseling  
MCC-Longview  
A.A., Hutchinson Community College  
B.A., Sterling College  
M.A., Fort Hays State University
- Helen Y. Speed (1974-2007), Child Growth and Development  
MCC-Penn Valley  
B.S., University of Arkansas At Pine Bluff  
M.A., University of Missouri–Kansas City
- Evelyn R. Staatz (1969-1996), Librarian  
MCC-Longview  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Columbia
- Phyllip P. Standlea (1971-1996), District Director, Instructional Services & Professional Development  
MCC-Administrative Center  
B.S., Northwest Missouri State University  
M.S., Emporia State University  
Ph.D., University of Missouri–Columbia
- Sally Steinback (1964-1986), Political Science  
MCC-Penn Valley  
B.A., Beloit College  
M.P.A., Syracuse University  
J.D., University of Missouri–Kansas City
- Bill Still (1974-1998), Machine Tool Technology  
MCC- Maple Woods/MCC-Business & Technology  
B.S., Central Missouri State University
- Pamela B. Stockman (1991-2015), Physical Therapist Assistant  
MCC-Penn Valley  
B.S., St. Louis University  
M.S., University of Kansas
- Mary M. Sturdivant (1992-2005), Access Resource Educator  
MCC-Longview
- J. Michael Sturgeon (1991-2009), Computer Science Information Systems  
MCC-Penn Valley  
B.S., Missouri Western State College
- Mary Svoboda-Chollet (1997-2013), Child Growth and Development  
MCC-Penn Valley  
B.S., University of Nebraska-Lincoln  
M.S., University of Kansas
- Suzana Swager (1985-1997), Basic Skills  
MCC-Blue River  
B.A., Southwest Baptist College  
M.S., Central Missouri State University
- Judith E. Taylor (1990-2010), Radiologic Technology  
MCC-Penn Valley  
B.H.S., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia
- Nancy M. Taylor (1983-1993), Business and Office Reentry  
MCC-Longview  
A.A., MCC-Longview  
B.S., Avila College  
M.Ed., Central Missouri State University
- Ronald L. Taylor (1989-2013), Reading  
MCC-Longview  
B.A., Simpson College  
M.A., University of Missouri–Kansas City  
Ed.S., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- Penny Tebesch (1997-2013), Manufacturing Technology  
MCC-Business & Technology  
Chair, Technology  
A.A., MCC-Longview  
B.S., Central Missouri State University  
M.S., Central Missouri State University



- G. Dale Thomas (1987-2001), Dean of Instruction  
MCC-Blue River  
B.S.Ed., Central Missouri State University  
M.S., Emporia State University  
D.A., Idaho State University
- Claude W. Thomson (1971-1995), Management  
MCC-Longview  
B.S., Central Missouri State University  
M.S., Central Missouri State University
- Nancy Thomson (1990-2004), Education  
MCC-Penn Valley  
Chair, Child Growth and Development  
Education  
B.A., Barat College, Illinois  
M.A., College of Holy Names, California  
Ph.D., University of Kansas
- Paul Thomson Jr. (1971-1999), President  
MCC-Blue River  
B.S., Missouri Valley College  
M.S., Southern Illinois University  
Ph.D., Southern Illinois University
- George E. Thornton (1970-1997), Automotive Technology  
MCC-Longview  
A.A.S., MCC-Longview  
B.S.E., Central Missouri State University  
M.S., Central Missouri State University
- Alana Timora (1982-2005), Counselor  
MCC-Maple Woods  
B.S., University of Southern Colorado  
M.A., University of Missouri-Kansas City
- James Tjaden (1988-2008), Travel and Tourism  
MCC-Maple Woods  
Chair, Math, Science and Computing  
B.A., Macalester College  
M.A., University of Iowa  
Ed.S., University of Missouri-Kansas City  
Ph.D., University of Missouri-Kansas City
- Helen M. Turner (1969-1993), Art  
MCC-Maple Woods  
B.A., University of Arkansas  
M.Sec.Ed., University of Arkansas
- Allan H. Tunis, Vice Chancellor (1999-2009),  
Administrative Services  
MCC-Administrative Center  
B.S., Wayne State University  
M.S., Wayne State University  
Ed.S., University of Missouri-Kansas City
- Leta H. Tyhurst (1993-2012), Learning Center  
MCC-Longview  
B.S., University of Missouri-Columbia  
M.S., University of Missouri-Columbia
- Charles Van Middlesworth (1993-2007), Research,  
Evaluation, and Assessment  
MCC-Administrative Center  
B.A., Northwestern State College  
M.A., Eastern New Mexico  
Ed.D., University of Kansas
- Dora Walsh (1994-1999), Practical Nursing  
MCC-Penn Valley  
R.N., Hammersmith, England  
S.C.M., Midwifery, London, England  
B.S.N., Graceland College
- W. Douglas Washer (1989-2010), Philosophy  
MCC-Longview  
B.A., Southwest Missouri State University  
M.A., University of Missouri-Columbia
- Helen G. Weaver (1960-1984), Psychology  
MCC-Penn Valley  
B.A., University of Missouri-Columbia  
M.S., University of Pennsylvania
- James K. Weaver (1984-2006), Business  
MCC-Longview  
A.B., Drury College  
M.B.A., Drury College
- Janet L. Weaver (1987-2013), Outreach Counselor  
MCC-Maple Woods  
B.A., University of Missouri-Kansas City  
M.Ed., University of Missouri-Columbia
- Reinhard Weglarz (1985-2013), Director, Budget &  
Planning  
MCC-Administrative Center  
B.S., Benedictine College  
M.B.A., University of Missouri-Kansas City
- Dorether Welch (1995-2013), Sociology  
MCC-Penn Valley  
B.S., Avila College  
M.S., Central Missouri State University  
M.A., Webster University  
M.S., University of Kansas  
Ph.D., University of Missouri-Kansas City
- Karen E. West (1995-2005), Associate Dean  
MCC-Penn Valley  
A.A., El Camino College  
B.A., California State University  
M.A., Pacific School of Religion  
Ed.D., University of Missouri-Columbia
- Charles H. Wheat (1970-1997), Aviation Maintenance  
Technology  
MCC-Maple Woods  
A.A.S., Oklahoma State University  
B.S., Oklahoma State University  
M.S., Pittsburg State University
- Beverly D. Whitaker (1983-1994), Learning Center/  
Reading  
MCC-Maple Woods  
B.R.E., Northern Baptist Theological Seminary  
B.S., Sioux Falls College  
M.A., University of Missouri-Kansas City
- Levora B. Whitmore (1971-1995), Nursing  
MCC-Penn Valley  
Chair, Nursing  
B.S.N., University of Kansas  
M.A., University of Missouri-Kansas City
- James P. Whitworth (1965-1991), Counseling  
MCC-Maple Woods  
B.S., Missouri Valley College  
M.S., Central Missouri State University
- Arthur N. Wilkins (1956-1990), District Director Academic  
Affairs & Research  
MCC-Administrative Center  
A.A., Junior College of Kansas City  
A.M., University of Chicago  
Ph.D., Washington University
- Jeanné C. Willerth (1985-2004), Computer Science  
Information Systems  
MCC-Longview  
B.A., Wayne State College  
M.S., University of Missouri-Columbia  
M.S.D., University of Kansas
- F. Ula Williams (1993-2005), Sign Language Interpreting  
MCC-Maple Woods  
B.S., Emporia State University  
M.S., University of Kansas
- Susan Wilson (1982-2013), Director, Student  
Development  
MCC-Administrative Center  
B.S., Emporia State University  
Ed.D., University of Missouri-Columbia
- Patricia A. Winberg (1993-2013), Nursing  
MCC-Penn Valley  
R.N., Research Medical Center  
B.S.N., Avila College  
M.S.N., University of Kansas Medical School of  
Nursing
- Dorothy M. Wright (1955-1995), Office Systems  
MCC-Penn Valley  
A.A., MCC-Penn Valley  
B.S., Central Missouri State University  
M.A., University of Iowa  
Ed.D., Nova University
- Janet K. Wyatt (1987-2013), Mathematics  
MCC-Longview  
Chair, Math and Engineering  
B.S., University of Arkansas  
M.A., University of Arkansas
- Christine A. Yannitelli (1972-2004), Counselor  
MCC-Maple Woods  
B.A., Michigan State University  
M.Ed., University of Missouri-Columbia  
M.A., University of Missouri-Kansas City
- Virginia D. Yates (1968-1984), Reading  
MCC-Penn Valley  
B.S., Pittsburg State University  
M.A., University of Missouri-Kansas City
- Ruth Yunker (1997-2009), Nursing  
MCC-Penn Valley  
B.S.N., University of Kansas  
M.Ed., University of Missouri-Kansas City  
M.S.N., University of Missouri-Kansas City
- Jane M. Zeitner (1998-2010), District Director,  
Educational Programs  
MCC-Administrative Center  
B.S., Brigham Young University  
M.S., Avila College
- Denise Zortman (1993-2007), Librarian  
MCC-Penn Valley  
B.A., Adams State College  
M.A., University of Denver

## 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 degree prepares students for various career and technical programs.

**ASSOCIATE IN ARTS.** MCC's Associate in Arts degree generally provides the first two years of college work a student might complete at a four-year college or university. The program includes 42 hours of general education courses, as well as enough electives to reach the required 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 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 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.

**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 associate's 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 120      3               | B     | 9                  |
| MATH 120      3               | D     | 3                  |
| <b>TOTAL</b> 14               |       | <b>38</b>          |
| <b>38 divided by 14 = 2.7</b> |       |                    |

**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.

**INSTITUTE FOR WORKFORCE INNOVATION.** The MCC Institute for Workforce Innovation serves businesses and community organizations by offering consulting services, contract training, and short-term training for career certifications and job readiness.

**INTERCOLLEGIATE ACTIVITIES.** Individual MCC students or teams of students compete against other colleges. For instance, Longview participates in baseball, volleyball, and cross country; Maple Woods in baseball and softball; and Penn Valley in basketball.

**INTERDISCIPLINARY COURSE.** This is a course that covers material from two or more subjects or fields of study.

**INTERNATIONAL RESIDENT.** A foreign national who is in the United States on an approved student visa status.

**INTRAMURAL ACTIVITIES.** These are organized activities, such as sports, in which students attending the same college compete against one another.

**INTERNSHIP.** A student participates in on-the-job training on-site at a cooperating firm or organization. This experience is arranged and overseen by a college instructor.

**KC REACHE.** MCC belongs to KC REACHE, an alliance of Kansas City area colleges and universities. KC REACHE 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](http://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](http://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](http://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.

**TRANSFER LIBRARY.** The Missouri Coordinating Board for Higher Education has approved a new statewide "transfer course library" that will assist students with the transfer of selected courses for credit at public colleges and universities in the state. The library will make the transfer process easier for more students.

**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.

