Information
Admission • Financial • Academic • Student Services • General

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ADMINISTRATIVE CENTER
Telephone (816) 759-1000
Fax (816) 759-1158
3200 Broadway
Kansas City, Missouri 64111-2429

BLUE RIVER COMMUNITY COLLEGE
BLUE SPRINGS CAMPUS
Telephone (816) 655-6000
Fax (816) 655-6014
1501 West Jefferson Street
Blue Springs, Missouri 64015-7242

INDEPENDENCE CAMPUS
Telephone (816) 220-6500
Fax (816) 220-6511
20301 East 78 Highway
Independence, Missouri 64057

TRUMAN CAMPUS
Telephone (816) 325-6350
Fax (816) 325-6363
600 West Mechanic
Independence, Missouri 64050

LONGVIEW COMMUNITY COLLEGE
Telephone (816) 672-2000
Fax (816) 672-2025
500 SW Longview Road
Lee’s Summit, Missouri 64081-2105

MAPLE WOODS COMMUNITY COLLEGE
Telephone (816) 437-3000
Fax (816) 437-3049
2601 NE Barry Road
Kansas City, Missouri 64156-1299

PENN VALLEY COMMUNITY COLLEGE
MAIN CAMPUS
Telephone (816) 759-4000
Fax (816) 759-4161
3201 Southwest Trafficway
Kansas City, Missouri 64111-2764

PIONEER CAMPUS
Telephone (816) 482-5000
Fax (816) 482-5041
2700 East Eighteenth Street
Kansas City, Missouri 64127-2602

BUSINESS & TECHNOLOGY CENTER
Telephone (816) 482-5210
Fax (816) 482-5256
6899 Executive Drive
Kansas City, Missouri 64120-2429

An on-line copy of the MCC 2001-2002 Catalog can be found at www.kcmetro.cc.mo.us/

Serving the Four Missouri Counties of Metropolitan Kansas City
An Equal Opportunity/Affirmative Action Employer
Success. It is a word not taken lightly at the Metropolitan Community Colleges. Blue River, Longview, Maple Woods and Penn Valley colleges and our Business & Technology Center are dedicated to helping you succeed. Our concern goes beyond your college career. Success in your community, your neighborhood and your family are equally important. We strive to make your development while in college as complete and well-rounded as possible.

This is an exciting time to be a student at the Metropolitan Community Colleges. The impact of technology on work and learning, the accessibility and growing interdependence of the world’s cultures and economies, and the rapid pace of change create unparalleled opportunities for learning. Blue River, Longview, Maple Woods and Penn Valley are committed to providing you access to the programs and opportunities that will empower you to become the very best you are capable of being.

The MCC district works hard to stay on the cutting edge of new educational initiatives while maintaining a learner-centered environment in traditional, liberal arts disciplines. Our focus is to maintain a high standard of educational excellence, to value the diversity of our students, programs, and services; to expand technology for instruction; to maintain a supportive and caring environment; and to develop ever stronger relationships with our community partners. Our dedication to quality education and student support is without question. The instructors and support staff care about your welfare and future.

We will continue to develop innovative programs and curricula that address the needs of the communities we serve. We look forward to working with the students of the Kansas City area, as together we create and share a future in which we can all be proud and productive participants.

Wayne E. Giles, Chancellor
THE BOARD OF TRUSTEES

David R. Buie, President
Chuck James, Vice President
J. Robert Ashcroft

THE OFFICERS OF THE DISTRICT

Chuck James, Vice President
Jeffrey A. Grubb
Robert H. Martin

Wayne E. Giles, Chancellor
Allan Tunis, Vice Chancellor of Administrative Services
Donald S. Doucette, Vice Chancellor of Education and Technology

Malcolm Wilson, President, Blue River Community College
Fred Grogan, President, Longview Community College
Merna Saliman, President, Maple Woods Community College
Jacqueline I. Snyder, President, Penn Valley Community College
## ACADEMIC CALENDAR

### SPRING SEMESTER

<table>
<thead>
<tr>
<th>Event</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Enrollment</td>
<td>January 8 and 9</td>
<td>January 7 and 8</td>
</tr>
<tr>
<td>Martin Luther King Jr. Holiday (No Classes)</td>
<td>Monday, January 15</td>
<td>Monday, January 21</td>
</tr>
<tr>
<td>Campus Inservice Day (No Classes, Day or Evening)</td>
<td>Tuesday, January 16</td>
<td>Tuesday, January 22</td>
</tr>
<tr>
<td>First Day of Classes, Day and Evening</td>
<td>Wednesday, January 17</td>
<td>Monday, January 14</td>
</tr>
<tr>
<td>First Day of Saturday Classes</td>
<td>January 20</td>
<td>January 19</td>
</tr>
<tr>
<td>Spring Break</td>
<td>March 12-17</td>
<td>March 11-16</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday, March 19</td>
<td>Monday, March 18</td>
</tr>
<tr>
<td>Midterm</td>
<td>Wednesday, March 21</td>
<td>Friday, March 8</td>
</tr>
<tr>
<td>First Day of Classes, Day and Evening</td>
<td>Tuesday, May 8</td>
<td>Tuesday, May 7</td>
</tr>
<tr>
<td>Last Day for Withdrawal Without Assessment</td>
<td>Tuesday, April 17</td>
<td>Friday, April 12</td>
</tr>
<tr>
<td>Last Saturday Class</td>
<td>May 5</td>
<td>May 4</td>
</tr>
<tr>
<td>Last Day of Classes, Day and Evening</td>
<td>Thursday, May 17</td>
<td>Thursday, May 16</td>
</tr>
<tr>
<td>Reading Day</td>
<td>Monday, June 4</td>
<td>Wednesday, July 4</td>
</tr>
<tr>
<td>Evening Finals</td>
<td>May 9, 10, 11, 14, 15</td>
<td>May 8, 9, 10, 13, 14</td>
</tr>
<tr>
<td>Day Finals</td>
<td>May 10, 11, 14, 15, 16</td>
<td>May 9, 10, 13, 14, 15</td>
</tr>
<tr>
<td>Saturday Finals</td>
<td>May 12</td>
<td>May 11</td>
</tr>
<tr>
<td>Commencement</td>
<td>July 28</td>
<td></td>
</tr>
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</table>

### SUMMER SESSION

<table>
<thead>
<tr>
<th>Event</th>
<th>2001</th>
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<tbody>
<tr>
<td>First Day of Classes, Day and Evening</td>
<td>Monday, June 4</td>
</tr>
<tr>
<td>Independence Day Observed</td>
<td>Wednesday, July 4</td>
</tr>
<tr>
<td>Last Day for Withdrawal Without Assessment</td>
<td>Thursday, July 12</td>
</tr>
<tr>
<td>Last Day of Classes, Day and Evening</td>
<td>Wednesday, July 25</td>
</tr>
<tr>
<td>Finals, Day and Evening</td>
<td>Thursday, July 26</td>
</tr>
<tr>
<td>Saturday Finals</td>
<td>July 28</td>
</tr>
</tbody>
</table>

### FALL SEMESTER

<table>
<thead>
<tr>
<th>Event</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Enrollment Fall</td>
<td>August 13 and 14</td>
</tr>
<tr>
<td>New Faculty Orientation</td>
<td>August 16 and 17</td>
</tr>
<tr>
<td>Campus Inservice Day</td>
<td>Monday, August 20</td>
</tr>
<tr>
<td>First Day of Classes, Day and Evening</td>
<td>Tuesday, August 21</td>
</tr>
<tr>
<td>First Day of Saturday Classes</td>
<td>August 25</td>
</tr>
<tr>
<td>Labor Day Holiday</td>
<td>Monday, September 3</td>
</tr>
<tr>
<td>Midterm</td>
<td>Friday, October 12</td>
</tr>
<tr>
<td>District Inservice Day (No day classes)</td>
<td>Wednesday, October 31</td>
</tr>
<tr>
<td>Last Day for Withdrawal Without Assessment</td>
<td>Monday, November 12</td>
</tr>
<tr>
<td>Thanksgiving Holiday Begins at 4 p.m. (No Evening Classes)</td>
<td>Wednesday, November 21</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday, November 26</td>
</tr>
<tr>
<td>Last Saturday Class</td>
<td>December 8</td>
</tr>
<tr>
<td>Last Day of Classes, Day and Evening</td>
<td>Monday, December 10</td>
</tr>
<tr>
<td>Reading Day</td>
<td>Tuesday, December 11</td>
</tr>
<tr>
<td>Evening Finals</td>
<td>December 11, 12, 13, 14, 17</td>
</tr>
<tr>
<td>Day Finals</td>
<td>December 12, 13, 14, 17, 18</td>
</tr>
<tr>
<td>Saturday Finals</td>
<td>December 15</td>
</tr>
<tr>
<td>Holiday Break/Offices Closed</td>
<td>December 24-January 1</td>
</tr>
</tbody>
</table>
ALL ROADS LEAD TO MCC

No matter where people live in the greater Kansas City metropolitan area, they’re just minutes away from one of the four Metropolitan Community Colleges: Blue River, with its two campuses in Blue Springs and Independence, Longview to the south, Maple Woods in the Northland, and Penn Valley, which serves the area south of the river and inside the I-435 loop.

Location, Location, Location

Longview’s campus overlooks Longview Lake in Lee’s Summit and sits on 147 acres of land donated to MCC by the daughters of R.A. Long, a pioneer lumberman. Seven buildings contain 266,480 square feet of instructional space. Students and residents also can take advantage of recreational activities in the Longview Sports Complex.

The 205-acre Maple Woods campus along Highway 152 in the Northland gets its name from an adjacent area of sugar maple trees, the largest west of the Appalachian Mountains. A Human Services Center, including a child care and fitness facility, was added to the campus in 1996 to serve the residents of Clay, Platte and Ray Counties.

Located next to Penn Valley Park at 3201 Southwest Trafficway is the main campus of Penn Valley Community College. The $20 million enclosed campus occupies 435,136 square feet. A satellite campus, Pioneer, at 18th and Prospect, provides additional classroom facilities.

In Fall 1995, the Business & Technology Center opened near I-435 and Front Street to meet the educational and training needs of Kansas City-area businesses.

The MCC Board of Trustees established the district’s newest community college — Blue River — in August 1997. It includes the Blue Springs Campus at 1501 W. Jefferson, the Independence Campus at 20301 E. 78 Highway and the Truman Campus, which is adjacent to the Truman Library.

NOTE

This catalog contains information that will familiarize you with the Metropolitan Community Colleges. Contents of this catalog are current as of the March 2001 publication. Material in the catalog relates to the operations and activities of the Metropolitan Community Colleges and is for informational purposes only. It does not represent enforceable contractual obligations of the Metropolitan Community Colleges. The colleges reserve the right to modify their programs, course offerings, printed schedules, rules, regulations and operations at any time. Information about these changes is available from members of the counseling and advising staffs of any of the Metropolitan Community Colleges. Check out MCC’s web site at www.kcmetro.cc.mo.us/.
ELIGIBILITY

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

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

PROGRAM ADMISSION

Students who meet the above requirements are admitted to the college. However, some MCC programs carry special requirements as well. These are listed on the chart on page 8.

COLLEGE ADMISSION

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

1. Complete the Application for Admission and return it to the admissions/records office.
2. Request that the appropriate transcripts be sent to the admissions office.
   a. First-time college students should ask the high school they last attended to send a transcript to the college.
   b. Students who have taken the GED test given by the Missouri State Department of Elementary and Secondary Education should have their scores sent to the college.
   c. Students who are transferring from another college or university should submit a transcript from each school attended.
   d. Home-school students must provide documentation as required by Missouri State Statute 167.031.2 (2)(a), R.S. MO.
   e. Students who are enrolled at a college or university other than MCC may take MCC courses as a visiting student.

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

ADMISSION OF HIGH SCHOOL STUDENTS

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

MCC’s dual credit program offers college credit for courses as part of daily scheduled classes at area high schools. The cost is $24 per credit hour. High school students must talk to their high school counselor regarding eligibility requirements before enrolling.

NOTE: The Metropolitan Community Colleges do not give high school credit.

ADMISSION TO JCCC PROGRAMS

The Metropolitan Community College District and Johnson County Community College (JCCC) have developed affiliate agreements that allow Missouri students to enroll in certain programs at resident tuition and fee rates. MCC students who want to study under these agreements must first talk with a JCCC advisor/counselor before being admitted to these programs.
### PROGRAM ELIGIBILITY

In addition to the requirements for admission to the college, students must meet specific conditions before they may enroll in certain occupational 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 pages listed below, and further information is available from academic advisors or counselors.

<table>
<thead>
<tr>
<th>Program</th>
<th>College</th>
<th>Is Special Application Required?</th>
<th>Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Assisting</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High school diploma, 2.5 GPA, or GED certificate; ENGL 101 with a minimum grade of C.</td>
</tr>
<tr>
<td>Emergency Medical Technician</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High School Diploma or GED certificate. The student must be at least 18 years old when</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>the EMTP 150 course is completed.</td>
</tr>
<tr>
<td>Ford Automotive Student Service Educational</td>
<td>Longview</td>
<td>Yes.</td>
<td>Early application, approval by a Ford or Lincoln-Mercury dealer, high school diploma or</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>GED certificate, and satisfactory performance on screening examination, reading compre-</td>
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<td>hension, basic mathematics and Bennet mechanical comprehension.</td>
</tr>
<tr>
<td>General Motors Automotive Service Educational</td>
<td>Longview</td>
<td>Yes.</td>
<td>Early application, approval by a General Motors dealer, high school diploma or GED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>certificate, and satisfactory performance on screening examination, reading comprehen-</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>sion, basic mathematics and Bennet mechanical comprehension.</td>
</tr>
<tr>
<td>Health Information Technology</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>Minimum 2.5 grade point average in high school and previous college courses or GED</td>
</tr>
<tr>
<td>Medical Transcription</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>Minimum GPA 2.5, typing minimum 45 words per minute, completion of ENGL 101 and</td>
</tr>
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<td></td>
<td>OFSC 195 or equivalent.</td>
</tr>
<tr>
<td>Police Academy Campus</td>
<td>Truman</td>
<td>Yes.</td>
<td>High school diploma, GED. Must be at least 18 years of age. No felony or misdemeanor</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>convictions. Good driving record. Apply in person at the Police Academy, Truman Campus,</td>
</tr>
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<td></td>
<td>Rm. 109.</td>
</tr>
<tr>
<td>Practical Nursing</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High school diploma or GED certificate. Satisfactory placement test scores. Satisfactory</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>HOBET test scores in general mental ability, spelling, natural sciences, judgment and</td>
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<td>vocational adjustment. The student must be at least 18 years old when the program is</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>completed.</td>
</tr>
<tr>
<td>Professional Nursing</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High school diploma or GED certificate. Satisfactory NET (Nurse Entrance Test) scores</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>in reading comprehension and basic math, completion of prerequisite courses with mini-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>nimum grade of C and 2.5 or better cumulative GPA, and passing required medical exami-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>nation. The student must be at least 19 years old when the program is completed.</td>
</tr>
<tr>
<td>Occupational Therapy Assistant</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>Completion of prerequisite courses with a minimum grade of C to include anatomy/physio-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>logy if taken prior to acceptance into the program. Satisfactory performance on the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>placement test in reading achievement, English, and/or TOEFL and math.</td>
</tr>
<tr>
<td>Paramedic</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>EMTP 150 with a minimum grade of C or a Missouri EMT license.</td>
</tr>
<tr>
<td>Physical Therapist Assistant</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High school diploma or GED certificate, completion of prerequisite courses with mini-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>nimum grade of C and satisfactory performance on examination in verbal skills and/or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TOEFL examination.</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>Completion of prerequisite courses with minimum grade of C and a minimum overall GPA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>of 2.5.</td>
</tr>
<tr>
<td>Respiratory Care JCCC</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>Completion of prerequisite courses with minimum grade of C and a minimum overall 2.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GPA.</td>
</tr>
<tr>
<td>Surgical Technology</td>
<td>Penn Valley</td>
<td>Yes.</td>
<td>High school diploma or GED certificate. Satisfactory placement test scores. Satisfactory</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HOBET test scores in general mental ability, spelling, natural sciences, judgment and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>vocational adjustment. Must be at least 17 years old when the program is completed.</td>
</tr>
<tr>
<td>Toyota Technical Education Training</td>
<td>Longview</td>
<td>Yes.</td>
<td>Early application, approval by a Toyota dealer, high school diploma or GED certificate, and satisfactory performance on screening examination, reading comprehension, basic mathematics and Bennet mechanical comprehension.</td>
</tr>
<tr>
<td>Veterinary Technology</td>
<td>Maple Woods</td>
<td>Yes.</td>
<td>Application by March 15 for fall enrollment. Completion of BIOL 106.</td>
</tr>
</tbody>
</table>
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 nonrefundable 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. A bank statement on bank statement must accompany this application. Your statement must show that you or your sponsor has maintained a balance of $11,000 (in U.S. dollars) for at least four (4) months.

• Academic Records. Former high school and college or university academic records translated in English should be submitted.

• 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.

• English Placement Test. It is the policy of the Metropolitan Community Colleges that all non-native speakers of English be required to take the Applied Language Institute’s English Placement Test. This test is only offered at Penn Valley Community College. Students will be placed at the appropriate level of instruction in the Applied Language Institute based on the results of the English Placement Test. TOEFL is not required for admission.

• Applied Language Institute. The Applied Language Institute offers comprehensive English as a Second Language instructional programs for academic, personal or professional reasons. Grammar, composition, reading/vocabulary and speaking/listening classes are available at the beginning, intermediate and advanced levels. Day and evening sections are offered. Students wishing to attend ESL classes must take the placement test given by the institute. For more information about enrollment requirements, program curriculum and class scheduling, call (816) 759-4041.

Application Deadlines Students from Overseas
Fall Semester (August-December) July 1
Spring Semester (January-May) December 1
Summer Semester (June-July) May 1

Transfer Students (from another U.S. school—must have written authorization from that school)
Fall Semester (August-December) August 15
Spring Semester (January-May) December 15
Summer Semester (June-July) May 1

PLACEMENT TESTING

To help students succeed, most MCC students must take placement tests in reading, writing and mathematics. Visiting students who have enrollment approval from their home schools are exempt from this requirement. Otherwise, placement tests are required for the following groups of students:

1. All first-time students taking 6 hours or more.
2. Returning or transfer students taking 6 or more credit hours who have not successfully completed a college-level reading, English and math course with a grade of C or better.
3. Students whose native language is not English are strongly encouraged to take the CELSA test, which is given only at Penn Valley.
4. ACT scores may be substituted for placement test scores.
5. All first-time students taking any math or English course.

Based on their test scores, all students will be placed in the appropriate reading, English and mathematics classes. Students with low scores are required to take classes designed to boost their reading, writing or math skills.

Students who need special accommodations in taking the tests must contact the Access Office before scheduling their tests.

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

RESIDENT CLASSIFICATION

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

Definitions

Domicile. A student establishes residency within a state with the intent of making it a permanent home for an indefinite period.

Residency or Resident Status. A student obtains this status after proving a residency has been established within a state.

Adult Student. This is a student who is 21 or older.

Unemancipated Minor Student. This is a student less than 21 years old who is still under the care, custody or support of parents or legal guardians.

Emancipated Minor Student. This is a student less than 21 years old who is not under the care, custody or support of parents or legal guardians.

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

District Resident. This is a person who lives within the MCC District.

Nondistrict Missouri Resident. This is a person who lives in Missouri but not within the MCC District.

Nonresident. This is a person who lives in the United States but not in the state of Missouri.

International Student. This is a foreign national who is in the United States on an approved visa.

Resident Status

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

If a nonresident adult student provides sufficient proof of the establishment of a domicile within the state of Missouri, then that student will be considered a nondistrict Missouri resident.

Unemancipated Minor Student. MCC assumes that an unemancipated minor student lives with his or her parents or legal guardians. If the parents or legal guardians establish a domicile within the district, the student will be considered a district resident at the next enrollment.

Once an unemancipated minor student has established resident status under this rule, the student may continue to qualify for resident status as long as he or she is continuously enrolled at MCC (excluding summer terms). The student will retain this status even if his or her parents or legal guardians move outside of the district.

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

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

If a person on active military duty is stationed within the district before receiving military orders, that person, his or her spouse and unemancipated minor children will be considered district residents.

If a person on active military duty is stationed within Missouri but outside the district before receiving military orders, that person, his or her spouse and unemancipated minor children will be considered nondistrict Missouri residents.

If a member of the military is assigned under orders to attend a Missouri college or university as a full-time student, that person, his or her spouse and unemancipated minor children will be classified like nonmilitary personnel.

**DETERMINING RESIDENT STATUS**

Students are responsible for proving their resident status.

**Evidence of Eligibility**

Attending an institution of higher education will be regarded only as temporary presence in the district or state of Missouri. Therefore, students do not gain or lose resident status by attending the Metropolitan Community Colleges.

**Definitive Evidence**

The following offers sufficient proof of domicile.

1. Presence within the district or the state of Missouri for a period of 12 months and sufficient proof of intent to make the district or state of Missouri a permanent home for an indefinite period.

2. Presence within the district or the state of Missouri for the purpose of retirement, full-time employment, professional practice or conducting business full-time.

**Supporting Evidence**

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

1. Continuous presence in the district or state of Missouri during those periods when a person is not enrolled as a student.

2. Marriage to a district or Missouri resident and living with that resident spouse.

3. Substantial reliance on sources from within the district or state of Missouri, particularly financial support.

4. Maintaining a former domicile within the district or state of Missouri, but being absent from that domicile.

5. Ownership of a home within the district or state of Missouri.

**Other Evidence**

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

**CERTIFYING RESIDENCY**

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

**Certificate of Residency**

If there’s a question concerning residency, the student will be required to complete a Certificate of Residency form during enrollment.

**Penalty for Giving False Residency Information**

A student who intentionally gives false or inaccurate information on a Certificate of Residency or who fails to inform the college of a change of address that alters his or her residence classification will face the following penalties:

1. The student may be expelled from the college.

2. The student’s academic records will not be certified to any agency until he or she has made up the difference between the tuition and fees already paid and the amount actually owed by someone of his or her resident classification.
FINANCIAL INFORMATION

TUITION AND FEES
The schedule for tuition and fees is approved annually by the Metropolitan Community College’s board of trustees. For information on current tuition and fee charges, please call the cashier’s office at any of the locations listed below.

- Blue River (816) 655-6020
- Longview (816) 672-2020
- Maple Woods (816) 437-3019
- Penn Valley (816) 759-4020

Textbooks
Full-time students should expect to pay about $250 per semester for textbooks. All required books and lab manuals may be purchased at MCC’s bookstores.

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.

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

Loss or Damage to District Property
A student may be asked to reimburse the district for the loss of or damage to district property. For example, students must pay for unreturned library books. If payment is not made after a student receives written notice, the student’s registration may be canceled. No transcripts of his or her academic work will be issued until this debt has been paid.

Returned Checks
Checks returned by the bank are deposited a second time. If a check is returned again, the student’s account is placed on restriction and charged the amount of the check plus a fee of 10% of the amount of the check with a minimum charge of $10 and a maximum charge of $25. Students on restriction can’t enroll or receive grades or transcripts. They also lose check-writing privileges at all MCC campuses for one year.

Instalment Payment Plan
Students enrolled in at least six credit hours can pay their tuition and fees in installments. (Financial aid students are not eligible for this plan.) There is a $25 nonrefundable service fee for using this plan. No interest is charged. For more information or an application, stop by a campus cashier’s office. To contact Academic Management Services (AMS) directly, call or e-mail them at 1-800-635-0120 or http://www.amsweb.com.

REFUND SCHEDULE

Student withdrawal prior to the first
day of classes ...................... 100% refund
Student withdrawal during the first 12.5% of the academic period ...... 50% refund
Student withdrawal during the second 12.5% of the academic period ...................... 25% refund
Student withdrawal after 25% of the academic period ...... No refund

If students withdraw from one class and later decide to enroll in another, they will be charged full tuition and fees for the added class even though they didn’t receive a 100% refund for the dropped class. However, in most cases students may add and drop classes at the same time with no additional charge as long as the credit hours remain the same.

Since refunds for students receiving financial aid may be different, they should refer to the financial aid information booklet.

FINANCIAL AID
One goal of the Metropolitan Community Colleges 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.

Students may pick up a financial aid booklet at any of the college’s financial aid offices. This booklet contains information about student aid programs, including eligibility requirements, how to apply and what expectations and responsibilities recipients must meet. For more information contact one of the following financial aid offices:

- Blue River, (816) 655-6066
- Longview, (816) 672-2066
- Maple Woods, (816) 437-3066
- Penn Valley, (816) 759-4066
ACADEMIC INFORMATION

ACADEMIC EVALUATION

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

A Superior performance.
B Highly satisfactory performance.
C Average performance.
D Below average, but passing performance.
F Unsatisfactory performance or failure.
W Withdrawal from class. This grade is given to a student who has either withdrawn from class during the second or third quarter of the term or who has been doing satisfactory work and withdrawn during the last quarter of the term.
S Average or better (C or above) performance for assigned work when a student chooses the satisfactory-unsatisfactory option (This option is discussed in the following section.)
U Below average (D or F) performance for assigned work when a student chooses the satisfactory-unsatisfactory option. No credit or grade points are assigned. (The satisfactory-unsatisfactory option is discussed in the following section.)
P Passing or better performance for assigned work completed in a continuing education or noncredit class.
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 there’s 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 decide at the time of registration to attend a class but receive no credit for it.

Grade Reports

Final grade reports are normally mailed to each student’s address of record at the end of the semester. Grades also are available through Metro Touch, the district’s voice response system.

Audit

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

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 admissions office before the end of the first quarter of the term.

Scholarship Points

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

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

Grade Point Average (GPA)

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

Repeating Classes

Students may repeat a class as often as they wish to try to improve their grades. Although all the grades earned in a particular course will be included on their MCC academic record, only the last grade will be used to determine GPA. Other colleges and universities may have different policies.

Final Exams

Final exams are given in all MCC classes, and students must take them. Toward the end of each semester, the administration at each MCC campus puts together a final exam schedule for all faculty members and students. A student who has done satisfactory course work but who misses the final exam may be allowed to make it up if the instructor believes the reason for missing the exam was reasonable. However, if a student misses the exam and has no reasonable explanation for missing it, the instructor may give the student an F.

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

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

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.
Students must maintain a certain grade point average and level of progress toward a degree or certificate in order to continue enrollment and receive financial aid. More specifically, they must meet these two criteria:

1. They must achieve a minimum cumulative grade-point average (GPA).

<table>
<thead>
<tr>
<th>Number of Semester Hours Attempted</th>
<th>Minimum Grade Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1.00</td>
</tr>
<tr>
<td>30</td>
<td>1.50</td>
</tr>
<tr>
<td>45</td>
<td>1.75</td>
</tr>
<tr>
<td>60</td>
<td>2.00</td>
</tr>
</tbody>
</table>

2. After attempting 12 credit hours, the student must maintain a ratio of at least 33 percent credit hours earned to credit hours attempted.

Failure to meet these MCC requirements may result in academic disqualification. Students who have difficulty achieving satisfactory progress are encouraged to work with a counselor, take one of MCC’s basic skill courses or receive one-on-one assistance from the reading/learning center located at each college.

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 for five years after the student leaves MCC. After that, only the cumulative record is kept.

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

Academic forgiveness is available to those students whose prior record may not reasonably reflect the student’s current maturity with respect to motivation, attitude, and abilities, i.e., consisting primarily of D and F grades. The courses must have been taken at least seven years ago. Academic forgiveness will apply to all the credits attempted or completed during the requested period of enrollment. These courses will not be calculated in the MCC GPA, but they will still be transcripted. See the dean of instruction’s office on each campus for more information.

The records office will provide transcripts of a student’s academic record after receiving a written request. Official copies of the transcript, which bear the MCC seal, will be sent directly to other colleges and universities. However, transcripts issued to a student will not have the college seal. MCC charges a fee for providing transcripts.

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

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.

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

In compliance with Public Law 93-380, the Family Educational Rights and Privacy Act of 1974, the Metropolitan Community College District affords all students the right to inspect official records directly relating to them and to challenge any statement which a student considers inaccurate, misleading, or inappropriate. Furthermore, the college will require the written consent of the student before releasing any information except directory information from the record.

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 number, date and place of birth, major field of study, college activities or sports the student participates in, the height and weight of student engaging in athletics, the dates the student has attended the college, degrees and honors the student receives, and the name of the school the student attended immediately before enrolling at the college. However, at the request of the student, the college will withhold directory information as well. At registration each semester, a student has the opportunity to complete a form requesting that all such information be restricted.

Students who wish to examine their official records may do so by applying to the registrar. Students who wish to challenge the accuracy or appropriateness of any information in the personal records should request a meeting with the appropriate administrator.

The text of the federal law as well as relevant MCC policies and regulations are available in the admissions office.
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.

DROPPING A COURSE

Students may drop classes at any time throughout the semester; however, they must officially withdraw from courses by submitting a drop form to the records office. If a student officially withdraws from a class during the first three-fourths of the term, he or she will receive a W. Those who withdraw during the final quarter of the term will receive a W if they’re passing the course or an F if they’re failing.

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

WITHDRAWAL FROM COLLEGE

Students who want to withdraw from all classes before the end of the semester should complete a drop/add form, which is available in the college’s advising, counseling, or development center. When students can’t personally obtain the form, it will be mailed to them.

The completed form should be returned to the admissions/records office as soon as possible because the date the form is processed becomes the official date of withdrawal on a student’s permanent record. That date may determine the student’s semester grades. For example, if a student withdraws from a class during the last quarter of the semester and he or she is doing unsatisfactory work, then the recorded grade will be an F.

Students who receive federal or state financial aid may be asked to repay money if they have withdrawn from all of their courses.

If You Stop Attending Class

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

STUDENT LOAD

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

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

STUDENT CONDUCT

The Metropolitan Community Colleges expect 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. Among these prohibited activities are civil disobedience, immoral conduct, libel, forgery, gambling, theft, vandalism, and the use and sale of alcoholic beverages and narcotics. 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 the Metropolitan Community Colleges. They should follow the college traffic code and the directions of all college representatives acting in an official capacity.

STUDENT DISCIPLINARY PROCEDURE

A student who is charged with misconduct, which requires disciplinary action, may request a hearing by the student conduct 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 department 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 things outside the classroom should see the dean of student services.
STUDENT SERVICES

ACADEMIC ADVISING

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

EMPLOYMENT RESOURCES

The colleges have career resource centers that help students prepare resumes and sharpen their job-seeking skills. Employment resources coordinators also provide students with extensive information about careers and job opportunities, including computerized career-guidance systems. To do this, each center keeps a current list of job openings and participates in Project HIRE (Helping Industry Recruit Employees). Project HIRE is an internet-based job development and employment service that includes job opportunities throughout the seven-county Kansas City metropolitan area. The Project HIRE web site is at jobs.kcmetro.cc.mo.us.

COUNSELING AND GUIDANCE

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

Before enrolling at MCC, students should talk with a counselor who will help them select a program of study that best fits their interests, abilities and career goals. Then, throughout their stay at MCC, the college encourages them to regularly meet with their counselors or advisors to further discuss their educational progress and future plans. Tests that help students assess their abilities and interests for career planning purposes are available through the counseling or development center.

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

SUPPORT SERVICES

Child Care Centers

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

- Longview, (816) 672-2140
- Maple Woods, (816) 468-8780
- Penn Valley, (816) 759-4140

Every full-time staff person at the child care centers is trained in early childhood education. Penn Valley offers its own program in Child Growth and Development. Call (816) 759-4440 to learn more about the program.

Parking

Students can obtain free parking stickers at the following campus locations:

- Blue River, information desk
- Longview, security office
- Maple Woods, security office and information desk
- Penn Valley, security office

Textbooks and College Bookstores

Full-time students should expect to pay about $250 for books each semester. MCC owns and operates each campus bookstore according to guidelines set by the administration and approved by the chancellor and board of trustees. Book prices are set by the publishers, and MCC, like all colleges, uses a standard markup over the cost of each book. For textbooks, MCC bookstores mark up prices 25%. Trade books, whose prices typically appear on their covers, are marked up by 35 to 40%.

At the end of each semester or term, the MCC bookstores buy back used textbooks from students for about 50% of the new book prices. These used textbooks will be made available at reduced prices to students who need them for the following term.
College Libraries

Each of the Metropolitan Community Colleges has an extensive collection of library books for class work, research, and pleasure reading. In addition to books, the libraries feature Internet access, microfilm and audio.

Students attending one campus can use materials from any of the other MCC libraries. Borrowing procedures are similar on all campuses.

MCC libraries (Blue River, Maple Woods, Longview and Penn Valley) belong to the Missouri Bibliographic Information User System (MOBIUS), a consortium of 50 academic Missouri libraries. In addition to the 169,147 items owned by the MCC libraries, library users will have access to over 14 million items owned by other libraries in the MOBIUS system.

The MOBIUS consortium has a rapid statewide delivery system for interlibrary loan materials. MCC libraries belong to the WILLO (Western Inter Library Organization) cluster. Other members of the cluster are Avila and William Jewell.

More information is available at the library website, which is located at http://www.kcmetro.cc.mo.us/LIB/.

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. Blue River, Longview and Maple Woods have convenient open lab times for currently enrolled students. Penn Valley’s academic computer lab is open to all students seven days a week. Check with each campus for more information about hours of operation and available services.

E-mail Access

All MCC students taking classes for credit may obtain 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 anyone anywhere in the world.

Disability Services

Each MCC campus has an Access Office that provides assistance for any student with documented physical, learning, psychiatric, brain injury, or other disabilities at no cost above tuition/fees. Arrangements can be made for aids and adjustments to help ensure equal access to programs and services. Please apply as early as possible so that accommodations can be arranged in a timely manner. For more information, or to make an appointment, call:

Blue River
Blue Springs, (816) 655-6077; MO Relay 800-735-2966 and Voice 800-735-2466.
Longview, (816) 672-2254; TDD (816) 672-2114

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

Reading Study Centers

Reading study centers also offer MCC students services such as diagnostic testing, tutoring and special classes. These reading classes range from basic skill building in word recognition and spelling to advanced levels of critical and speed reading. Individualized programs can be designed to fit students’ special needs.

For more information about MCC’s reading study centers, call the following campuses:

Blue River, (816) 672-2665
Maple Woods, (816) 437-3197
Penn Valley, (816) 759-4096

Reentry Programs

For adults who’ve been away from school for several years, Maple Woods and Longview provide reentry programs that make the transition from working or homemaking back to the classroom as easy as possible. Reentry students receive individualized attention from counselors and advisers and referrals to special MCC services.

For information about MCC’s reentry programs, call the campuses at the following numbers:

Blue River, (816) 655-6077
Longview, (816) 672-2294
Maple Woods, (816) 437-3095
Penn Valley, (816) 759-4152

Project Success

The Student Support Services Program (SSSP) at Penn Valley is one of the Federal TRIO programs funded through the U.S. Department of Education. SSSP
is appropriately called Project Success on the Penn Valley campus. The majority of Project Success participants begin their postsecondary journey in one or more of the developmental courses (math, reading, or writing) offered at the college. Project Success is designed to ensure the success of 250 low-income, first generation college students and persons with learning disabilities each academic year by providing:

• academic tutoring that supplements the classroom experience,
• transfer coordination to expose the participants to the opportunities that await them at four-year colleges and universities,
• personal counseling to assist with managing the daily stress that can interfere with academic progress, and
• cultural enrichment to extend the social dimensions of the participants served.

These expanded services increase the likelihood of success. Call the Project Success office, 759-4313, to schedule an appointment.

**TELECOMMUNITY CENTERS**

The TeleCommunity Centers provide individuals and nonprofit organizations access to introductory computer training and videoconferencing facilities. For more information please contact one of the centers:

Blue River/Independence, (816) 220-6590
Longview, (816) 672-2670
Maple Woods, (816) 437-3480
Penn Valley, (816) 759-4740

**STUDENT ACTIVITIES**

All MCC campuses sponsor activities that include student body organizations, special interest clubs, student publications, and athletics. The campuses also have coordinating boards for campus activities that plan and implement activities as well as work to promote a mutual understanding with students, faculty, staff, and administration and represent the student body. At Longview, this organization is the Student Government. At Maple Woods and Blue River, the coordinating board is the Campus Activities Council, and Penn Valley offers a Student Advisory Council.

Each campus also supports a chapter of Phi Theta Kappa (a national two-year college honor society) and a student newspaper. Longview offers an intercollegiate debate and forensics team, which is open to all MCC students. At Longview, Blue River and Penn Valley, students also produce their own fine arts publications.

**ATHLETICS**

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

**FITNESS CENTERS**

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

Blue River, (816) 655-6050
Longview, (816) 672-2400
Maple Woods, (816) 437-3555
Penn Valley, (816) 759-4222

**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.; Baker University, Baldwin, Kan.; Central Missouri State University, Warrensburg, Mo.; Kansas City Art Institute, Kansas City, Mo.; Park College, Parkville, Mo.; Rockhurst University, Kansas City, Mo.; and the University of Missouri-Kansas City, Mo. Contact the admissions and records office at any of the MCC campuses for more information.

**EDUCATIONAL OPPORTUNITIES CENTER (EOC)**

The Educational Opportunity Center (EOC) provides prospective college students with the following services: career counseling, assistance in selecting a college, assistance in completing college application forms, information about financial aid and assistance in completing financial aid application forms. Students already enrolled in college may take advantage of the counseling services.

The EOC is funded by the U.S. Office of Education. Although it’s intended to be used primarily by low-income students, EOC services are available to all MCC students. The center is located at 3100 Main, Suite 10, Kansas City, Mo. 64111. For more information about EOC, call (816) 759-4400.

**ALUMNI ASSOCIATION**

Since its forerunner’s founding in 1915, MCC has touched the lives of more than 600,000 students. MCC’s Foundation Alumni Association allows former students to maintain a link with their alma mater. The Foundation-Alumni Association sponsors programs and activities that strengthen the colleges’ ties to the community and enhance MCC’s reputation as a place for lifelong learning. Among the activities are author presentations, networking opportunities, and social events.

All former MCC students are invited to participate. Alumni are encouraged to contribute to the MCC annual fundraising campaign. These contributions allow the alumni association to provide scholarships and books for students and assist faculty, programs, awards, and visiting artists. Call the MCC Foundation-Alumni Association at (816) 759-1195 for more information.
Although the Metropolitan Community College (MCC) District was established in 1964, its roots originate with the Junior College Division of the Kansas City Polytechnic Institute, which was founded in 1915. Just four years later, this division and the Business Training, Engineering and Nurses Training divisions were combined to become the Junior College of Kansas City. It earned the distinction of being the first two-year college in the United States to award the associate degree.

By 1921, the Junior College added evening classes. As enrollment continued to increase over the next two decades, the Junior College outgrew its first downtown location at 11th and Locust Streets and moved to 3845 McGee. Following World War II, the college expanded its academic offerings to include various kinds of occupational training. It also began attracting more and more students from outlying communities beyond Kansas City, Mo.

From its inception and until 1964, the college was part of the Kansas City School District. Then in May 1964, the voters of suburban school districts — Belton, Center, Grandview, Hickman Mills, Lee’s Summit, North Kansas City and Raytown — joined with the citizens of the Kansas City School District to create the Metropolitan Community College District. About a year and a half later, they returned to the polls to overwhelmingly approve a bond issue calling for $25 million in campus construction.

Just five years after formation of the MCC District, Longview, Maple Woods and Penn Valley opened to replace the single institution known as the Metropolitan Junior College. During both the 1980s and ’90s, MCC continued its phenomenal growth with the Blue Springs, Fort Osage, Independence and Park Hill School Districts all voting to join the district.

**PHILOSOPHY**

The four Metropolitan Community Colleges are dedicated to serving the educational needs of the community. The college programs are intended to help students understand themselves, the society of which they are a part and the universe in which they live.

At the same time, the colleges provide opportunities for students to develop occupational skills. Faculty and administrators cooperate to create an environment that stimulates intellectual growth and nurtures academic freedom for students and instructors alike. The programs offered are intended to encourage lifelong learning.

Finally, the MCC employees are committed to providing equal opportunity for all persons regardless of age, creed, race or gender.

**MCC MISSION**

The Metropolitan Community Colleges, as comprehensive postsecondary institutions, provide access to affordable, responsive, quality education and training opportunities in a supportive and caring environment that values diverse constituencies and enables individuals to successfully pursue lifelong educational and career goals.

In order to accomplish this mission, the board of trustees has empowered the chancellor, as executive officer, to implement its policies. The chancellor, with the other officers of the District, will provide leadership in the implementation of the mission and goals of the District.

The following purpose statements declare how the MCC will carry out the mission of the District:

**Purpose Statements**

In pursuit of MCC’s mission, the District will:
- Offer a broad range of educational and training opportunities including developmental, general education, transfer, occupational, and continuing and community education through District colleges and in affiliation with other educational institutions.
- Provide and promote access to and accommodations in District programs to all qualified individuals, including those with disabilities.
- Enhance the learning environment through a variety of delivery systems.
- Guide student learning through the pre-enrollment assessment of basic skills and mandatory placement in appropriate courses.
• Provide indicators of individual academic growth through general education assessments.
• Demonstrate the effectiveness of instruction through the assessment of course, program and degree outcomes.
• Support activities which enhance student learning outside the classroom including community service, cocurricular, extracurricular, and cultural experiences and opportunities.
• Support student development through services designed to facilitate the achievement of academic, career and personal goals.
• Provide opportunities for community participation in social, cultural, and intellectual activities of the colleges.
• Demonstrate awareness and appreciation of diversity within and outside the college community.
• Develop and maintain articulation agreements which facilitate efficient transfer.
• Respond to requests for out-of-district educational services when they are compatible with the mission and resources of the District and consistent with the guidelines of the Coordinating Board for Higher Education.
• Foster collaborative efforts with community-based organizations, agencies, businesses and industries, and other educational institutions.
• Base decisions on a planning system that is responsive to technical, demographic, economic and employment data.
• Support and coordinate centralized services for all units through the Administrative Center.

EDUCATIONAL SERVICES

To meet the various needs of its community and students, MCC provides a number of educational programs.

Transfer Programs
Liberal arts and sciences courses and programs at MCC are often identical to those offered in the first two years at four-year colleges and universities. Many students choose to get their Associate in Arts, Computer Science, Engineering, or Science degrees at MCC before transferring to another school for their junior and senior years. In fact, MCC has developed transfer and articulation agreements with a number of nearby colleges and universities. This insures that credits earned at MCC will be accepted at these other schools.

Academic advisors and counselors are always available to discuss these transfer options, which can lead to four-year degrees in the following areas: anthropology, art, biology, business administration, chemistry, computer science, criminal justice, economics, education, engineering, English, foreign language, geography, geology, history, human services, journalism, law, mathematics, music, pharmacy, philosophy, physical education, physics, political science, psychology, social science, social work, sociology, speech and theater arts.

Occupational Programs
In addition to transfer programs, MCC offers more than 50 occupational programs that prepare students for immediate employment or career advancement in order to succeed in some of today’s exciting, fast-paced professions. Some of these are two-year programs that lead to an Associate in Applied Science degree, many of which also transfer to four-year colleges and universities. Other programs of one year or less lead to a certificate of proficiency. All courses are taught by experienced instructors who keep up with current trends and developments in their respective fields of expertise.

Here’s a sampling of these programs: business and office technology, customer service representative, health services, mechanical and engineering technologies, computer support and telecommunications technician, electronics, fire science, hospitality management, travel and tourism, paralegal, and child growth and development.

Basic Skills Courses
MCC students take placement tests in English, reading and mathematics. These results help each select the best courses to meet their academic needs. For those who need extra help, each MCC campus offers basic skill courses, as well as other special classes that focus on spelling, critical thinking skills and college success skills, such as note-taking, studying, goal-setting and time management. Students also can take advantage of one-on-one assistance at each campus’ teaching/learning center.

Learning Communities
Students may enroll in linked or coordinated general education courses called Learning Communities. These are integrated courses—certain math, English, biology, or speech courses, for example—taught by a team of faculty members. The integration of these disciplines help focus students’ education, enhance their motivation, and give added meaning to their college experience.

Students are able to study and interact with a small group of their peers. The communities include lecture, small group work, and integrated reading and writing assignments.

Employee Training
Many Kansas City-area businesses and organizations also look to MCC for specialized, efficient and cost-effective training and skill assessments for their employees. This training may come in the form of a short seminar, single class or an entire program of classes. These can be taught during regular work hours, lunch breaks or after work, either on-site at a business or organization or at MCC’s Business & Technology Center (BTC), located at Interstate 435 and Front Street in Kansas City. BTC instructors and consultants are experts in their fields who feel comfortable working with adults at all skill levels.

Some of the training programs available through the BTC include ISO 9000, electronics, machine tool technology, industrial technology, environmental health and safety, welding, AutoCAD and customer service, among others. The BTC also offers classes in workforce skills such as reading, writing, math, communications, computers, supervision, teamwork and negotiations.

In some cases, employees earn college credit or Continuing Education Units (CEUs) for their time spent in training. CEUs are recorded and student transcripts can be provided. Students who have met minimum course requirements also may request Certificates of Completion for their course work.

During the past few years, the BTC has helped hundreds of businesses give their employees the level of skills needed to assure continued success. For more information about the services available at the BTC, call (816) 482-5250.
Community Education Courses

MCC also offers cultural and general interest classes to area adults, as well as courses to help them update their occupational skills or retrain for new careers. Although these don’t qualify for college credit, some do earn Continuing Education Units (CEUs).

Courses cover topics such as arts and crafts, business, career enhancement, computer training, domestic skills and self-improvement, hobbies, legal or financial information, and recreation and sports.

College for Kids, another MCC offering, is just what the name implies: a variety of hands-on classes specially designed for children ages five and up. Some examples of the courses offered include the Business of Babysitting, Creative Writing, Digging for Dinosaurs, Modeling, Science Good Enough to Eat, Travel the Internet and Tae Kwon Do, among others.

For more information about any of these programs, call these numbers:

Blue River, (816) 220-6585
Longview, (816) 672-2030
Maple Woods, (816) 437-3011

Cancellation of Classes

The colleges may find it necessary to cancel classes because of insufficient enrollment or other circumstances. Whenever possible, a section 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.

Schedule of Classes

At MCC, the academic year is divided into two 16-week semesters—one beginning in August and the other in January. An eight-week summer session starts in June. Some courses of different lengths begin at various times during the year.

Day-time classes are scheduled five days a week, usually between 8 a.m. and 4 p.m. Evening classes are offered between 4:30 and 10 p.m. Monday through Thursday and occasionally on Friday. Some Saturday classes may be available.

COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS

Certification of Accuracy

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

Wayne E. Giles
Chancellor

Nondiscrimination

The Metropolitan Community College District is committed to a policy of nondiscrimination on the basis of age, color, creed, disability, marital or parent status, national origin, race, religion, or gender in admissions, educational programs or activities, and employment, as specified by federal laws Title VI; Title VII; Title IX, section 504; the Americans with Disabilities Act; and state laws and regulations.

Inquiries may be addressed to the following persons:

MCC District:
Allan Tunis, 3200 Broadway, Kansas City, Missouri 64111-2429; telephone (816) 759-1000

Blue River Community College:
Johnnie McClinton, 1501 W. Jefferson St., Blue Springs, Missouri 64015-7242; telephone (816) 655-6118.

Longview Community College:
Janet Cline, 500 SW Longview Road, Lee’s Summit, Missouri 64081-2105, telephone (816) 672-2326.

Maple Woods Community College:
Marilyn Donatello, 2601 NE Barry Road, Kansas City, Missouri 64156-1299; telephone (816) 437-3175.

Penn Valley Community College:
Lisa Minis, 3201 Southwest Trafﬁcway, Kansas City, Missouri 64111-2764; telephone (816) 759-4114.
or to the Assistant Secretary for Civil Rights, U.S. Department of Education, 330 C Street, Washington, D.C. 20202; telephone 1-800-421-3481.

Americans with Disabilities Act

The Metropolitan Community Colleges complies with the Americans with Disabilities Act and does not discriminate in admission or access to its programs on the basis of disabilities. If you need any accommodations due to a disability, contact the access professional at Blue Springs, (816) 655-6077 or 1-800-735-2966 (TT relay); Independence, (816) 220-6520 or 1-800-735-2966 (TT relay); Longview, (816) 672-2254 or (816) 672-2114 (TT relay); Maple Woods, (816) 437-3192 or 1-800-735-2966 (TT relay); Penn Valley, (816) 759-4089 or 1-800-735-2966 (TT relay).

Any other location, contact (816) 759-1164 or 1-800-735-2966 (TT relay).

Sexual Harassment

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

Family Educational Rights and Privacy Act

In accordance with the Family Educational Rights and Privacy Act of 1974, only directory information about students or former students may be disclosed to any person or agency without the written permission of the student. At the request of the student, even directory information will be withheld. Upon written request the student may inspect information in her or his official file and will be given the opportunity to challenge any information which he or she considers inaccurate.

College rules concerning the confidentiality of student records are available on request from the admissions/records office.
**Nonimmigrant Alien Students**

The Metropolitan Community Colleges are authorized under Federal law to enroll nonimmigrant alien students.

**Drug Free Schools and Communities Act**

The Metropolitan Community Colleges subscribe 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. The Metropolitan Community Colleges 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, heath risks and drug and alcohol counseling, treatment and/or rehabilitation programs.

**Right to Know**

The Metropolitan Community Colleges comply with the provisions of the Crime Awareness and Campus Security Act of 1990. This act requires the district to collect, prepare, publish and distribute to all current and prospective students and employees, campus crime statistics and security policies. This information is published on an annual basis in the Student Right to Know and Compliance Report, and is available through the MCC web site at www.kcmetro.cc.mo.us/crimereport.html. Printed copies of the report are available at the campuses through the security department and deans of students offices or by calling (816) 759-1070.

**Other Information**

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

- Satisfactory Progress .................. 13
- Accreditation ............................. 25
- Admissions Policies ..................... 7
- Cost of Attendance ........................ 11
- Course Completion Requirements .. 26
- Course Load ............................... 14
- Financial Assistance ..................... 11
- Refund Policy ............................. 11

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

**College Relations Coordinator**

**Blue River Community College**

Telephone (816) 220-6546
20301 East 78 Highway
Independence, MO 64057

**College Relations Coordinator**

**Longview Community College**

Telephone (816) 672-2362
500 Longview Road
Lee's Summit, MO 64081-2105

**College Relations Coordinator**

**Maple Woods Community College**

Telephone (816) 437-3167
2601 NE Barry Road
Kansas City, MO 64156-1299

**College Relations Coordinator**

**Penn Valley Community College**

Telephone (816) 759-4320
3201 Southwest Trafficway
Kansas City, MO 64111-2764

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**DEFINITIONS 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 North Central Association of Colleges and Schools. Various programs in the District are accredited by specialized accrediting agencies. (See page 25.)

**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.

**ARTICULATION AGREEMENTS.** These are formal and informal agreements and/or transfer guides that allow students to smoothly transfer course credits from one school to other, including from high school to college and from college to college. A complete list of these agreements is available in each MCC counseling center. Please work with your counselor/advisor to determine degree plans.

**ASSOCIATE’S DEGREE.** A student who successfully completes a course of study that requires at least 62 credit hours, approximately half of the credits required in a bachelor’s degree program at a four-year college or university, is awarded an associate’s degree.

**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 College Procedure, District Regulation and District Procedure.)

**CATALOG NUMBER.** Each course offered by MCC is identified by four letters and three numbers. For example, PSYC 140 is Psychology 140 General Psychology.

**CERTIFICATE PROGRAM.** Students enroll in an integrated series of courses to study a specific occupation. A one-year, full-time program usually includes 30 to 40 credit hours of courses and results in the awarding of a diploma known as a certificate of proficiency. However, some certificate programs include only 15 to 20 credits and result in the awarding of a certificate of completion.

**COLLEGE PROCEDURE.** This is a written statement, approved by the MCC chancellor and college president, that outlines the systematic steps each college will take to carry out Board policies, District regulations and District procedures. (See sections on Board Policy, District Regulation and District Procedure.)
COLLOQUIA. While under the guidance of an instructor, a student or group of students study a topic or problem in a specific academic area.

COMMENCEMENT. An annual ceremony that recognizes the previous year’s candidates for graduation.

CONFERENCE HOURS. These are announced times set aside by each college instructor for meeting with students, either by appointment or on a drop-in basis.

CONTACT HOUR. This is a 50-minute period of educational, course-related activity, whether it’s held in a classroom, laboratory, playing field, studio or other setting.

CONTINUING EDUCATION. These are both credit and noncredit courses, seminars, workshops and other educational activities offered by MCC that traditionally target adults.

CONTINUING EDUCATION UNIT (CEU). Typically, a CEU is awarded for each 10 contact hours of noncredit continuing education course work. This nationally recognized measure of educational achievement is recorded by the National Registry of Continuing Education, which makes transcripts available to students completing these courses.

COREQUISITE. This is a course that must be taken during the same term or semester as another course.

COUNSELING. This professional service helps students get a better understanding of their personal potential as well as their problems by using modern psychological principles.

COURSE. An instructor leads a planned series of educational experiences focused on a particular subject. These may take the form of lectures, discussions, recitations, laboratory exercises and studio activities.

COURSE DESCRIPTION. These are written statements explaining the subject matter to be covered during a particular course.

CREDIT. The college recognizes that a student has fulfilled a requirement leading to a degree or certificate.

CREDIT BY CERTIFICATION. This is credit awarded to a student for knowledge obtained from an accepted noncollege experience. These certification recommendations are governed by national education groups such as the American Council on Education and Armed Forces Guidelines.

CREDIT COURSE. This course is part of a program leading to a degree or certificate. Students who successfully complete it receive a stated number of credits.

CREDIT HOUR. This is the standard measuring unit for college work that leads to a degree or certificate. Usually a credit hour represents 750 minutes of lecture time or 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. When completed, this series of required and elective courses entitle a student to a degree or certificate. This is also known as a program of study.

DEGREE. This is a title given to a student by a college or university after successful completion of a prescribed course of study. Community colleges traditionally award the associate’s degree at the end of a program requiring a minimum of 62 credit hours, while four-year schools award the bachelor’s degree for programs requiring at least 124 credit hours. Master’s and doctor’s degrees are awarded for study beyond the level of bachelor’s degree. (For information about degrees offered by MCC, see pages 29 and 40.)

DIRECTORY INFORMATION. This includes the following student information: name, address, telephone number, date and place of birth, major field of study, college activities or sports involvement, height and weight of a student athlete, degrees and honors received, dates attended current college and the name of the previous school attended. According to Public Law 93-380, the Family Education 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. MCC provides alternative course delivery for students whose schedule or location make it difficult to take courses or complete a degree. MCC offers live interactive telecourses on the local cable channels, taped telecourses during nonprogramming hours on KCPT, closed circuit courses between the colleges in the metropolitan area, and a wide range of courses via the World Wide Web. For more information on distance education opportunities, visit our web site at http://distance.kcmetro.cc.mo.us or call (816) 759-4490.

DISTRICT PROCEDURE. This is a written statement, approved by the MCC chancellor, that outlines the systematic steps the District will take to carry out Board policies or District regulations.

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.

ELECTIVE. This course is not specifically required for a degree or certificate program; however, it is counted toward the total credit hours needed for graduation. Students may choose from general education electives or restricted electives. (See page 28.)

FACULTY. The teachers, counselors and librarians comprise the faculty of a college.

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.** The General Educational Development test is given to people who have not earned a high school diploma. Those who pass the test, which is sponsored by the Missouri State Department of Elementary and Secondary Education, are awarded a Certificate of High School Equivalency.

**GENERAL EDUCATION.** These classes are intended to help students understand themselves, society in general, the physical universe and the arts, as well as help them become responsible human beings and good citizens. (For more information, see page 27.)

**GRADE POINT AVERAGE (GPA).** This is a mathematical way of evaluating a student’s academic performance by assigning a number value (or scholarship point) to each letter grade. To determine GPA, multiply the number of credit hours for each course by the number of scholarship points assigned to that grade. Add together the scholarship points from all classes and then divide that figure by the total number of credit hours attempted. The following chart shows how many scholarship points to assign to each letter grade.

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

For example, during one semester if a student made the following grades in the following courses, the GPA would be 2.7.

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Grade</th>
<th>Scholarship Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>5</td>
<td>A 20</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td>C 6</td>
</tr>
<tr>
<td>HIST 120</td>
<td>3</td>
<td>B 9</td>
</tr>
<tr>
<td>MATH 120</td>
<td>3</td>
<td>D 3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14</td>
<td>38</td>
</tr>
</tbody>
</table>

38 divided by 14 = 2.7

(For a complete discussion of grading practices and grade-point averages, see page 12.)

**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. (For more information about college honors, see page 12.)

**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 basketball.

**INTERDISCIPLINARY COURSE.** This is a course that covers material from two or more subjects or fields of study.

**INTERNATIONAL STUDENT.** MCC allows the enrollment of foreign nationals who are in the United States on an approved visa.

**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.

**KCASE.** The Kansas City Area Student Exchange group is an association of colleges and universities that participate in a limited student exchange program. (See page 17.)

**KC REACHE.** The Metropolitan Community Colleges are members of the Kansas City Regional Access Consortium for Higher Learning (KC REACHE). This partnership is dedicated to bringing college-level courses into the home through interactive distance learning.

**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.

**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 Blue River, Longview, Maple Woods and Penn Valley Community Colleges. The District’s legal name is the Junior College District of Metropolitan Kansas City, Missouri.

**METROTOUTH (816) 753-3270.** This is MCC’s phone system for enrolling, adding/dropping classes, checking one’s schedule or grades, or the like. Some restrictions apply. Speech or hearing impaired students may call 1-800-735-2966 (text telephone) or 1-800-735-2466 (voice).

**MINOR.** (1) This is a secondary field of study—such as English, history or math—for a student pursuing a four-year degree. (2) This is a person below the age of 21.

**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.

**OCCUPATIONAL DEGREE PROGRAM.** This is a series of required and elective courses that prepare a student for immediate employment or job advancement. After completing these courses, the student earns an Associate in Applied Science degree.
EDUCATION (PACE). These training programs provide students with meaningful, in-demand job skills and help them achieve economic independence.

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.

PREREQUISITE. This is a course that usually part of a series—that must be taken before a student can enroll in a subsequent course. When courses have a prerequisite, they’re indicated in the course descriptions, which begin on page 92 of this catalog.

PROGRAM FOR ADULT COLLEGE EDUCATION (PACE). This program is designed for working adults who want to pursue an Associate in Arts degree. Classes are conveniently offered to fit work schedules.

RESIDENT CLASSIFICATION. 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 PROGRESS. Students must maintain a certain grade point average and level of progress toward a degree or certificate in order to continue receiving financial aid. More specifically, they must meet these two criteria:

1. They must achieve a minimum cumulative grade-point average (GPA).

<table>
<thead>
<tr>
<th>Number of Semester Hours Attempted</th>
<th>Minimum Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1.00</td>
</tr>
<tr>
<td>30</td>
<td>1.50</td>
</tr>
<tr>
<td>45</td>
<td>1.75</td>
</tr>
<tr>
<td>60</td>
<td>2.00</td>
</tr>
</tbody>
</table>

2. After attempting 12 credit hours, the student must maintain a ratio of at least 33 percent credit hours earned to credit hours attempted. For more information, consult the counseling center or the financial aid handbook.

SCHOLARSHIP. In recognition of academic achievement, students receive money to help them pay tuition or other costs of education.

SCHOLARSHIP POINTS. These are values assigned to letter grades for the purpose of computing a student’s grade point average. (See Grade Point Average.)

SECTION. This is an individual class that meets at a particular time and is led by a specific instructor.

SEMESTER. This is a 16-week division of the academic year. The first or fall semester begins in August and ends in December, while the second or spring semester begins in January and ends in May.

SEMINAR. Although an instructor leads this class, students are deeply involved through discussion and research.

STUDENT LOAD. This is the number of courses or credit hours a student enrolls in during a semester or term. Although a full load is 12 hours, a student who wants to complete a 62-hour degree in four semesters must register for 15 to 16 hours per term. To enroll in more than 18 hours, a student must get special permission.

STUDY HOURS. A student enrolled in courses such as art or music spends time practicing the theories taught in classes.

TELEPHONE REGISTRATION. Students may enroll in one or more courses by telephone. (See MetroTouch.)

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.

TRANSFER DEGREE PROGRAM. This is a series of required and elective courses that prepare students to continue their studies at a four-year college or university. Before transferring, students earn one of the following MCC degrees: Associate in Arts, Associate in Computer Science, Associate in Engineering and Associate in Science.

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.
The Metropolitan Community College District — including Blue River Community College, Longview Community College, Maple Woods Community College and Penn Valley Community College — is accredited by the North Central Association of Colleges and Schools. For information on this accreditation or to review accreditation materials, please contact the Office of the Chancellor at (816) 759-1011.

In addition to the institutional accreditation, the programs listed below are individually accredited by the indicated agencies.

<table>
<thead>
<tr>
<th>COLLEGE</th>
<th>PROGRAM</th>
<th>ACCREDITING AGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longview</td>
<td>Automotive Technology</td>
<td>National Automotive Technicians’ Educational Foundation (NATEF)</td>
</tr>
<tr>
<td></td>
<td>Human Services</td>
<td>Council for Standards in Human Services Education (CSHSE)</td>
</tr>
<tr>
<td>Maple Woods</td>
<td>Veterinary Technology</td>
<td>American Veterinary Medical Association</td>
</tr>
<tr>
<td>Penn Valley</td>
<td>Dental Assisting</td>
<td>American Dental Association Commission on Dental Accreditation</td>
</tr>
<tr>
<td></td>
<td>Emergency Medical Technician—Paramedic</td>
<td>Missouri State Department of Emergency Medical Service</td>
</tr>
<tr>
<td></td>
<td>Health Information Technology</td>
<td>Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Council on Accreditation of the American Health Information Management Association</td>
</tr>
<tr>
<td></td>
<td>Human Services</td>
<td>Council for Standards in Human Services Education</td>
</tr>
<tr>
<td></td>
<td>Practical Nursing</td>
<td>Missouri State Board of Nursing National League for Nursing</td>
</tr>
<tr>
<td></td>
<td>Professional Nursing</td>
<td>Missouri State Board of Nursing National League for Nursing</td>
</tr>
<tr>
<td></td>
<td>Occupational Therapy Assistant</td>
<td>Accreditation Council for Occupational Therapy Education, American Occupational Therapy Association</td>
</tr>
<tr>
<td></td>
<td>Physical Therapist Assistant</td>
<td>Commission on Accreditation in Physical Therapy Education</td>
</tr>
<tr>
<td></td>
<td>Radiologic Technology (Radiography)</td>
<td>Joint Review Committee on Education in Radiologic Technology</td>
</tr>
<tr>
<td></td>
<td>Respiratory Care</td>
<td>Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Committee on Accreditation for Respiratory Care (CoARC) (Through JCCC)</td>
</tr>
<tr>
<td></td>
<td>Surgical Technology</td>
<td>Accreditation of Allied Health Education Professionals (CAAHEP)</td>
</tr>
<tr>
<td>Blue River</td>
<td>Police Academy</td>
<td>Peace Officer Standards and Training Program (POST)</td>
</tr>
</tbody>
</table>
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Transfer Degree Programs

DEGREES

The Metropolitan Community Colleges award four degrees that can be transferred to a four-year college or university. They are:

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

These transfer degree programs are described on the following pages.

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

DEGREE GRADUATION REQUIREMENTS

Credentials

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

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

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

Scholarship

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

Enrollment

Each graduate must meet one of the following requirements:

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

Total Credits

Each MCC graduate must successfully complete at least 62 credit hours, although some degrees require more. (See specific requirements on the following pages.)

Students earning any of the four associate degrees offered by MCC must take several general education courses. For the Associate in Arts degree, at least 62 credits are required — 42 to 47 of them in general education classes and 15-20 hours in general education and restricted electives. The Associate in Computer Science, Associate in Engineering, and Associate in Science also require an area of specialization. In addition to these general education and specialization courses, students must take electives that will bring their total number of credits up to the amount required for the degree. Only courses numbered 100 or higher can be applied toward the degree.

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

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. When the form is filed, students must pay a graduation fee.
THE ASSOCIATE IN ARTS DEGREE

MCC’s Associate in Arts degree generally provides the first two years of college work a student might complete at a four-year college or university. The program includes 42 to 47 hours of general education courses, as well as enough electives to reach the required 62 credit hours. The general education classes strengthen students’ basic skills and provide them with knowledge to competently function in a variety of environments: school, work and day-to-day life. These classes also give them opportunities to apply critical-thinking and communication skills, to achieve an awareness of natural, social and political environments, and to value the importance of lifelong learning.

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

- Art
- Biology
- Business Administration
- Chemistry
- Criminal Justice
- Economics
- Education
- English
- Foreign Language
- Geography
- Geology
- History
- Human Sciences
- Human Services
- Journalism
- Mass Communications
- Mathematics
- Music
- Philosophy
- Physical Education
- Political Science
- Predentistry
- Prelaw
- Premedicine
- Psychology
- Social Work
- Sociology
- Speech and Theater Arts

Communications (9 credits)
The student must complete each of the following:
- ENGL101 Composition and Reading I
- ENGL102 Composition and Reading II
- SPDR 100 Fundamentals of Speech

Humanities (9-11 credits)
The student must complete one 3-5 credit-hour course in each of any three different areas listed below. One of the courses must be in literature or philosophy.

- Art History
- Any art history course offered at MCC.
- Foreign Language
- Any foreign language course numbered 100 or above offered by MCC.
- Humanities
- Any humanities course or HIST 133 or HIST 134 offered by MCC.
- Literature
- Any English course designated in the catalog as literature offered by MCC.
- Music Appreciation
- MUSI 108 Music Appreciation
- Philosophy
- Any philosophy course offered by MCC.
- Speech and Drama
- SPDR 114 Theatre and the Western World or SPDR 128 Introduction to Film or MSCM 112 Introduction to Modern Communications

Mathematics (3-5 credits)
The student must complete any 3-5 credit hour course numbered 107 or above.

Natural Sciences (9-10 credits)
The student must complete two laboratory courses in the natural sciences, one in biological and one in physical sciences, for a minimum of nine credit hours. The physical sciences include the following disciplines: chemistry, geology, physical geography, meteorology, physical science, and physics.

Social Sciences (6 credits)
The student must complete one course for a minimum of three credit hours in each of two different areas listed below. The two areas selected below must differ from the area chosen under American Institutions.

- Economics
- Any course in economics offered by MCC.
- Geography (excluding physical geography)
- GEOG 105 World Geography
- GEOG 111 Geography of the Northern Regions
- GEOG 112 Geography of the Southern Regions
- History
- Any history course offered by MCC.

Degree Requirements
To receive an Associate of Arts degree, students must complete the following:

1. The graduation requirements for transfer degrees listed on page 29.
2. The general education requirements listed below.
3. Sufficient electives to bring their total number of credits to 62 listed on page 31.

General Education Requirements (42-47 credits)
NOTE: The general education requirements for the PACE program are slightly different. See page 36.

American Institutions (6 credits)
The student must complete either A or B or C below:
- A. HIST 120 American History I and HIST 121 American History II
- B. Two of the following three courses:
  - POLS 135 Introduction to Political Science
  - POLS 136 Introduction to American National Politics
  - POLS 137 Introduction to State and Local Politics
- C. SOSC 150 Foundations of the Social Sciences I and SOSC 151 Foundations of the Social Sciences II
**Social Science Foundations**
- SOSC 150  Foundations of the Social Sciences I
- SOSC 151  Foundations of the Social Sciences II

**Political Science**
Any course in political science offered by MCC.

**Psychology**
Any course in psychology offered by MCC.

**Sociology or Anthropology**
Any course in sociology or anthropology offered by MCC.

**General Education Electives (15-20 credits)**

The student may apply credits from courses numbered 100 or above in any of the following disciplines to bring the total number of credits to the minimum of 62 required for the degree. General education electives may be combined with restricted electives (explained below) to meet the 62 total credits required.

- Anthropology
- Art
- Biology
- Chemistry
- Dance
- Economics
- English
- Humanities
- Mathematics
- Music
- Philosophy
- Physical Science
- Physics
- Political Science
- Geography
- Geology
- History
- Social Science
- Sociology
- Speech and Drama

**Restricted Electives**

Only courses numbered 100 or higher which are not in disciplines listed under general education electives can be applied as restricted electives. A maximum of 12 credit hours of restricted electives can be applied to the degree. In addition to these 12 credit hours, a student can apply the following maximum number of credits as restricted electives to fulfill degree requirements.

1. Accounting—up to 9 credit hours.
2. Criminal Justice/Paralegal—up to 15 credit hours.
3. Human Sciences, Child Development, and/or Fashion—up to 15 credit hours.
4. Human Services—up to 15 credit hours.
5. Education—up to 15 credit hours.

The student may apply up to four credit hours in each of the following kinds of activities courses:

1. Mixed Chorus
2. Band
3. Orchestra
4. Physical Education
The Associate in Computer Science degree is a preprofessional program that prepares students to transfer to a four-year college or university. It should not be confused with the Associate in Applied Science degree in Computer Science/Information Systems and Computer Software that prepares students for immediate employment.

Because computer science requirements vary at each four-year college or university, students should check with the school they plan to transfer to or an advisor or counselor to make sure they’re taking the right classes. There are three areas of concentration for the Associate in Computer Science degree.

1. Engineering and mathematics
2. Business
3. Computer science

A concentration in engineering and mathematics meets the requirements needed to transfer to the 130-credit hour Bachelor of Science degree in Computer Science offered by the University of Missouri-Rolla.

Degree Requirements

In order to receive the degree of Associate in Computer Science, the student must complete the requirements for all degrees listed on page 29 and the course requirements listed below.

General Education Requirements

American Institutions (6 credits)
The student must complete either A, B, or C.
A. HIST 120 American History I and
   HIST 121 American History II
B. Two of the following three:
   POLS 135 Introduction to Political Science
   POLS 136 Introduction to American National Politics
   POLS 137 Introduction to State and Local Politics
C. SOSC 150 Foundations of the Social Sciences I and
   SOSC 151 Foundations of the Social Sciences II 6

Communications (9 credits)
The student must complete each of the following:
ENGL 101 Composition and Reading I 3
ENGL 102 Composition and Reading II 3
SPDR 100 Fundamentals of Speech 3

Natural Sciences (5 credits)
The student must complete one of the following courses:
BIOL 101 General Biology
BIOL 104 General Botany
BIOL 106 General Zoology
CHEM 111 General College Chemistry I
CHEM 115 Engineering Chemistry
GEOL 101 General Geology
PHSC 101 Physical Science I
PHYS 130 General Physics I
PHYS 220 Engineering Physics I 5

Electives (3-6 credits)
General Education elective 3-6

Total General Education credits 23-26

Specialized Education Requirements

Engineering and Mathematics Emphasis (43 credits)
The student must complete the following courses:
A. Computer Science (15 credits)
   CSIS 101 Computers and Information Technology 3
   CSIS 130 PASCAL Programming 3
   CSIS 135 FORTRAN Programming or
   ENGR 104 FORTRAN Programming 3
   CSIS 140 COBOL Programming 3
   CSIS 150 ASSEMBLER Programming 3

B. Mathematics (18 credits)
   MATH 180 Analytic Geometry and Calculus I 5
   MATH 190 Analytic Geometry and Calculus II 5
   MATH 210 Analytic Geometry and Calculus III 5
   MATH 230 Differential Equations 3

C. Physics (10 credits)
   PHYS 220 Engineering Physics I 5
   PHYS 221 Engineering Physics II 5

Total Specialized Education credits 43
Total hours required for the degree 66
### Business Emphasis (40-41 credits)
*The student must complete the following courses.*

**A. Computer Science (15 credits)**
- CSIS 101 Computers and Information Technology 3
- CSIS 130 PASCAL Programming 3
- CSIS 140 COBOL Programming 3
- CSIS 150 ASSEMBLER Programming 3
- CSIS 270 Object-Oriented Analysis and Design 3

**B. Economics (6 credits)**
- ECON 210 Principles of Economics I 3
- ECON 211 Principles of Economics II 3

**C. Mathematics (8 credits)**
- MATH 120 College Algebra 3
- MATH 180 Analytic Geometry and Calculus I 5

**D. Electives (11-12 credits)**
- Computer Science, Humanities, or Science 11-12
- Total Specialized Education credits 40-41

**Total hours required for the degree 63-64**

### Computer Science Emphasis (36-39 credits)

**Computer Science Courses (18 credits)**
*The student must complete six of the following courses:*
- CSIS 121 Introduction to Computer Science

**Mathematics Courses (18-21 credits)**
*The student must complete A, B, C, and D:*
- A. MATH 150 Precalculus or
- MATH 120 College Algebra and
- MATH 130 Trigonometry 5-6
- B. MATH 180 Analytic Geometry and Calculus I 5
- C. MATH 190 Analytic Geometry and Calculus II 5
- D. MATH 115 Statistics
- MATH 210 Analytic Geometry and Calculus III 3-5

**Total credit hours for the degree 62**
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 Missouri-Kansas City or the University of Missouri-Rolla. Students should check the catalog of the school they plan to transfer to or speak with an engineering program advisor or counselor to make sure they’re taking the right classes.

**General Education Requirements**

**American Institutions (6 credits)**

The student must complete either A, B, or C.

A. HIST 120 American History I or HIST 121 American History II and either ECON 110 Introduction to Economics or ECON 210 Principles of Economics  
B. HIST 120 American History I and HIST 121 American History II  
C. The student must complete two of the following three:  
   - POLS 135 Introduction to Political Science  
   - POLS 136 Introduction to American National Politics  
   - POLS 137 Introduction to State and Local Politics

**Communications (9 credits)**

The student must complete each of the following:

A. ENGL 101 Composition and Reading I and ENGL 102 Composition and Reading II  
B. SPDR 100 Fundamentals of Speech

**Specialized Education Requirements**

1. Chemistry (5-10 credits)

The student must complete A or B.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. CHEM 111</td>
<td>General College Chemistry I and CHEM 112</td>
<td>General College Chemistry II*</td>
</tr>
<tr>
<td>B. CHEM 115</td>
<td>Engineering Chemistry</td>
<td></td>
</tr>
</tbody>
</table>

*Depending on transfer requirements, CHEM 112 may be waived by the division chairperson.

2. Engineering (16-18 credits)

The student must complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 101</td>
<td>Introduction to the Profession</td>
</tr>
<tr>
<td>ENGR 104</td>
<td>FORTRAN for Engineers or CSIS 135</td>
</tr>
<tr>
<td>ENGR 113</td>
<td>CAD and Microcomputer Applications or DRAF 153</td>
</tr>
<tr>
<td>ENGR 229</td>
<td>Statics</td>
</tr>
</tbody>
</table>

Any two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 223</td>
<td>Thermodynamics and Heat Transfer</td>
</tr>
<tr>
<td>ENGR 230</td>
<td>Dynamics</td>
</tr>
<tr>
<td>ENGR 233</td>
<td>Circuit Analysis I</td>
</tr>
<tr>
<td>ENGR 240</td>
<td>Mechanics of Materials</td>
</tr>
</tbody>
</table>

3. Mathematics (18 credits)

The student must complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 180</td>
<td>Analytic Geometry and Calculus I</td>
</tr>
<tr>
<td>MATH 190</td>
<td>Analytic Geometry and Calculus II</td>
</tr>
<tr>
<td>MATH 210</td>
<td>Analytic Geometry and Calculus III</td>
</tr>
<tr>
<td>MATH 230</td>
<td>Differential Equations</td>
</tr>
</tbody>
</table>

4. Physics (10 credits)

The student must complete the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 220</td>
<td>Engineering Physics I</td>
</tr>
<tr>
<td>PHYS 221</td>
<td>Engineering Physics II</td>
</tr>
</tbody>
</table>

Total hours required for the degree: 64-71
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 classes. The Associate in Science degree for Chemistry has been approved by the University of Missouri-Kansas City and Avila College and meets the schools’ first two-year requirements for the Bachelor of Science degree in Chemistry. The Associate in Science degree for Biology has been approved by Avila College and Saint Mary College and meets the schools’ first two-year requirements for the Bachelor of Science degree in Biology.

**Degree Requirements**

In order to receive the degree of Associate in Science, the student must complete the requirements for all degrees listed on page 26, the general education requirements listed below and the specialized education requirements for either Biology or Chemistry.

**General Education Requirements**

**American Institutions (6 credits)**

*The student must complete A, B, or C below:*

A. HIST 120 American History I and HIST 121 American History II

B. Two of the following three courses:
   - POLS 135 Introduction to Political Science
   - POLS 136 Introduction to American National Politics
   - POLS 137 Introduction to State and Local Politics

C. SOSC 150 Foundations of the Social Sciences I and SOSC 151 Foundations of the Social Sciences II

**Communications (9 credits)**

*The student must complete each of the following:*

- ENGL 101 Composition and Reading I 3
- ENGL 102 Composition and Reading II 3
- SPDR 100 Fundamentals of Speech 3
- Total General Education credits 15

**Specialized Education Requirements**

Biology majors should follow Section A; chemistry majors should follow section B.

**A. Biology (47 credits)**

1. **Biology**
   - BIOL 104 General Botany 5
   - BIOL 106 General Zoology 5
   - BIOL electives (numbered 108 or above except BIOL 117 and BIOL 118) 5

2. **Chemistry or Physics**
   - CHEM 221 Organic Chemistry I
   - CHEM 222 Organic Chemistry II
   - PHYS 130 General Physics I and PHYS 131 General Physics II

3. **Mathematics**
   - MATH 120 College Algebra
   - MATH 130 Trigonometry 6

**Electives** 6

Total Specialized Education credits 47

Total credits required for degree 62

**B. Chemistry (49 credits)**

1. **Chemistry**
   - CHEM 111 General College Chemistry I
   - CHEM 112 General College Chemistry II
   - CHEM 221 Organic Chemistry I
   - CHEM 222 Organic Chemistry II

2. **Mathematics**
   - MATH 180 Analytic Geometry and Calculus I
   - MATH 190 Analytic Geometry and Calculus II
   - MATH 210 Analytic Geometry and Calculus III

3. **Physics**
   - PHYS 220 Engineering Physics I
   - PHYS 221 Engineering Physics II

**Electives** 4

Total Specialized Education credits 49

Total credits required for the degree 64
PACE (Program for Adult College Education) is designed for working adults who want to attend college and complete an Associate in Arts degree. Administered by Longview Community College, the program offers both traditional and interdisciplinary classes at times and places that best fit work schedules.

Students can enroll in three courses each semester to earn 12 hours as full-time students. Full-time PACE students can attend classes one evening each week and one weekend each month. Weeknight classes are offered both on the Longview campus and in several greater Kansas City area locations including the Park Hill Education Center, Harrisonville, Belton High School and Truman High School. Students can also enroll part-time in PACE courses choosing classes at times that fit their schedules.

Classes begin throughout the semester and are offered in 16-week, 12-week, 8-week and weekend only formats. Some classes are broadcast on Comcast and Time Warner Cable.

Previous hours earned at an accredited college or university can be transferred to PACE. The courses taken through PACE transfer readily to the four-year institutions in this area.

For more information, call the PACE office at (816) 672-2461.

Degree Requirements

A student who completes the following courses plus 2 elective credits will have the requirements necessary for an Associate in Arts degree.

<table>
<thead>
<tr>
<th>Philosophy and Social Science</th>
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</tr>
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<tbody>
<tr>
<td>PHIL 100 Introduction to Philosophy</td>
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<tr>
<td>PSYC 142 Introduction to Psychology</td>
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<td>SOSC 150 Foundations of the Social Sciences I: Conflict in the Modern World</td>
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<table>
<thead>
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<td>HUMN 145 Comparative Humanities: Myth Through Time</td>
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<td>ENGL 165 Masterpieces of American Literature</td>
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<table>
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<tr>
<td>BIOL 118 Introduction to Biology</td>
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<tr>
<td>PHSC 101 Physical Science I</td>
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<tr>
<td>HIST 135 Western Civilization II</td>
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<tr>
<td>SOSC 151 Foundations of the Social Sciences II: State and Federal Government</td>
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<tr>
<td>HUMN 140 Humanities for Today Through the Arts</td>
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<tr>
<td>SPDR 100 Fundamentals of Speech</td>
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Elective Courses

Students may choose from the following courses to complete the necessary 62 credits for their Associate in Arts degree.

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<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 117</td>
<td>Life and the Environment</td>
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<tr>
<td>BSAD 255</td>
<td>Business Law II</td>
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<tr>
<td>ENGL 120</td>
<td>Introduction to Literature: Fiction</td>
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<tr>
<td>MATH 110</td>
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Elective Business Courses

<table>
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<td>BSAD 101</td>
<td>Principles of Accounting I</td>
<td>3</td>
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<tr>
<td>MATH 101</td>
<td>Business Mathematics</td>
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<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
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<tr>
<td>BSAD 208</td>
<td>Marketing</td>
<td>4</td>
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<tr>
<td>BSAD 102</td>
<td>Principles of Accounting II</td>
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</tr>
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<td>BSAD 136</td>
<td>Small Business Management</td>
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<td>ECON 210</td>
<td>Principles of Economics</td>
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<td>BSAD 254</td>
<td>Business Law I</td>
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Elective Computer Courses

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<td>Introduction to Microcomputer Applications</td>
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<tr>
<td>CSOF 105</td>
<td>Computer Survival</td>
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<td>CSIS 101</td>
<td>Computers and Information Technology</td>
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<tr>
<td>CSOF 101</td>
<td>Introduction to Word Processing</td>
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<tr>
<td>CSOF 102</td>
<td>Introduction to Spreadsheet</td>
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</tr>
<tr>
<td>CSOF 103</td>
<td>Introduction to Database</td>
<td>1</td>
</tr>
<tr>
<td>CSOF 108</td>
<td>Introduction to Internet</td>
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</tr>
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</table>
The teacher education program at the Metropolitan Community Colleges offers courses for transfer to baccalaureate degree programs at four-year colleges and universities. The program offers students the latest in educational research and practice. It is the commitment of the program that education courses provide the foundation essential for students to become informed decision-makers.

Students will:
- Experience service internships with children and practicing teachers.
- Develop higher level thinking skills of analysis, synthesis, and evaluation with an awareness of the social, emotional, and physical development of children.
- Model effective teaching, lesson preparation, and classroom management strategies that will demonstrate an awareness of cultural diversity and current educational trends.
- Demonstrate essential competencies underlying the various disciplines in education.

To be eligible for the Teacher Education program, a student who has just graduated from high school must have a minimum 2.5 high school grade point average. Students who have 15 or more credit hours of college work must have a minimum 2.5 college grade point average.

The program provides students with access to information on financial aid, grants, and scholarships. For additional information, students should contact the Teacher Education faculty at each college.

**Degree Requirements**

In order to earn an Associate in Arts degree, students must earn a minimum of 62 credit hours and meet the general education requirements of the Metropolitan Community Colleges. (These are listed on page 27.) However, in order to transfer efficiently to a four-year college or university in education, students must select specific general education courses that meet state certification requirements and the program and degree requirements of the transfer institution.

For instance, most education majors must complete specific courses in history, geography and economics to meet state and program requirements, and these may also be used to complete MCC’s general education requirements.

**Teacher Education Courses**

The Missouri Department of Elementary and Secondary Education (DESE) certifies teacher education programs in all Missouri colleges and universities. At the time of publication of this catalog, DESE requirements were in the process of being revised. **Students are strongly urged to seek advisement from an MCC advisor, counselor, or Teacher Education faculty member regarding current state requirements and to meet with an adviser at the institution to which they intend to transfer.** As necessary, MCC will revise its teacher education program to ensure that it prepares students for transfer and meets DESE requirements.

The following teacher education courses have been approved by the state and are accepted in transfer to meet teacher education program requirements at four-year colleges and universities. Students should select from this list of courses based upon the specific requirements of the institutions to which they intend to transfer.

The following courses apply to the preparation of teachers at all levels:

- EDUC 101 Participation in Education I
- EDUC 102 Participation in Education II
- EDUC 200 Becoming a Teacher
- EDUC 270 The Student Learner
- EDUC 280 Technology in Teaching

The following courses apply to the preparation of teachers at the elementary level and for special education:

- EDUC 190 Art for Elementary Teachers
- EDUC 205 Physical Education for Elementary Teachers
- EDUC 210 Music for Elementary Teachers
- EDUC 215 Children’s Literature for Elementary Teachers
- PSYC 240 Child Development

The following course applies to the preparation of teachers at the middle school and high school level:

- PSYC 245 Adolescent Psychology

Students are urged to consult with advisors at both MCC and the transfer institution to select general education courses and teacher education courses that meet the requirements of MCC’s Associate in Arts degree and the program requirements at the college or university at which they intend to earn their bachelor’s degrees and teaching certificate.
Most four-year colleges and universities offering a business or accounting degree want students to finish their general education requirements during their freshman and sophomore years. Also, they often require the following courses: Accounting I and II, Macroeconomics (Economics I), Microeconomics (Economics II), Business Letters and Reports, Business Law I or Legal, Ethical and Regulatory Environment of Business. After completing these, students typically apply for entrance to the Business School and take the remainder of their business classes.

MCC students can take these general education classes and some introductory business classes before transferring to another college or university’s Business School. Because each school has different requirements, students should decide where they’re going to transfer as soon as possible and meet with an advisor or counselor. They also can get copies of transfer guides to several four-year colleges and universities at the development center/advising and counseling centers.

Degree Requirements
In order to receive the degree of Associate in Arts, the student must complete the requirements for all degrees listed on page 26 as well as sufficient courses listed below.

General Education Requirements (48-50 credits)

American Institutions (6 credits)
The student must complete either A, B, or C below:

A. HIST 120 American History I and
   HIST 121 American History II

B. Two of the following three:
POLS 135 Introduction to Political Science
POLS 136 Introduction to American
   National Politics
POLS 137 Introduction to State and Local Politics

C. SOSC 150 Foundations of the Social Sciences I and
   SOSC 151 Foundations of the Social Sciences II

Communications (9 credits)
The student must complete each of the following:
ENGL 101 Composition and Reading I
ENGL 102 Composition and Reading II
SPDR 100 Fundamentals of Speech

Humanities (9-11 credits)
The student must complete one 3-5 credit-hour course in each of any three different areas listed below. One of the courses must be in literature or philosophy.

Art History
Any art history course offered at MCC.

Foreign Language
Any foreign language course numbered 100 or above offered by MCC.

Humanities
Any humanities course offered by MCC.

Literature
Any English course designated in the catalog as literature offered by MCC.

Music Appreciation
MUSI 108 Music Appreciation

Philosophy
Any philosophy course offered by MCC.

Speech and Drama
SPDR 114 Theatre and the Western World or
SPDR 128 Introduction to Film or
MSCM 112 Introduction to Modern Communications

Western Civilization
HIST 133 Western Civilization I or
HIST 134 Western Civilization II

Natural Sciences (9-10 credits)
The student must complete two laboratory courses in the natural sciences, one in biological and one in physical sciences, for a minimum of nine credit hours. The physical sciences include the following disciplines: chemistry, geology, physical geography, meteorology, physical science, and physics.

Social Sciences (6 credits)
ECON 210 Macroeconomics
ECON 211 Microeconomics

Mathematics (9 or 11 credits)
MATH 120 College Algebra
MATH 115 Statistics
MATH 175 Calculus for Business or
MATH 180 Analytic Geometry and Calculus I

Business Course Requirements* (12 credits)
BSAD 101 Accounting I
BSAD 102 Accounting II
BSAD 220 Business Letters & Reports
BSAD 254 Business Law I or
BSAD 270 Legal Environment of Business
CSIS/CSOF Elective or other transferable business courses

*Note: Some transfer institutions may not accept all courses listed under Business Course Requirements. See an advisor or counselor for transfer information.

Total required for the degree 62
TRANSFER FASHION DESIGN & MERCHANDISING

This preprofessional program leads to an Associate in Arts degree and prepares students to transfer to a four-year college or university. By attending MCC, students can complete their general education requirements and enroll in a few introductory fashion courses. Because each college or university has different transfer requirements, students should decide which school they’re going to attend as soon as possible and meet with an advisor or counselor to make sure they’re taking the right classes.

TRANSFER NURSING

In addition to the Associate in Applied Science degree in Nursing available at Penn Valley, all MCC campuses offer courses that allow students to transfer to bachelor’s degree programs at Avila College, Graceland College’s Division of Nursing and St. Luke’s Hospital School of Nursing, among others. However, MCC students must contact the school they plan to transfer to in order to make sure they’re taking the right classes and to apply for admission to that nursing school. With the right courses, they should be able to transfer after four semesters at MCC. For more information about the Missouri Articulation Program (MAP) for associate degree and diploma nurses entering baccalaureate programs, contact an advisor or counselor.

Students who want to take the professional nurse licensing exam must have at least a 2.0 grade-point average in all nursing and science courses. The Missouri State Board of Nursing may refuse to issue a license to any person found guilty of violating federal or state laws and for any of 14 reasons listed in Section 355.066 of the Missouri Revised Statues 1986. (Copies of this law are available from the Missouri State Board of Nursing.)
Occupational Certificate and Degree Programs

CERTIFICATES

In addition to two-year Associate degrees, the Metropolitan Community Colleges awards certificates to students who complete various occupational programs. While each college offers some of the same certificates, others are offered only at one of the MCC colleges. The chart on the following page shows where each program is available. In most cases, any general education requirements for a certificate can be taken at any of the colleges. Students are required to complete the courses for the certificates with a cumulative GPA of at least 2.0.

ASSOCIATE IN APPLIED SCIENCE DEGREE

MCC also awards the Associate in Applied Science degree for various occupations. Again, while each college offers some of the same Applied Science degrees, others are offered only at one of the colleges. The chart on the following page shows where each degree program is available.

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 2.0 grade point average on a four-point grading scale.

Enrollment

Each graduate must meet one of the following requirements:

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

Total Credits

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

Each degree or certificate program includes both general education requirements and specialized requirements. Some programs also require general education electives or restrictive electives to bring students’ total credits to the number needed for a degree. Specific requirements for each program are described on pages 43 through 93. The programs are grouped into seven areas: Arts, Business, Computers, Health, Human Services, Social Services and Industrial/Technical. The chart on page 41 indicates which programs fall into each area. An alphabetical index to the programs is on page 42.

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 classes.

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. When the form is filed, students must pay a graduation fee.
## LOCATION OF OCCUPATIONAL PROGRAMS

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<thead>
<tr>
<th>ARTS (Page 44)</th>
<th>PV</th>
<th>MW</th>
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<th>BR</th>
<th>BTC</th>
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</thead>
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** Offered at the Business & Technology Center through Longview
† Coop with Area Vo-Tech schools
†† Apprenticeship programs
†† Articulated with Johnson County Community College
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Youth Work Certificate ......................................................... 76
GRAPHIC DESIGN

Offered at Penn Valley

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

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3
General Education elective 6

The student must complete one of the following courses:
- HIST 120 American History I or
- HIST 121 American History II or
- POLS 135 Introduction to Political Science or
- POLS 136 Introduction to American National Politics or
- POLS 137 Introduction to State and Local Politics or
- SOSC 151 Foundations of the Social Sciences II 3

and one of the following ART courses
- ART 108 Survey of Art or
- ART 150 History of Art I or
- ART 151 History of Art II 3
Total General Education credit hours 18

Specialized Courses

ART 100 Art Fundamentals I 3
ART 110 Basic Drawing I 3
ART 115 Orientation to Graphic Communications 3
ART 139 Introduction to Photography 3
ART 160 Graphic Design I 3
ART 200 Design 3
ART 102 Computers in Design I 3
ART 202 Computers in Design II 3
ART 244 Digital Photography 3
ART 254 Screen Printing I 3
ART 255 Screen Printing II 3
ART 260 Graphic Design II 3
ART 261 Graphic Design III 3
ART 264 Art Portfolio–Graphic Design 3
ART Electives 3
Total Specialized credits 45
Total credit hours for the degree 63

Digital Prepress Technician Certificate

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

ART 102 Computers in Design I 3
ART 115 Orientation to Graphic Communication 3
ART 202 Computers in Design II 3
ART 281 Introduction to Prepress 3
ART 282 Image Input 3
ART 283 Advanced Prepress 3
ART 284 Prepress Internship 3
Total credit hours for the certificate 21
ACCOUNTING

Offered at all colleges

This program offers students four options: an Associate in Applied Science degree and three certificates of proficiency: Accounting Clerk, Computerized Accounting, and Tax Accounting. With either a degree or certificate, students are prepared for immediate employment as an accounting paraprofessional.

Degree Requirements

General Education Courses

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<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<td>ENGL 102</td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
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*The student must complete one of the following courses:*

- HIST 120 American History I
- HIST 121 American History II
- POLS 155 Introduction to Political Science
- POLS 156 Introduction to American National Politics
- POLS 135 Introduction to State and Local Politics
- SOS 151 Foundations of the Social Sciences II

MATH 100 Mathematics for Business or MATH 110 Intermediate Algebra or MATH 120 College Algebra

Total General Education credits 15

Specialized Courses

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<td>BSAD 270</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 155</td>
<td>Accounting Problems—Spreadsheet—PC</td>
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</tr>
<tr>
<td>BSAD 202</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 153</td>
<td>General Ledger Accounting Systems, PC</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 151</td>
<td>Personal Finance or</td>
<td></td>
</tr>
<tr>
<td>ECON 210</td>
<td>Principles of Economics I or</td>
<td>3</td>
</tr>
<tr>
<td>ECON 211</td>
<td>Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 220/</td>
<td></td>
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</tr>
<tr>
<td>OFSC 180</td>
<td>Business Letters &amp; Reports</td>
<td>3</td>
</tr>
</tbody>
</table>

BSAD 101 Accounting Principles I
BSAD 254 Business Law I
BSAD 155 Accounting Problems—Spreadsheet—PC
BSAD 220/ OFSC 180 Business Letters & Reports

Total credit hours required for the degree 66

Program Electives

Choose 9 hours from courses listed below:

- BSAD 100 Introduction to Accounting*
- BSAD 105 Personnel Management
- BSAD 120 Human Relations in Business
- BSAD 135 Small Business Management
- BSAD 150 Introduction to Business
- BSAD 151 Personal Finance
- BSAD 154 Managerial Accounting
- BSAD 201 Cost Accounting
- BSAD 203 Intermediate Accounting II
- BSAD 205 Marketing
- BSAD 254 Business Law I
- BSAD 255 Business Law II
- ECON 210 Principles of Economics I—Macroeconomics
- ECON 211 Principles of Economics II—Microeconomics

Accounting Clerk Certificate

ENGL 101 Composition and Reading I or OFSC 101 Business English
MATH 100 Mathematics for Business or MATH 110 Intermediate Algebra or MATH 120 College Algebra*
BSAD 101 Accounting Principles I
CSOF 115 Introduction to Microcomputer Applications (or equivalent CSIS courses)

BSAD 150 Business Essentials
BSAD 152 Accounting Principles II
BSAD 153 General Ledger Accounting Systems
BSAD 155 Accounting Problems—Spreadsheet—PC
BSAD 220/ OFSC 180 Business Letters & Reports

Program Elective (see list below)

Total credit hours required for the certificate 30

Program Electives

Select one from the following:

- BSAD 100 Introduction to Accounting*
- BSAD 109 Supervision
- BSAD 120 Human Relations in Business
- BSAD 135 Small Business Management
- BSAD 151 Personal Finance
- BSAD 154 Managerial Accounting
- BSAD 201 Cost Accounting
- BSAD 202 Intermediate Accounting I
- BSAD 204 Principles of Management
- BSAD 205 Marketing
- BSAD 252 Income Tax
- BSAD 254 Business Law I
- BSAD 255 Business Law II
- BSAD 270 Legal Environment of Business

* May be used as an elective if taken prior to BSAD 101
### Computerized Accounting Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
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<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 153</td>
<td>General Ledger Accounting Systems, PC</td>
<td>3</td>
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<tr>
<td>BSAD 155</td>
<td>Accounting Problems—Spreadsheets</td>
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<td><strong>Total credit hours required for the certificate</strong></td>
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### Tax Accounting Certificate

<table>
<thead>
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<tbody>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
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<tr>
<td>BSAD 155</td>
<td>Accounting Problems–Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 220</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 252</td>
<td>Individual Income Tax</td>
<td>3</td>
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<tr>
<td>BSAD 253</td>
<td>Income Tax Special Problems</td>
<td>3</td>
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<tr>
<td>BSAD 258</td>
<td>Tax Accounting Internship</td>
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### Accounting Assistant Certificate

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<tbody>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
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<tr>
<td>BSAD 113</td>
<td>Special Problems in Business (Time Management)</td>
<td>1</td>
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<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
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</table>

### Administrative Assistant

This program offers students either an Associate in Applied Science degree as an Administrative Assistant or six certificate options. These include: 1) Administrative Support Assistant, 2) Administrative Support Specialist, 3) Clerical, 4) General Office, 5) Legal Office, and 6) Medical Office.

### Degree Requirements

#### General Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
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*The student must complete one of the following courses:*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
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<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
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<tr>
<td></td>
<td>General Education Electives</td>
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#### Specialized Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>OFSC 101</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 145</td>
<td>Support Software I or</td>
<td></td>
</tr>
<tr>
<td>OFSC 146</td>
<td>Support Software II or</td>
<td></td>
</tr>
<tr>
<td>OFSC 147</td>
<td>Support Software III or</td>
<td></td>
</tr>
<tr>
<td>OFSC 148</td>
<td>Support Software IV</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 210</td>
<td>Introduction to Desktop Publishing</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 159</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 162</td>
<td>Keyboarding Applications</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 163</td>
<td>Keyboarding Applications/Typewriting III</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 171</td>
<td>Machine Transcription and Calculation</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 176</td>
<td>Office Experience I and</td>
<td></td>
</tr>
<tr>
<td>OFSC 177</td>
<td>Office Experience II or</td>
<td></td>
</tr>
<tr>
<td>OFSC 193</td>
<td>Internship I</td>
<td>5-6</td>
</tr>
<tr>
<td>OFSC 178</td>
<td>Business Communications or</td>
<td></td>
</tr>
<tr>
<td>OFSC 180</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 181</td>
<td>Electronic Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 195</td>
<td>Word Processing Concepts and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 197</td>
<td>Office Management</td>
<td>3</td>
</tr>
<tr>
<td>OFSC</td>
<td>Electives or approved CSOF</td>
<td>5-6</td>
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<tr>
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<td><strong>Total</strong></td>
<td><strong>62</strong></td>
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</table>

* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to the degree.
<table>
<thead>
<tr>
<th>Administrative Support Assistant Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFSC 101 Business English</td>
</tr>
<tr>
<td>OFSC 159 Professional Development</td>
</tr>
<tr>
<td>OFSC 161 Keyboarding Applications I/Typewriting I</td>
</tr>
<tr>
<td>OFSC 181 Electronic Office Procedures</td>
</tr>
<tr>
<td>OFSC 195 Word Processing Concepts/Equipment</td>
</tr>
<tr>
<td>Total credit hours required for this certificate</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Administrative Support Specialist Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes completion of courses for the Administrative Support Assistant certificate (15 credits).</td>
</tr>
<tr>
<td>OFSC 162 Keyboarding Applications II/Typewriting II</td>
</tr>
<tr>
<td>OFSC 171 Machine Trans. &amp; Calculation</td>
</tr>
<tr>
<td>OFSC 176 Office Experience I</td>
</tr>
<tr>
<td>OFSC 178 Business Communications or</td>
</tr>
<tr>
<td>OFSC 180 Business Letters and Reports</td>
</tr>
<tr>
<td>OFSC 200 Advanced Word Processing or</td>
</tr>
<tr>
<td>OFSC 210 Introduction to Desktop Publishing</td>
</tr>
<tr>
<td>Specialist Courses (see * below) or OFSC elective</td>
</tr>
<tr>
<td>Total credit hours required for this certificate</td>
</tr>
</tbody>
</table>

*Specialist Courses

| BIOL 150 Medical Terminology                | 2 |
| OFSC 184 Medical Office Procedures          | 3 |
| OFSC 183 Legal Office Procedures            | 3 |
| OFSC 200 Advanced Word Processing           | 3 |
| OFSC 210 Introduction to Desktop Publishing | 3 |
| OFSC 200 Advanced Word Processing or        | 3 |
| OFSC 215 Advanced Desktop Publishing        | 3 |

<table>
<thead>
<tr>
<th>General Office Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFSC 171 Machine Transcription and Calculation</td>
</tr>
<tr>
<td>OFSC 101 Business English</td>
</tr>
<tr>
<td>OFSC 145 Support Software I or</td>
</tr>
<tr>
<td>OFSC 146 Support Software II or</td>
</tr>
<tr>
<td>OFSC 147 Support Software III or</td>
</tr>
<tr>
<td>OFSC 148 Support Software IV or</td>
</tr>
<tr>
<td>OFSC 195 Word Processing Concepts and Equipment</td>
</tr>
<tr>
<td>OFSC 159 Professional Development</td>
</tr>
<tr>
<td>OFSC 162 Keyboarding Applications/Typewriting I*</td>
</tr>
<tr>
<td>OFSC 163 Keyboarding Applications/Typewriting II*</td>
</tr>
<tr>
<td>OFSC 165 Keyboarding Applications/Typewriting III</td>
</tr>
<tr>
<td>OFSC 176 Office Experience I or</td>
</tr>
<tr>
<td>OFSC 193 Internship I</td>
</tr>
<tr>
<td>OFSC 178 Business Communications or</td>
</tr>
<tr>
<td>OFSC 180 Business Letters and Reports</td>
</tr>
<tr>
<td>OFSC 195 Word Processing Concepts and Equipment</td>
</tr>
<tr>
<td>OFSC 200 Advanced Word Processing Projects</td>
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<tr>
<td>Total 30-32</td>
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<table>
<thead>
<tr>
<th>Clerical Science Certificate</th>
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<tbody>
<tr>
<td>OFSC 171 Machine Transcription and Calculation</td>
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<tr>
<td>OFSC 101 Business English</td>
</tr>
<tr>
<td>OFSC 145 Support Software I or</td>
</tr>
<tr>
<td>OFSC 146 Support Software II or</td>
</tr>
<tr>
<td>OFSC 147 Support Software III or</td>
</tr>
<tr>
<td>OFSC 148 Support Software IV or</td>
</tr>
<tr>
<td>OFSC 176 Office Experience I or</td>
</tr>
<tr>
<td>OFSC 193 Internship I</td>
</tr>
<tr>
<td>OFSC 163 Keyboarding Applications/Typewriting III</td>
</tr>
<tr>
<td>OFSC 176 Office Experience I or</td>
</tr>
<tr>
<td>OFSC 193 Internship I</td>
</tr>
<tr>
<td>OFSC 178 Business Communications or</td>
</tr>
<tr>
<td>OFSC 180 Business Letters and Reports</td>
</tr>
<tr>
<td>OFSC 195 Word Processing Concepts and Equipment</td>
</tr>
<tr>
<td>OFSC 200 Advanced Word Processing Projects</td>
</tr>
<tr>
<td>Total 33-35</td>
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* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to the certificate.

<table>
<thead>
<tr>
<th>Legal Office Certificate</th>
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<tbody>
<tr>
<td>BSAD 254 Business Law I or</td>
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<tr>
<td>BSAD 255 Business Law II or</td>
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<tr>
<td>BSAD 270 Legal Environment of Business</td>
</tr>
<tr>
<td>OFSC 171 Machine Transcription and Calculation</td>
</tr>
<tr>
<td>OFSC 101 Business English</td>
</tr>
<tr>
<td>OFSC 145-148 Support Software I or</td>
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<tr>
<td>OFSC 148 Word Processing Support Software</td>
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<tr>
<td>OFSC 210 Desktop Publishing</td>
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<tr>
<td>OFSC 162 Keyboarding Applications/Typewriting II*</td>
</tr>
<tr>
<td>OFSC 166 Legal Typewriting or</td>
</tr>
<tr>
<td>OFSC 183 Legal Office Procedures</td>
</tr>
<tr>
<td>OFSC 176 Office Experience I or</td>
</tr>
<tr>
<td>OFSC 193 Internship I</td>
</tr>
<tr>
<td>OFSC 178 Business Communications or</td>
</tr>
<tr>
<td>OFSC 180 Business Letters and Reports</td>
</tr>
<tr>
<td>OFSC 195 Word Processing Concepts and</td>
</tr>
<tr>
<td>Equipment</td>
</tr>
<tr>
<td>OFSC 200 Advanced Word Processing Projects</td>
</tr>
<tr>
<td>Total 33-35</td>
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</tbody>
</table>

* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to the certificate.

<table>
<thead>
<tr>
<th>Medical Office Certificate</th>
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<tbody>
<tr>
<td>BIOL 150 Medical Terminology</td>
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<tr>
<td>OFSC 171 Machine Transcription &amp; Calculation</td>
</tr>
<tr>
<td>OFSC 101 Business English</td>
</tr>
<tr>
<td>OFSC 145 Support Software I or</td>
</tr>
<tr>
<td>OFSC 146 Support Software II or</td>
</tr>
<tr>
<td>OFSC 147 Support Software III or</td>
</tr>
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<td>OFSC 148 Support Software IV or</td>
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<td>OFSC 159 Professional Development</td>
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<tr>
<td>OFSC 162 Keyboarding Applications/Typewriting I*</td>
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<tr>
<td>OFSC 163 Keyboarding Applications/Typewriting II*</td>
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<tr>
<td>OFSC 165 Keyboarding Applications/Typewriting III</td>
</tr>
<tr>
<td>OFSC 178 Office Experience I or</td>
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<td>OFSC 193 Internship I</td>
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<tr>
<td>OFSC 178 Business Communications or</td>
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<tr>
<td>OFSC 180 Business Letters and Reports</td>
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<td>Equipment</td>
</tr>
<tr>
<td>OFSC 200 Advanced Word Processing Projects</td>
</tr>
<tr>
<td>Total 30-32</td>
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</table>
OFSC 146 Support Software II or 
OFSC 147 Support Software III or 
OFSC 148 Support Software IV or 
OFSC 210 Introduction to Desktop Publishing 3 
OFSC 176 Office Experience I or 
OFSC 193 Internship I 3-5 
OFSC 162 Keyboarding Applications/Typewriting II* 3 
OFSC 178 Business Communications or 
OFSC 180 Business Letters and Reports 3 
OFSC 181 Electronic Office Procedures 3 
OFSC 184 Medical Procedures 3 
OFSC 195 Word Processing Concepts and Equipment 3 
OFSC 197 Office Management 3 Total 32-34 
Total credit hours required for this certificate 32* 
* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to the certificate.

GENERAL BUSINESS

Offered at all colleges

This program offers students two options: an Associate in Applied Science degree and a certificate of completion in Customer Service. It prepares students for various business positions.

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Composition and Reading I</td>
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</tr>
<tr>
<td>ENGL 102</td>
<td>Composition and Reading II</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>ECON 210</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Intermediate Algebra or</td>
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<tr>
<td>MATH 119</td>
<td>College Mathematics or</td>
<td></td>
</tr>
<tr>
<td>MATH 120</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td>3</td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
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</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
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</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
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</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
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</table>

Total General Education courses 21

Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
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</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
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Total Specialized courses 6

Business Courses

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
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</tr>
<tr>
<td>BSAD 102</td>
<td>Accounting Principles II</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td>3</td>
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<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
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<tr>
<td>BSAD 205</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 254</td>
<td>Business Law I</td>
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Total Business courses 24

Electives

Any course from BSAD, CSIS, CSOF, ECON or other electives for a total of 12

Total credit hours required for the degree 63

Customer Service Certificate

<table>
<thead>
<tr>
<th>Course</th>
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<th>Hours</th>
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<tbody>
<tr>
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<td>Human Relations in Business</td>
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</tr>
<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 185</td>
<td>Customer Service</td>
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</tbody>
</table>

Total credit hours required for the certificate 15

* Satisfactory math ASSET score or completion of MATH 020 with a grade of C or better; have completed or simultaneously enrolled in BSAD 120, BSAD 150, BSAD 178, and CSOF 115; have demonstrated keyboarding proficiency of 35 words a minute with 90% accuracy or have taken OFSC 041, OFSC 103 or above.

SUPERVISION CERTIFICATE

This program, which leads to a certificate of proficiency, prepares new students for supervisory jobs and improves the performance of those already working as supervisors.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 100</td>
<td>Introduction to Accounting or</td>
<td></td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 220</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>CSIS/CSOF</td>
<td>Any Computer Science Information Systems/Computer Software Course</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 100</td>
<td>Introduction to Accounting or</td>
<td></td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
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</tr>
<tr>
<td>BSAD 109</td>
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</tr>
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</tr>
<tr>
<td>BSAD 220</td>
<td>Business Letters and Reports</td>
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</tr>
<tr>
<td>CSIS/CSOF</td>
<td>Any Computer Science Information Systems/Computer Software Course</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: Any course from BSAD, CSIS, CSOF, ECON, or OFSC or MATH 100

Total credit hours required for the certificate 30
## INFORMATION/WORD PROCESSING

*Offered at all colleges*

This program offers students two options: an Associate in Applied Science degree or a certificate of proficiency.

### Degree Requirements

#### General Educational Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

_The student must complete one of the following courses:_

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I</td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II</td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
</tr>
</tbody>
</table>

*General electives 6*

Total General Education credit hours 15

#### Office Systems Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFSC 101</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 162</td>
<td>Keyboarding Applications/Typewriting II*</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 163</td>
<td>Keyboarding Applications/Typewriting III</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 171</td>
<td>Machine Transcription and Calculation</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 178</td>
<td>Business Communications or</td>
<td></td>
</tr>
<tr>
<td>OFSC 180</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 181</td>
<td>Electronic Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 195</td>
<td>Word Processing Concepts and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 197</td>
<td>Office Management</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 200</td>
<td>Advanced Word Processing Projects</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Office Systems credit hours 27

#### Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 100</td>
<td>Introduction to Accounting or</td>
<td></td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 145</td>
<td>Support Software I or</td>
<td></td>
</tr>
<tr>
<td>OFSC 146</td>
<td>Support Software II or</td>
<td></td>
</tr>
<tr>
<td>OFSC 147</td>
<td>Support Software III or</td>
<td></td>
</tr>
<tr>
<td>OFSC 148</td>
<td>Support Software IV or</td>
<td></td>
</tr>
<tr>
<td>OFSC 215</td>
<td>Advanced Desktop Publishing</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 159</td>
<td>Professional Development</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 176</td>
<td>Office Experience I or</td>
<td></td>
</tr>
<tr>
<td>OFSC 193</td>
<td>Internship I</td>
<td>3-5</td>
</tr>
<tr>
<td>OFSC 210</td>
<td>Introduction to Desktop Publishing</td>
<td>3</td>
</tr>
<tr>
<td>BSAD/OFSC/CSIS/CSOF</td>
<td>Approved Electives**</td>
<td>3-5</td>
</tr>
</tbody>
</table>

Total Specialized credit hours 18-20

Total credit hours required for the degree 62

* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to either the certificate or the degree.

** Only as approved by the division chair.

### Information/Word Processing Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFSC 171</td>
<td>Machine Transcription and Calculation</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 101</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 162</td>
<td>Keyboarding Applications/Typewriting II*</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 163</td>
<td>Keyboarding Applications/Typewriting III</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 178</td>
<td>Business Communications or</td>
<td></td>
</tr>
<tr>
<td>OFSC 180</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 181</td>
<td>Electronic Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 195</td>
<td>Word Processing Concepts and Equipment</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 197</td>
<td>Office Management</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 200</td>
<td>Advanced Word Processing Projects</td>
<td>3</td>
</tr>
<tr>
<td>OFSC 145</td>
<td>Support Software I or</td>
<td></td>
</tr>
<tr>
<td>OFSC 146</td>
<td>Support Software II or</td>
<td></td>
</tr>
<tr>
<td>OFSC 147</td>
<td>Support Software III or</td>
<td></td>
</tr>
<tr>
<td>OFSC 148</td>
<td>Support Software IV or</td>
<td></td>
</tr>
<tr>
<td>OFSC 210</td>
<td>Introduction to Desktop Publishing</td>
<td>3</td>
</tr>
<tr>
<td>OFSC Electives</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate 32
### MANAGEMENT

*Offered at all colleges*

This program, which leads to an Associate in Applied Science degree, is for students who want to become business supervisors or managers or those who already have these positions. It provides them with classroom instruction and on-the-job training to reach their career goals.

#### General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

- **HIST 120** American History I  
- **HIST 121** American History II  
- **POLS 135** Introduction to Political Science  
- **POLS 136** Introduction to American National Politics  
- **POLS 137** Introduction to State and Local Politics  
- **SOSC 151** Foundations of the Social Sciences II  
- **MATH 100** Mathematics for Business  
- **MATH 110** Intermediate Algebra  
- **MATH 111** General Education Electives*  

Total General Education credit hours 18

* Students selecting the Environmental Health and Safety emphasis are strongly recommended to take CHEM 102 and GEOL 103 to fulfill this requirement.

#### Specialized Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 100</td>
<td>Introductory Accounting or</td>
<td></td>
</tr>
<tr>
<td>BSAD 101</td>
<td>Accounting Principles I</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision or</td>
<td></td>
</tr>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 127</td>
<td>Management Internship I</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 128</td>
<td>Management Internship II</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 129</td>
<td>Management Internship III</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 135</td>
<td>Small Business Management or</td>
<td></td>
</tr>
<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 153</td>
<td>General Ledger Accounting Systems, PC or</td>
<td></td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications (or any programming language course)</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 205</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 220</td>
<td>Business Letters and Reports</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 254</td>
<td>Business Law I or</td>
<td></td>
</tr>
<tr>
<td>BSAD 255</td>
<td>Business Law II or</td>
<td></td>
</tr>
<tr>
<td>BSAD 270</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Specialized Core credit hours 30

#### Other Specialty Areas

In addition to general education and specialized core courses, students must complete one of the following specialty areas.

With approval from the management coordinator, students may substitute other courses to meet their individual needs.

**Accounting Specialty**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 102</td>
<td>Accounting Principles II</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 154</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 201</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 202</td>
<td>Intermediate Accounting I or</td>
<td></td>
</tr>
<tr>
<td>BSAD 203</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 252</td>
<td>Individual Income Tax</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 15

**Construction Management Specialty**

*Offered through Maple Woods at the Builders Association*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSMG 110</td>
<td>Problem Solving/Decision Making</td>
<td>1</td>
</tr>
<tr>
<td>CSMG 120</td>
<td>OSHA and Site Security</td>
<td>1</td>
</tr>
<tr>
<td>CSMG 130</td>
<td>Cost Awareness/Production Control</td>
<td>1</td>
</tr>
<tr>
<td>CSMG 140</td>
<td>Beginning Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 205</td>
<td>Intermediate Print Reading</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 210</td>
<td>Accident Prevention/Loss Control</td>
<td>1</td>
</tr>
<tr>
<td>CSMG 220</td>
<td>Planning and Scheduling</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 230</td>
<td>Productivity Improvement</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 250</td>
<td>Construction Estimating</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 260</td>
<td>Contract Documents</td>
<td>2</td>
</tr>
<tr>
<td>CSMG 270</td>
<td>Advanced Print Reading</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 18

**Computer Science/Information Systems Specialty**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 125</td>
<td>Visual BASIC Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 140</td>
<td>COBOL Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 130</td>
<td>Pascal Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 225</td>
<td>Advanced Visual BASIC Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 240</td>
<td>Advanced COBOL Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 15
Environmental Health and Safety Specialty
OFFERED AT THE BUSINESS & TECHNOLOGY CENTER THROUGH MAPLE WOODS

EHSS 200  Safety and Health Regulations and Standards  3
EHSS 202  Transportation and Storage of Hazardous Materials  3
EHSS 203  Environmental Regulations  3
EHSS 213  EHS Program Development and Management  3

The student must complete one of the following courses:
EHSS 210  Incident and Accident Investigation or
EHSS 211  Workers Compensation Legislation for EHS or
EHSS 217  Concepts of Waste Minimization, Recycling and Pollution Prevention or
EHSS 218  Industrial Processes and Hazard Control  3

Total 15

Marketing and Retailing Specialty

BSAD 104  Principles of Advertising  3
BSAD 106  Principles of Salesmanship  3
BSAD 112  Retailing Principles  3
BSAD 152  Fashion Merchandising  3
BSAD 237  Merchandising Problems and Practices  3

Total 15

Travel and Tourism Specialty

TRAV 101  Introduction to the Travel Industry  3
TRAV 102  Destination Geography  3
TRAV 103  Travel Sales and Reservations  3
TRAV 104  Travel Agency Operations  3
TRAV 105  Computer Reservation Systems  4

Total 16

Total credit hours required for the degree 63-66

OFFICE MANAGEMENT

OFFERED AT ALL COLLEGES

This program leads to either an Associate in Applied Science degree or a certificate of proficiency. Both prepare students for jobs as administrative assistants, administrative office coordinators or office managers. Requirements for the degree and certificate are listed below.

General Education Courses

ENGL 101  Composition and Reading I  3
SPDR 100  Fundamentals of Speech  3

The student must complete one of the following courses:
HIST 120  American History I or
HIST 121  American History II or
POLS 135  Introduction to Political Science or
POLS 136  Introduction to American National Politics or
POLS 137  Introduction to State and Local Politics or
SOSC 151  Foundations of the Social Sciences II  3

MATH 100  Mathematics for Business  3
General Education Elective  3
Total General Education Elective credit hours 15

Specialized Courses

BSAD 100  Introduction to Accounting or
BSAD 101  Accounting Principles I  3
BSAD 105  Personnel Management or
BSAD 109  Principles of Supervision  3
BSAD 120  Human Relations in Business  3
BSAD 254  Business Law I or
BSAD 255  Business Law II  3
BSAD 127  Management Internship I or
BSAD 128  Management Internship II or
OFSC 176  Office Experience I or
OFSC 193  Internship I  3-5
OFSC 101  Business English  3
OFSC 159  Professional Development  3
OFSC 162  Keyboarding Applications/Typewriting II*  3
OFSC 178  Business Communications or
OFSC 180  Business Letters and Reports  3
OFSC 181  Electronic Office Procedures  3
OFSC 195  Word Processing Concepts and Equipment  3
OFSC 197  Office Management  3
OFSC 210  Introduction to Desktop Publishing or
OFSC 145  Support Software I or
OFSC 146  Support Software II or
OFSC 147  Support Software III or
OFSC 148  Support Software IV  3
OFSC 101  Business English  3
OFSC 127  Management Internship I or
OFSC 176  Office Experience I or
OFSC 193  Internship I  3-5
OFSC 159  Professional Development  3
OFSC 178  Business Communications or
OFSC 180  Business Letters and Reports  3
OFSC 195  Word Processing Concepts and Equipment  3
OFSC 197  Office Management  3
OFSC 210  Desktop Publishing or
OFSC 145  Support Software  3

Total credit hours required for the degree 62

* OFSC 161 Keyboarding Applications/Typewriting I is not applicable to the degree.

Office Management Certificate

BSAD 100  Introduction to Accounting or
BSAD 101  Accounting Principles I  3
BSAD 105  Personnel Management or
BSAD 109  Principles of Supervision  3
BSAD 120  Human Relations in Business  3
BSAD 254  Business Law I or
OFSC 101  Business English  3
BSAD 127  Management Internship I or
OFSC 176  Office Experience I or
OFSC 193  Internship I  3-5
OFSC 159  Professional Development  3
OFSC 178  Business Communications or
OFSC 180  Business Letters and Reports  3
OFSC 195  Word Processing Concepts and Equipment  3
OFSC 197  Office Management  3
OFSC 210  Desktop Publishing or
OFSC 145  Support Software  3

Total credit hours required for the certificate 30-32
In the area of computer science and information systems, MCC offers students three options. The first is the Associate of Arts in Computer Science degree, which allows them to transfer to a four-year college or university to earn a Bachelor’s degree in Computer Science or Computer Information Systems.

A second option is the Associate of Applied Science degree in Computer Information Systems, which prepares students for entry-level jobs with emphasis in either Computer Information System Programming, Database Management, Multimedia Technology, Networking, Technical Support, or Specialty Area.

The third option leads to a certificate of proficiency in either Computer Information Systems Programming, Computer Support Technology, Database Management, Multimedia Technology, Telecommunications, or Networking and is designed to prepare students for career advancement and to provide technical knowledge about computer technology for persons who may have a degree in another area. The most current requirements for the degree and certificates can be obtained from the Development Center at each campus.

**Degree Requirements**

**General Education Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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</tr>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Intermediate Algebra or</td>
<td></td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

- MATH 110 Intermediate Algebra or higher mathematics course
- SPDR 100 Fundamentals of Speech
- General education electives

Total General Education Requirements 18

**Business, Computer Science/Information Systems and Computer Software Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 151</td>
<td>Microcomputer Operating Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

Five of the following (all are 3-credit hour courses):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td></td>
</tr>
<tr>
<td>CSIS 111</td>
<td>Microcomputer Hardware Concepts</td>
<td></td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Network Fundamentals</td>
<td></td>
</tr>
<tr>
<td>CSIS 162</td>
<td>Introduction to Multimedia</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Courses for Degree Emphasis**

In addition to the courses listed above, the student selects one of the emphasis areas listed below. Each of the emphasis areas consists of 15 credit hours.

**Computer Information Systems Programming Emphasis**

**Programming Courses**

At most two of the following beginning programming courses (all are 3-credit hour courses):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science</td>
<td></td>
</tr>
<tr>
<td>CSIS 125</td>
<td>Visual BASIC Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 131</td>
<td>Computing Theory I</td>
<td></td>
</tr>
<tr>
<td>CSIS 135</td>
<td>FORTRAN Programming</td>
<td></td>
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<tr>
<td>CSIS 140</td>
<td>COBOL Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 250</td>
<td>Assembler Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 152</td>
<td>Java Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 155</td>
<td>C++ Programming</td>
<td>3-6</td>
</tr>
</tbody>
</table>

At least one of the following advanced programming courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 225</td>
<td>Advanced Visual BASIC Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 231</td>
<td>Computing Theory II</td>
<td></td>
</tr>
<tr>
<td>CSIS 240</td>
<td>Advanced COBOL Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 252</td>
<td>Advanced Java Programming</td>
<td></td>
</tr>
<tr>
<td>CSIS 255</td>
<td>Advanced C++ Programming</td>
<td>3-6</td>
</tr>
</tbody>
</table>

The following two courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 177</td>
<td>Database Application and Design with</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Access</td>
<td></td>
</tr>
<tr>
<td>CSIS</td>
<td>Elective numbered 200 or above</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Programming Emphasis credits 15
**Database Management Emphasis**

- CSIS 177 Database Application and Design with Access 3
- CSIS 277 Database Programming with Access and Advanced Access Features 3
- CSIS 125 Visual BASIC Programming 3
- CSIS 155 C++ Programming 3

*Two of the following (all are 3-credit hour courses)*

- CSIS 161 Telecommunications and Local Area Networks 3
- CSIS 162 Introduction to Multimedia 3
- CSIS 225 Advanced Visual BASIC Programming 3
- CSIS 255 Advanced C++ Programming 3
- CSIS 290 Computer Science/Information Systems Field Project 3

Total Database Emphasis credits 15

**Multimedia Technology Emphasis**

- CSIS 262 Advanced Multimedia Design and Development 3
- CSIS 290 Computer Support/Information Systems Field Project 3

*One of the following:*

- CSIS 225 Advanced Visual BASIC Programming 3
- CSIS 252 Advanced Java Programming 3
- CSIS 255 Advanced C++ Programming 3

*The following two courses:*

- CSIS 251 Advanced Microcomputer Operating Systems Concepts 3
- CSIS 215 Advanced Microcomputer Applications 6

Total Multimedia Emphasis credits 15

**Networking Emphasis**

- CSIS 171 LAN Novell Netware 3
- CSIS 174 Technologies Used on Local Area Networks 3
- CSIS 175 Service and Support of Local Area Networks 3

*Two of the following:*

- CSIS 177 Database Application and Design with Access 3
- CSIS 251 Advanced Microcomputer Operating Systems Concepts 3
- CSIS A beginning programming course (CSIS 121, 125, 130, 131, 135, 140, 149, 150, 152, or 155) 6

Total Networking Emphasis credits 15

**Technical Support Emphasis**

- CSIS 162 Introduction to Multimedia 3
- CSIS 171 LAN Novell Netware 3
- CSIS 215 Advanced Microcomputer Applications 3
- CSIS 251 Advanced Microcomputer Operation Systems Concepts 3
- CSIS Elective from CSIS courses numbered 145 or above 3

Total Tech Support Emphasis credits 15

---

**Specialty Area Emphasis**

The student may select 15 credit hours from courses numbered 100 or above in a single discipline. Students must demonstrate computer skills applied to the area of emphasis in either CSIS 191 Computer Support Practicum or in a directed study (3 credit hours) in the emphasis area. The selection must be approved by a full-time faculty member in both CSIS and in the area of emphasis.

Total credit hours required for the degree 63

---

**Computer Information Systems Programming Certificate**

- CSIS 101 Computers and Information Technology 3
- CSIS 115 Introduction to Microcomputer Applications 3
- CSIS 161 Telecommunications and Network Fundamentals 3
- CSIS 177 Database Application and Design with Access 3

Total credit hours required for the certificate 30
## Computer Support Technology I Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
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<tr>
<td>BSAD 150</td>
<td>Business Essentials</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 111</td>
<td>Microcomputer Hardware Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 151</td>
<td>Microcomputer Operating Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Network Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 181</td>
<td>Applications Support Technologies</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 191</td>
<td>Computer Support Practicum</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credit hours required for the certificate**: 30

## Computer Support Technology II Certificate

| Computer Support Technology I courses (see above) | 30 |
| CSIS 171 | LAN Novell Netware | 3 |
| CSIS 162 | Introduction to Multimedia | 3 |
| CSIS 215 | Advanced Microcomputer Applications | 3 |
| CSIS 251 | Advanced Microcomputer Operating Systems Concepts | 3 |
| CSIS | Elective from CSIS courses numbered 145 or above | 3 |

**Total credit hours required for the certificate**: 45

## Multimedia Technology I Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 151</td>
<td>Microcomputer Operating Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 162</td>
<td>Introduction to Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
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</table>

**One of the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 125</td>
<td>Visual BASIC Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 152</td>
<td>Java Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 155</td>
<td>C++ Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credit hours required for this certificate**: 15

## Multimedia Technology II Certificate

| Computer Support Technology I courses (see above) | 15 |
| CSIS 161 | Telecommunications and Networking Fundamentals | 3 |
| CSIS 262 | Advanced Multimedia Design and Development       | 3 |
| CSIS 290 | Computer Science/Information Systems Field Project | 3 |

**One of the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 225</td>
<td>Advanced Visual Basic Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

## Networking Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 151</td>
<td>Microcomputer Operating Systems Concepts</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Networking Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 171</td>
<td>LAN Novell Netware</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 174</td>
<td>Technologies Used on Local Area Networks</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 175</td>
<td>Service and Support of Local Area Networks</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credit hours required for the certificate**: 30

## Database Application Developer with ORACLE Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science or</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 155</td>
<td>C++ Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 152</td>
<td>Java Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 128</td>
<td>Web Development</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 143</td>
<td>Relational Database Design for ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 144</td>
<td>Introduction to SQL with ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 145</td>
<td>ORACLE Database Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 146</td>
<td>Creating ORACLE Applications Forms I</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 147</td>
<td>Creating ORACLE Reports</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 245</td>
<td>Creating Web Applications with ORACLE PL/SQL</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 246</td>
<td>Creating ORACLE Application Forms II</td>
<td>3</td>
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</tbody>
</table>

**Total credit hours required for the certificate**: 30

## Database Administrator with ORACLE Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science or</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 125</td>
<td>Visual Basic Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Networking Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 172</td>
<td>LAN Windows Server</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 178</td>
<td>Internetworking with TCP/IP</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 143</td>
<td>Relational Database Design with ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 144</td>
<td>Introduction to SQL with ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 145</td>
<td>ORACLE Database Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 280</td>
<td>Database Administration with ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 283</td>
<td>Database Backup and Recovery with ORACLE</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 284</td>
<td>Database Performance Tuning with ORACLE</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credit hours required for the certificate**: 30
Database Management with ACCESS Certificate

CSIS 125 Visual Basic Programming 3
CSIS 177 Database Application and Design with Access 3
CSIS 277 Database Programming with Access and Advanced Access Features 3
CSIS 179 Web SQL Programming 3
CSIS 290 Computer Science Information Systems Field Project 3
Total credit hours required for the certificate 15

Database Management for Web-Based Applications Certificate

Students choose with either the Visual Basic track or Java track.

Visual Track
CSIS 128 Web Development 3
CSIS 177 Database Application and Design with Access 3
CSIS 179 Web SQL Programming 3
CSIS 125 Visual Basic Programming 3
CSIS 225 Advanced Visual Basic Programming 3
CSIS 279 (VB) Web Database Programming 3

Java Track
CSIS 128 Web Development 3
CSIS 144 Introduction to SQL Using ORACLE 3
CSIS 179 Web SQL Programming 3
CSIS 152 Java Programming 3
CSIS 252 Advanced Java Programming 3
CSIS 279 (Java) Web Database Programming 3

Total credit hours required for the certificate 18

Database Management with SQL Server Certificate

CSIS 172 LAN Windows Server 3
CSIS 177 Database Application and Design with Access 3
CSIS 257 Implementing a Database in Microsoft SQL Server 3
CSIS 258 System Administration for Microsoft SQL Server 3
CSIS 290 Computer Science Information Systems Field Project 3
Total credit hours required for the certificate 15

TELECOMMUNICATIONS TECHNOLOGY

Offered at all campuses

This program provides a career ladder for students wishing to pursue careers in telecommunications. The degree develops both technical and general education skills. The Level I certificate is targeted for individuals seeking an entry-level position. The Level II certificate is designed for those individuals seeking advancement in the field, specifically for positions beyond entry level.

Degree Requirements

General Education Courses
ENGL 101 Composition and Reading I 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics 3

Students must complete mathematics in include: (5-6 credits)
MATH 120 College Algebra (3) and
MATH 130 Trigonometry (3) or
MATH 150 Precalculus (5) 5-6
SPDR 100 Fundamentals of Speech 3
General education electives 6
Total General Education credit hours 20-21
## Specialized Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 160</td>
<td>Introduction to Telecommunications Careers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 164</td>
<td>Basic Telecommunications Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 165</td>
<td>Telecommunications Instrumentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 168</td>
<td>Telecommunications Technology I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Networks Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELTE 130</td>
<td>Digital Electronics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 261</td>
<td>Telecommunications and Networks II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 264</td>
<td>Optical and Broadband Transmission Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 268</td>
<td>Telecommunications Technology II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 295</td>
<td>Telecommunications Internship</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Students must complete one of the following courses:**
- CSIS 266 Switching Techniques or
- CSIS 267 FCC Commercial License Preparation

**Students must take one of the following courses:**
- BSAD 120 Human Relations in Business or
- BSAD 109 Principles of Supervision
  - Elective from BSAD, CSIS or ELTE 1-3
  - Total electives 9
  - Total Specialized credit hours 42-44

**Total credit hours required for the degree** 62-65

## Telecommunications Technician Level I Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 160</td>
<td>Introduction to Telecommunications Careers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 164</td>
<td>Basic Telecommunications Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 165</td>
<td>Telecommunications Instrumentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 168</td>
<td>Telecommunications Technology I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELTE 130</td>
<td>Digital Electronics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 261</td>
<td>Telecommunications and Networks II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 264</td>
<td>Optical and Broadband Transmission Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 295</td>
<td>Telecommunications Internship</td>
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<td></td>
</tr>
</tbody>
</table>

**Students must complete mathematics in include: (5-6 credits)**
- MATH 120 College Algebra (3) and  
  - MATH 130 Trigonometry (3)
  - MATH 150 Precalculus (5)

**Students must complete one of the following courses:**
- CSIS 266 Switching Techniques or
- CSIS 267 FCC Commercial License Preparation

**Students must take one of the following courses:**
- BSAD 120 Human Relations in Business or
- BSAD 109 Principles of Supervision

**Total credit hours required for the certificate** 46-47

## Telecommunications Technician Level II Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 121</td>
<td>Introduction to Computer Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 160</td>
<td>Introduction to Telecommunications Careers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 164</td>
<td>Basic Telecommunications Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 165</td>
<td>Telecommunications Instrumentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 168</td>
<td>Telecommunications Technology I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 161</td>
<td>Telecommunications and Networks Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELTE 130</td>
<td>Digital Electronics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 261</td>
<td>Telecommunications and Networks II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSIS 264</td>
<td>Optical and Broadband Transmission Systems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total credit hours required for the certificate** 17
DENTAL ASSISTING DEGREE

Offered at Penn Valley

This program, which leads to either an Associate of Applied Science degree or a certificate of proficiency, prepares the student to enter the workforce as a trained dental auxiliary. 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.

Requirements

1. High school diploma or GED certificate.
2. Completion of college placement tests.
3. Admission to Penn Valley Community College.
4. Grade point average of 2.5 or higher.
5. Student must have completed ENGL 101 with a grade of C or better.

Application Procedure

1. New students send application for admission to Penn Valley Community College and have all high school, GED, and college records sent to the records office.
2. Request a program application form from the program coordinator.
3. Return completed program application by June 1 for admission to the class beginning in August.
4. Applications will be screened for completeness and qualified applicants will be notified of an interview time.
5. The most qualified applicants will be selected based on the following criteria:
   a. Results of college placement tests.
   b. Academic performance and completion of prerequisites.

Degree Requirements

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 102</td>
<td>Composition and Reading II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Intermediate Algebra or higher course</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 160</td>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 109</td>
<td>Anatomy and Physiology*</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 208</td>
<td>Microbiology</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Humanities**</td>
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</tr>
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</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
</tbody>
</table>

Total General Education credit hours 37

Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>DENA 100</td>
<td>Developmental Dentistry</td>
<td>3</td>
</tr>
<tr>
<td>DENA 105</td>
<td>Dental Laboratory Procedures</td>
<td>2</td>
</tr>
<tr>
<td>DENA 110</td>
<td>Chairside Assisting I</td>
<td>5</td>
</tr>
<tr>
<td>DENA 115</td>
<td>Dental Radiology I</td>
<td>3</td>
</tr>
<tr>
<td>DENA 125</td>
<td>Clinical Practice I</td>
<td>2</td>
</tr>
<tr>
<td>DENA 126</td>
<td>Dental Assistant Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>DENA 200</td>
<td>Body Structure and Function</td>
<td>2</td>
</tr>
<tr>
<td>DENA 205</td>
<td>Dental Biomaterials</td>
<td>2</td>
</tr>
<tr>
<td>DENA 210</td>
<td>Chairside Assisting II</td>
<td>2</td>
</tr>
<tr>
<td>DENA 215</td>
<td>Dental Radiology II</td>
<td>1</td>
</tr>
<tr>
<td>DENA 250</td>
<td>Clinical Practice II</td>
<td>4</td>
</tr>
<tr>
<td>DENA 225</td>
<td>Dental Office Management</td>
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</tr>
<tr>
<td>DENA 260</td>
<td>Dental Assistant Seminar II</td>
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</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Specialized credit hours 39

Total credit hours required for the degree 76

Dental Assisting Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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Specialized Courses

<table>
<thead>
<tr>
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<tr>
<td>DENA 100</td>
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<td>DENA 105</td>
<td>Dental Laboratory Procedures</td>
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<td>DENA 110</td>
<td>Chairside Assisting I</td>
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<tr>
<td>DENA 115</td>
<td>Dental Radiology I</td>
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<td>DENA 125</td>
<td>Clinical Practice I</td>
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<tr>
<td>DENA 126</td>
<td>Dental Assistant Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
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<tr>
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<td>DENA 205</td>
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<td>DENA 215</td>
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<td>DENA 225</td>
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<td>DENA 250</td>
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<td>DENA 260</td>
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<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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</tbody>
</table>

Total credit hours required for the certificate 39

* Courses that may be substituted for BIOL 109:
  - BIOL 110 Human Anatomy (5 credits)
  - BIOL 210 Human Physiology (5 credits)
EMERGENCY MEDICAL TECHNICIAN–PARAMEDIC

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.

Requirements
1. High school diploma or GED certificate.
2. Admission to Penn Valley Community College.
3. Student must be 18 years of age by completion of the Emergency Medical Technician-Basic course.
4. Student must be enrolled in or have completed EMTP 150 (or have a current EMT license) and a college anatomy and physiology course.

Applications Procedure
1. New students send application for admission to Penn Valley Community College and have all high school, GED, and college records sent to the Records Office.
2. Request a program application form from the Program Coordinator.
3. Return completed program application by June 1 for admission to the program beginning in August or by November 1 for admission to the program beginning in January.
4. Applications will be screened for completeness and qualified applicants will be notified of an interview time.
5. The most qualified applicants will be selected based on the following criteria:
   a. Results of college placement tests.
   b. Academic performance and completion of prerequisites.
   c. Missouri EMT licensure or pending reciprocity.
   d. Field experience.

Degree Requirements

General Education Courses
ENGL 101 Composition and Reading I 3.0
SPDR 100 Fundamentals of Speech 3.0

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics or
SOSC 151 Foundations of the Social Sciences II 3.0
MATH 110 Intermediate Algebra 3.0
PSYC 140 General Psychology 3.0
SOCL 160 Sociology 3.0
Total General Education credit hours 18.0

Specialized Courses
BIOL 108 Introductory Anatomy and Physiology 5.0

EMTP 150 Emergency Medical Technician—Basic 8.0
EMTP 240 Introduction to Paramedic Care 4.0
EMTP 241 Prehospital Assessment Techniques 4.0
EMTP 242 Medical Emergencies 3.0
EMTP 243 Paramedic Pharmacology 4.5
EMTP 244 OB, Pediatrics, ACLS 2.5
EMTP 245 Trauma Management 2.5
EMTP 246 Prehospital Care Integration 2.0
EMTP 247 Paramedic Hospital Clinicals 9.0
EMTP 248 Paramedic Field Internship 5.5
EMTP 249 PALS 1.0

Total Specialized credit hours 58.0
Total credit hours required for the degree 76.0

EMT–Paramedic Certificate

BIOL 108 Introductory Anatomy and Physiology 5.0
EMTP 150 Emergency Medical Technician-Basic 8.0
EMTP 240 Introduction to Paramedic Care 4.0
EMTP 241 Prehospital Assessment Techniques 4.0
EMTP 242 Medical Emergencies 3.0
EMTP 243 Paramedic Pharmacology 4.5
EMTP 244 OB, Pediatrics, ACLS 2.5
EMTP 245 Trauma Management 2.5
EMTP 246 Prehospital Care Integration 2.0
EMTP 247 Paramedic Hospital Clinicals 9.0
EMTP 248 Paramedic Field Internship 5.5
EMTP 249 PALS 1.0

Total credit hours required for the certificate 51.0

HEALTH INFORMATION TECHNOLOGY

Offered at Penn Valley

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

Admission to the Program

Since enrollment is limited, students must apply for admission to the Health Information Technology program and meet the following requirements. Students must begin the program in the fall semester. Enrollees may be full- or part-time students.

1. Be admitted to Penn Valley.
2. Submit transcripts of high school and college work both to the Penn Valley admissions office and to the program coordinator.
3. Present a minimum grade point average of 2.5 in high school work or a minimum GED total score of 245 as well as a minimum grade point average of 2.5 in all previous college work.
4. Have a personal advising interview with the program coordinator.
5. Visit a medical record department, interview the director about the health information profession, and submit a report of the visit.
6. Complete application for the Health Information Technology Program.

Degree Requirements

First Semester–Fall

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108</td>
<td>Introductory Anatomy and Physiology</td>
<td>5.0</td>
</tr>
<tr>
<td>HITE 101</td>
<td>Introduction to the Medical Record Profession</td>
<td>2.0</td>
</tr>
<tr>
<td>HITE 102</td>
<td>Health Record Systems, Analysis/Control</td>
<td>3.5</td>
</tr>
<tr>
<td>HITE 103</td>
<td>Medical Terminology for Medical Records</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16.5</td>
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</tbody>
</table>

* Student may choose from OFSC 145-148, OFSC 195, or OFSC 200.

Second Semester–Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>BIOL 137</td>
<td>Introduction to Pathology</td>
<td>4.0</td>
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<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3.0</td>
</tr>
<tr>
<td>HITE 106</td>
<td>Health Statistics</td>
<td>3.0</td>
</tr>
<tr>
<td>HITE 108</td>
<td>Legal Aspects of Medical Records</td>
<td>2.0</td>
</tr>
<tr>
<td>HITE 109</td>
<td>Directed Practice I</td>
<td>2.5</td>
</tr>
<tr>
<td>HITE 110</td>
<td>Pharmacology</td>
<td>1.5</td>
</tr>
<tr>
<td>HITE 111</td>
<td>Introduction to Medical Insurance and Office Procedures</td>
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</table>

Summer Session

*The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Computer software applications, including spreadsheet and database**</td>
<td>3</td>
</tr>
<tr>
<td>HITE 201</td>
<td>Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>HITE 202</td>
<td>Classification Systems, Nomenclatures, Indexes, Registers I</td>
<td>4</td>
</tr>
<tr>
<td>HITE 203</td>
<td>Directed Practice II</td>
<td>2</td>
</tr>
<tr>
<td>HITE 210</td>
<td>Classification Systems, and Nomenclature for Ambulatory Care</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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</table>

** CSOF 115 or CSOF 112 or any three of CSOF 102, 103, 104, 106, 108.

Fourth Semester–Spring

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITE 211</td>
<td>Organization and Administration in Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HITE 206</td>
<td>Specialized Health Record Systems</td>
<td>2</td>
</tr>
<tr>
<td>HITE 207</td>
<td>Classification Systems, Nomenclatures, Indexes, Registers II</td>
<td>3</td>
</tr>
<tr>
<td>HITE 208</td>
<td>Directed Practice III</td>
<td>2</td>
</tr>
<tr>
<td>HITE 210</td>
<td>Classification Systems and Nomenclature for Ambulatory Care</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 137</td>
<td>Introduction to Pathology</td>
<td>4</td>
</tr>
<tr>
<td>HITE 110</td>
<td>Pharmacology</td>
<td>1.5</td>
</tr>
<tr>
<td>HITE 111</td>
<td>Introduction to Medical Insurance/Office Procedures</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Total credit hours required for the degree: 69

Satisfactory Progress in the Program

In order to graduate from the program, students must complete all HITE and science courses with a minimum grade of C. Students who receive a grade lower than C in any BIOL or HITE course must repeat it in its proper sequence.

Coding Specialist Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108</td>
<td>Introductory Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>HITE 200</td>
<td>Introduction to Classification Systems</td>
<td>1</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>HITE 103</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HITE 202</td>
<td>Classification Systems, Nomenclatures, Indexes</td>
<td>4</td>
</tr>
<tr>
<td>HITE 203</td>
<td>Directed Practice II</td>
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</tr>
<tr>
<td>HITE 210</td>
<td>Classification Systems and Nomenclature for Ambulatory Care</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 137</td>
<td>Introduction to Pathology</td>
<td>4</td>
</tr>
<tr>
<td>HITE 110</td>
<td>Pharmacology</td>
<td>1.5</td>
</tr>
<tr>
<td>HITE 111</td>
<td>Introduction to Medical Insurance/Office Procedures</td>
<td>1.5</td>
</tr>
<tr>
<td>HITE 206</td>
<td>Specialized Health Record Systems</td>
<td>2</td>
</tr>
<tr>
<td>HITE 207</td>
<td>Classification Systems II</td>
<td>3</td>
</tr>
<tr>
<td>HITE 208</td>
<td>Directed Practice III</td>
<td>2</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate: 35
MEDICAL TRANSCRIPTION
CERTIFICATE

Offered at Penn Valley

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

Admission to the Program

Enrollment is limited. Students must apply for admission and meet the following requirements:
1. Be admitted to Penn Valley.
2. Submit transcripts from each college previously attended to Penn Valley admissions and the program coordinator. If applicant has not attended college, high school transcripts should be submitted.
3. Complete a typing test with a minimum score of 45 words per minute.
4. Completion of ENGL 101 and OFSC 195 or equivalent.
5. Submit application to the medical transcription program coordinator by May 15.
6. Acceptance will be based on minimum GPA of 2.5 and timed typing test as above.

Summer
ENGL 101 Composition and Reading I 3
OFSC 195 Word Processing Concepts and Equipment or
OFSC 145 Support Software or Other advanced software applications 3
Total 6

Fall
BIOL 108 Introduction to Anatomy and Physiology 5
HITE 103 Medical Terminology for Medical Records I 3
MTRN 101 Medical Transcription I 5
Total 13

Spring
MTRN 112 Medical Transcription II 5
MTRN 113 Medical Terminology for Medical Records II 3
OFSC 159 Professional Development or BSAD, CSOF, or OFSC elective 3
Total 11

Total credit hours required for the certificate 30

OCCUPATIONAL THERAPY
ASSISTANT

Offered at 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. Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT), 800 S. Frederick Ave., Suite 200, Gaithersburg, MD 20877-4150; phone, (301) 990-7979. After successful completion of the exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice, however, state licenses are usually based on the results of the NBCOT Certification Examination.

Admission to the Program

To be admitted to the program, students must meet certain requirements. All the requirements are listed in the Application Packet. Call (816) 759-4231 to request an Application Packet.

Prerequisite Courses
ENGL 101 Composition and Reading I 3.0
BIOL 100 Introduction to Cell Biology 3.0
BIOL 150 Medical Terminology 2.0
Total 8.0

Fall 1 Semester
EMTP 102 Basic Emergency Patient Care* 1.0
BIOL 109 Anatomy and Physiology** 6.0
OTHA 100 Introduction to Occupational Therapy 2.0
OTHA 102 Documentation Guidelines 2.0
OTHA 103 Clinical Conditions 2.0
OTHA 106 Therapeutic Interventions 4.0
OTHA 116 Level I Fieldwork I 1.0
Total 18.0

* CPR certification will not exempt you from class. To be taken at Pioneer Campus when scheduled.
** For PVCC BIOL 109 requirement, two JCCC options are available: (1) BIOL 144 and 145 (BIOL 144 must be taken first) and (2) BIOL 140 and 225 (CHEM 122 and BIOL 140 must be taken before BIOL 225).

Spring 1 Semester
PSYC 140 General Psychology 3.0
SPDR 100 Fundamentals of Speech 3.0
OTHA 118 Assistive Technology 2.0
OTHA 120 Pediatrics 3.0
OTHA 121 Level I Fieldwork II 0.5
OTHA 130 Analysis of Physical Performance 3.0
OTHA 154 Applied Neurology 2.0
Total 16.5

Summer Session
The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics or
SOSC 151 Foundations of the Social Sciences II 3.0
Total 3.0

Fall 2 Semester
OTHA 203 Gerontology 3.0
OTHA 208 Splinting 2.0
OTHA 201 Occupational Therapy in Mental Health 2.5
OTHA 202 Occupational Therapy in Physical Dysfunction 3.0
PHYSICAL THERAPIST ASSISTANT

Offered at 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 kinds of health care facilities.

Admission to the Program

Because enrollment in the program is limited, a student must meet the requirements and apply for admission.

Requirements

1. High school diploma or GED certificate
2. Minimum grade point average of 2.5 in all courses required for the physical therapist assistant program.
3. Minimum grade of C in all college biology courses attempted and in PTHA 151.
4. Satisfactory performance on an examination in English language skills (Test of English as a Foreign Language for international students).
5. Admission to Penn Valley.

Applications Procedure

1. Send application for admission to Penn Valley Community College admissions office along with a formal copy of your high school transcript, GED, and/or college transcript.
# PRACTICAL NURSING CERTIFICATE

**Offered at Penn Valley**

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.

## Admission to the Program

Every student in the Practical 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 14 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 National League for Nursing Accrediting Commission can be contacted as a resource for information on the nursing program. The league’s address is 350 Hudson St., New York, NY 10014; phone (212) 989-9393.

## Qualifications and Procedure for New Students

1. Apply and be admitted to the Metropolitan Community Colleges.
2. Participate in the ASSET testing program to demonstrate acceptable skill levels.
3. Apply for admission to the practical nurse program.
4. Complete the HOBET test at or above the acceptable level.
5. International students must successfully complete the CELSA.

## Certificate Requirements

### Semester I

<table>
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<tr>
<th>Course Code</th>
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<th>Credit Hours</th>
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<tr>
<td>PNUR 100</td>
<td>Personal and Vocational Concepts</td>
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<tr>
<td>PNUR 102</td>
<td>Fundamentals of Practical Nursing I</td>
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<tr>
<td>PNUR 103</td>
<td>Fundamentals of Practical Nursing II</td>
<td>9.0</td>
</tr>
<tr>
<td>PNUR 104</td>
<td>Body Structure and Function</td>
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<tr>
<td>PNUR 106</td>
<td>Fundamental Concepts of Nutrition</td>
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<td>PNUR 107</td>
<td>Developmental Stages of the Life Span</td>
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<tr>
<td>PNUR 145</td>
<td>Nursing of the Elderly</td>
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### Semester II

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>PNUR 110</td>
<td>Pharmacology</td>
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<tr>
<td>PNUR 138</td>
<td>Nursing of the Adult I</td>
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<tr>
<td>PNUR 144</td>
<td>Nursing of the Adult II</td>
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### Semester III

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>PNUR 128</td>
<td>Mental Health Nursing</td>
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<tr>
<td>PNUR 132</td>
<td>The Childbearing Family</td>
<td>4.5</td>
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<tr>
<td>PNUR 146</td>
<td>Leadership</td>
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<tr>
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</table>

Total credit hours required for the certificate: 47.0

Total program contact hours: 1,410

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# PROFESSIONAL NURSING

**Offered at Penn Valley**

This program leads to an Associate in Applied Science degree and prepares beginning students and licensed practical nurses 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 health care facilities. Requirements for the degree are listed below.

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

## Qualifications and Procedures for New Students

1. Apply and be admitted to the Metropolitan Community Colleges.
2. Complete and submit to the Nursing Division Office a Nursing Program Application form.
3. Submit to the admissions office and the Nursing Division Office official transcripts for all high school work or a GED Certificate as well as official transcripts of all previous work at accredited colleges or technical schools.
4. Have a minimum 2.5 grade point average in all previous college and technical school work.
5. Achieve satisfactory scores on the ASSET and Nurse Entrance Tests.
6. Complete the following prerequisite courses (6-8 credit hours):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNUR 110</td>
<td>Pharmacology</td>
<td>3.5</td>
</tr>
<tr>
<td>PNUR 138</td>
<td>Nursing of the Adult I</td>
<td>9.0</td>
</tr>
<tr>
<td>PNUR 144</td>
<td>Nursing of the Adult II</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20.5</td>
</tr>
</tbody>
</table>
Procedure for Students Transferring Credits from Another Professional Nursing Program

1. Submit to the records office and the Nursing Division office an official transcript of all courses taken in the previous nursing program.
2. Submit to the chairperson of the Penn Valley nursing program a letter of reference from the director of the previous nursing program.
3. Provide to the nursing program chairperson a school catalog for the previous nursing program.
4. At the request of the chairperson of the Penn Valley nursing program, submit course syllabi for all previous nursing courses.

Procedure for International Students from Non-English Speaking Countries

1. In addition to the steps in the procedure for new students, international students must successfully complete the CELSA test and the numerical portion of the ASSET test.
2. Students must demonstrate English proficiency (readiness for ENGL 101) before being eligible to take the Nurse Entrance Test.
3. Students need to follow procedures for new students.

Review of Applicants

After applicants have completed admission procedures for the college and pre-admission requirements for the program, they will be considered for admission to the program according to the date their application is received in the Nursing Division office. This includes both MCC and cumulative grade point averages of at least 2.5.

Satisfactory Progress

All nursing courses in the nursing curriculum must be passed with a grade of C or better. More than one withdrawal from any nursing course may make the student ineligible to continue in the Nursing Program. Students may reenroll in a nursing course only once after receiving a grade of D or F. No more than one nursing course may be repeated.

Degree Requirements

Prerequisites
See “Qualifications and Procedures,” #6 6-8

Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RNUR 126</td>
<td>Fundamentals of Professional Nursing</td>
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<tr>
<td>RNUR 131</td>
<td>Essential Nursing Concepts</td>
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<tr>
<td>BIOL 109</td>
<td>Anatomy and Physiology</td>
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<tr>
<td>PSYC 243</td>
<td>Human Lifespan Development</td>
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Semester II

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<td>RNUR 134</td>
<td>Mental Health Nursing</td>
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<td>RNUR 138</td>
<td>Nursing Care of Women and Neonates</td>
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</tr>
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<td>RNUR 141</td>
<td>Adult Nursing I</td>
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</tr>
<tr>
<td>BIOL 208</td>
<td>Microbiology</td>
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Semester III

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<td>Child Centered Nursing</td>
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<tr>
<td>RNUR 238</td>
<td>Adult Nursing II</td>
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<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
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<tr>
<td>SOCI 160</td>
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Semester IV

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<td>RNUR 244</td>
<td>Adult Nursing III</td>
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<tr>
<td>RNUR 230</td>
<td>Leadership/Management/Trends</td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
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</table>

Total credit hours required for the degree 70-72

Estimated Costs of the Nursing Program

Tuition and Fees: See page 11

Approximate Costs*

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<tr>
<th>Description</th>
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<tr>
<td>Nursing Supplies</td>
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<tr>
<td>Nursing Textbooks</td>
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</table>

* This amount does not include the cost of textbooks for required and elective courses other than those in nursing. The Metropolitan Community College District reserves the right to change tuition and fees without notice, and the cost of supplies and textbooks may increase.

LPN-ADN Bridge Program

This program allows licensed practical nurses to complete the requirements for an Associate in Applied Science degree by receiving credit for knowledge and skills they’ve mastered through clinical and work-related experience. Applicants must meet the same admission requirements for all students in the nursing program.

Qualifications and Procedures for New Students

1. Apply and be admitted to the Metropolitan Community Colleges.
2. Complete and submit to the Nursing Division office a Nursing Program Application form.

3. Submit to the admissions office and the Nursing Division office official transcripts for all high school work or a GED Certificate as well as official transcripts of all previous work at accredited colleges or technical schools.

4. Have a minimum 2.5 grade point average in all previous college and technical school work.

5. Achieve satisfactory scores on the ASSET and Nurse Entrance Tests.

6. Complete the following prerequisite courses (6-8 credit hours):
   - BIOL 100 Introduction to Cell Biology or CHEM 105 Introductory Chemistry
   - PSYC 140 General Psychology

7. Science courses not older than five years.

8. Submit to the director of the Penn Valley nursing program a copy of the LPN license for the State of Missouri. (Students must maintain a current license as long as they are enrolled in the nursing program.)

9. Submit to the director of the Penn Valley nursing program letters of recommendation from the director of the LPN program from which the student graduated and, if the student is currently employed, from the immediate supervisor.

Curriculum

Prerequisite Courses
- BIOL 100 or CHEM 105, PSYC 140, BIOL 109, PSYC 243, BIOL 208, RNUR 115

Semester III
- RNUR 234 Child Centered Nursing 4
- RNUR 238 Adult Nursing II 5
- ENGL 101 Composition and Reading I 3
- SOCI 160 Sociology 3
- Total 15

Semester IV
- RNUR 244 Adult Nursing III 7
- RNUR 230 Leadership/Management/Trends 2
- SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
- HIST 120 American History I or
- HIST 121 American History II or
- POLS 135 Introduction to Political Science or
- POLS 136 Introduction to American National Politics or
- POLS 137 Introduction to State and Local Politics or
- SOSC 151 Foundations of the Social Sciences II 3
- Total 15

Total credit hours required for the degree 70-72

Transfer Nursing
For information about the transfer nursing program, see page 37.

RADIOLOGIC TECHNOLOGY

Offered at Penn Valley
This program leads to an Associate in Applied Science degree and prepares students for entry-level jobs as a radiologic technologist in a hospital or outpatient setting. Graduates are eligible to take the national certifying exam given by the American Registry of Radiologic Technologists.

Admission to the Program
Enrollment in this program is limited. Students must submit their transcripts and application for admission to the program coordinator by January 1. The application form may be obtained from the program coordinator, the counseling department, or the office of the division of life science.

Requirements for Admission
1. High school diploma or GED certificate.
2. Grade Point average of 2.5 in all courses completed prior to program admission.
3. Completion of BIOL 101 or BIOL 110 or one year of high school biology with a minimum grade of C within the last five years.
4. Completion of MATH 40 or MATH 43 or two semesters of high school algebra with a minimum grade of C within the last five years.
5. Completion of RATE 150 with a minimum grade of C within the last 5 years.
6. Admission to Penn Valley Community College.
7. Completion of a screening interview with the program coordinator or RATE faculty.

Application Process
1. Return the completed application for admission to the program coordinator.
2. Submit an application for admission to Penn Valley Community College.
3. Submit evidence of high school graduation or completed GED to the program coordinator.
4. Submit all high school and/or college transcripts to the program coordinator.

The program begins once each year in the summer session with RATE 160 Survey of Radiologic Technology.

**Procedure for Students Transferring from Another Accredited Radiologic Technology Program.**
1. Satisfy all requirements identified for admission to the program.
2. Submit transcript of all completed or attempted radiologic technology course work to the program coordinator.
3. Submit to the program coordinator a school catalog from the previously attended radiologic technology program.
4. Submit to the program coordinator a letter of reference from the director of the previously attended radiologic technology program.
5. Transfer of credit will be given on an individual basis and may require the completion of competency examinations or placement tests for admission to advanced course work in the program.

The student who is certified in radiologic technology and wishes to complete an Associate of Applied Science degree with emphasis in radiologic technology will be considered on an individual basis. This student will be required to satisfactorily complete a minimum of two courses in the radiologic technology program, in addition to BIOL 110, BIOL 150, ENGL 101, PSYC 140, and SPDR 100. The student who completed a program which led to certification in radiologic technology is encouraged to consult the program coordinator regarding eligibility for admission to the Penn Valley radiologic technology program.

**Review of Applicants**
After a qualified individual has completed the application procedure, they will be considered for admission according to the date of application to the radiologic technology program, GPA, and overall previous academic performance. Applicants whose academic records show an excessive number of withdrawals will be considered on an individual basis.

**Degree Requirements**

**Summer**
- **RATE 160** Survey of Radiologic Technology 4

**Fall**
- **BIOL 110** Human Anatomy 5
- **RATE 165** Patient Care 2
- **RATE 170** Radiologic Biology and Protection 3
- **RATE 172** Radiographic Positioning I 3
- **RATE 173** Clinical Training I 3
- **Total** 16

**Spring**
- **BIOL 150** Medical Terminology 2
- **ENGL 101** Composition and Reading I 3
- **RATE 162** Image Processing 2
- **RATE 171** Radiographic Exposures I 3
- **RATE 175** Clinical Training II 4
- **RATE 176** Radiographic Positioning II 3
- **Total** 17

**Summer**
- **RATE 178** Clinical Training III 4

**Fall**
- **PSYC 140** General Psychology 3
- **RATE 174** Radiographic Exposures II 3
- **RATE 279** Radiographic Positioning III 2
- **RATE 280** Clinical Training IV 4
- **RATE 281** Radiation Physics 3
- **RATE 285** Special Procedures 2
- **Total** 17

**Spring**
The student must complete one of the following courses:
- **HIST 120** American History I or
- **HIST 121** American History II or
- **POLS 135** Introduction to Political Science or
- **POLS 136** Introduction to American National Politics or
- **POLS 137** Introduction to State and Local Politics or
- **SOSC 151** Foundations of the Social Sciences II 3
- **RATE 278** Imaging Modalities and Pathology 3
- **RATE 282** Clinical Training V 4
- **RATE 283** Final Seminar 2
- **SPDR 100** Fundamentals of Speech 3
- **Total** 15

**Total credit hours required for the degree** 73
RESPIRATORY CARE
Offered at Johnson County Community College
Coordinated through Penn Valley

This program, offered under the auspices of Johnson County Community College (JCCC), leads to an Associate of Applied Science degree and qualifies the student for the National Board for Respiratory Care examination process. Additional program information may be acquired from the counseling office at Penn Valley and from the program director at JCCC (913) 469-2583.

Eligibility
To be considered for admission to the program, a student must complete all required college courses in English, mathematics, and science with a minimum grade of C and must have minimum overall college GPA of 2.0.

Admission to the Program
The number of MCC students admitted to the program is limited, so students should apply as soon as possible to the admissions office of JCCC. Applications are not considered until all required material has been submitted. In order to be certain that they will be considered for admission to the class which begins its specialized course work in June, an MCC student must complete the application process by the previous October 15. If openings remain for MCC students after the initial applications have been reviewed, students who have missed the deadline will be considered if their applications are completed by February 15. Further information is available in the counseling office at Penn Valley and from the program director at JCCC.

Application Process
1. Complete the MCC admissions process.
2. Submit the following items to the Admissions/Records Office of Johnson County Community College, 12345 College Boulevard, Overland Park, Kansas 66210-1299. Phone (913) 469-8500, Ext. 3803.
   a. JCCC application form, including the Academic Criteria Worksheet.
   b. If the student has graduated from high school or completed the GED examination within the last five years, an official high school transcript or GED certificate.
   c. Official transcripts of all college work.
3. Arrange an interview with JCCC Respiratory Care Program faculty and bring a completed Respiratory Care Investigative Questionnaire to the interview. This form is available from the JCCC Respiratory Care program office, phone (913) 469-2583.

Selection of students for the program is determined by the ranking of applications according to the interview score, the overall college GPA, and the GPA in prerequisite courses. Further information is available from the Director of the Respiratory Care Program at JCCC.

Note: All English, mathematics, and science courses must be completed successfully before the student is eligible for the clinical courses at JCCC.

Degree Requirements

Courses Offered at MCC

Summer Term

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry*</td>
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<tr>
<td>ENGL 101</td>
<td>Composition and Reading I*</td>
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Fall Semester

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<td>BIOL 110</td>
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<td>Intermediate Algebra or</td>
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<tr>
<td>MATH 120</td>
<td>College Algebra*</td>
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</tr>
<tr>
<td>PHYS 101</td>
<td>Introductory Physics*</td>
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</tbody>
</table>
Social Science Elective
Complete ONE of the following:
ANTH 100 or
ECON 110, 210, or 211 or
GEOG 105, 111, or 112 or
POLI 135, 136, or 137
PSYC 140 or 142 or
SOSC 150, 151, or 172 or
SOCI 160, 162, 163, or 170
Total 3

Spring Semester
BIOL 208 Microbiology* 5
BIOL 210 Human Physiology* 5

Communications Elective
Complete ONE of the following:
SPDR 100, 102 or 103 or
ENGL 102 or 175 or
BSAD 178 3

Humanities Elective
Complete ONE of the following:
ART 108, 150, 151, or 159 or
ENGL 120, 121, 122, 124, 125, 150, 151, 158, 165,
167, 220, 221, 222, or 223 or
SPDR 114 or 128 or
FREN 2203 or GERMAN 203 or SPAN 203 or SPAN 204 or
HIST 120, 121, 133, 134, 135 or 215 or
HUMN 133, 134, 140, or 160
MUSI 108 or
PHIL 100, 101, 200, 201, or 203. 3

* Indicates prerequisite courses that must be completed prior to
the clinic year at Johnson County Community College.

Courses Offered at Johnson County Community College

Summer Term
RSPT 250 Principles of Respiratory Care 4
RSPT 251 Respiratory Care Equipment 4
RSPT 255 Cardiopulmonary Medicine I 1
EMTP 102 Basic Emergency Patient Care 1
Total 10

Fall Semester
RSPT 252 Clinical Cardiopulmonary Physiology 2
RSPT 253 Clinical Practice I 4
RSPT 256 Clinical Topics and Procedures I 4
RSPT 260 Cardiopulmonary Medicine II 2
RSPT 270 Cardiopulmonary Pharmacology 2
Total 14

Spring Semester
RSPT 254 Clinical Practice II 4
RSPT 257 Clinical Topics and Procedures II 4
RSPT 258 Respiratory Care of Children 2
RSPT 265 Cardiopulmonary Medicine III 2
Total 12

Total credit hours required for the degree 76

SURGICAL TECHNOLOGY CERTIFICATE

Offered at Penn Valley
This program leads to a certificate of proficiency and prepares
students for entry-level jobs as operating room technicians.

Admission to the Program
Students are required to meet minimum entrance require-
ments on general aptitude, ASSET test, and HOBET test.

Semester I
STNU 100 Introduction to Surgical Technology 2
STNU 102 Fundamentals of Operating Techniques 11
STNU 104 Body Structure and Function 2
STNU 106 Aseptic Technique for the Surgical Technologist 2
Total 17

Semester II
STNU 105 Pharmacology for the Surgical Technologist 2
STNU 109 Principles of Surgical Procedures I 8
STNU 110 Principles of Surgical Procedures II 7
Total 17

Semester III
STNU 114 Principles of Surgical Procedures III 7
STNU 116 Career Development for the Surgical Technologist 2
Total 9

Total credit hours required for the certificate 43
VETERINARY TECHNOLOGY
Offered at Maple Woods.

This program, which leads to an Associate in Applied Science degree, is accredited by the American Veterinary Medical Association. It provides students with the practical knowledge and skills necessary for working with laboratory animals or for assisting veterinarians with technical and office procedures.

Program Admission
Since enrollment is limited, students must apply for admission. Those who want to be admitted for the fall semester should apply by March 15. Students must take BIOL 106 (General Zoology) or BIOL 101 (General Biology) as a prerequisite. Call 437-3235 for a packet.

Application Process
Submit the following items to the Maple Woods Admissions Office by March 15 to be considered for the fall semester.

1. An application for the Veterinary Technology Program.
2. An application for admission to Maple Woods Community College.
3. A minimum of one and a maximum of three personal references, preferably from veterinarians, veterinary technicians, current or former employers or teachers. Use forms included in the VETT packet.
4. A typewritten or computer-generated form verifying four hours of veterinary clinic observation (or job description) as follows (less than 250 words):
   a. Evaluation form completed by the supervisor at the observation site and returned to the admissions office.
   b. Applicants who have been or are currently employed in a veterinary clinical facility should submit a written description of their position including job responsibilities and length of employment in lieu of the observation form.
5. Handwritten statement on “Why I Would Like a Career in Veterinary Technology” (less than 250 words).
6. Official transcripts (high school and/or college) must be provided to the admissions office. Students with a minimum of 15 college credits need not submit high school transcripts.
7. “Assessment of Current College Enrollment” form if you are taking courses that will not be included on your transcript. (Form included in VETT packet.)
8. Applications are evaluated on a point system that includes previous academic performance, number of required general studies courses completed, work experience, motivation, references, completeness, and neatness of the program application, and grammar and content of the essays.

Degree Requirements

Freshman Year

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<td>VETT 100</td>
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<td>VETT 101</td>
<td>Principles of Animal Science I</td>
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<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications*</td>
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<td>HIST 120</td>
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<tr>
<td>HIST 121</td>
<td>American History II or</td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
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<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
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</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I*</td>
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<td>MATH 108</td>
<td>Clinical Mathematics</td>
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<td>VETT 110</td>
<td>Principles of Animal Science II</td>
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<tr>
<td>VETT 111</td>
<td>Sanitation and Animal Care</td>
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<td>VETT 201</td>
<td>Clinical Pathology Techniques</td>
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<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry*</td>
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<td>SPDR 100</td>
<td>Fundamentals of Speech*</td>
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Summer Term

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<td>VETT 214</td>
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Sophomore Year

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<td>VETT 200</td>
<td>Veterinary Hospital Technology I</td>
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<td>VETT 202</td>
<td>Veterinary Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>VETT 212</td>
<td>Large Animal Technology</td>
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<tr>
<td>BIOL 208</td>
<td>Microbiology*</td>
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<tr>
<td>VETT 203</td>
<td>Laboratory Animal Technology</td>
<td>2</td>
</tr>
<tr>
<td>VETT 209</td>
<td>Equine Medicine and Management</td>
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<tr>
<td>VETT 210</td>
<td>Veterinary Hospital Technology II</td>
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<tr>
<td>VETT 211</td>
<td>Clinical Pathology Techniques II</td>
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<td>VETT 213</td>
<td>Radiology and Electronic Procedures</td>
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</table>

Total credit hours required for the degree 75
(including the prerequisite of either BIOL 106 or BIOL 101)

* Indicates courses that may be taken prior to beginning vet tech program.
This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, prepares students for jobs in child care. Requirements for the degree and certificate are listed below.

Admission to the Program
To be admitted to the program, students must complete the following application process:
2. Complete a “Request for Child Abuse or Neglect/Criminal Record.” (Every student must complete this process, which involves completing a form and being fingerprinted.) Information received by Penn Valley pertinent to this process will be used solely for Penn Valley’s internal purposes in determining the suitability of the applicant for admission to the program.
3. Complete the Penn Valley admissions process.

Degree Requirements

General Education Courses

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<tr>
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<th>Course Title</th>
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<tr>
<td>ENGL 102</td>
<td>Composition and Reading II</td>
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<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
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<tr>
<td>SOCI 160</td>
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The student must complete one of the following courses:

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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<tr>
<td>HIST 121</td>
<td>American History II</td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
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Total General Education credit hours 18

Specialized Core Courses

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<tbody>
<tr>
<td>CDCG 113</td>
<td>Child Growth &amp; Development I (Birth–12)</td>
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</tr>
<tr>
<td>CDCG 114</td>
<td>Child Development Observation</td>
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<tr>
<td>CDCG 130</td>
<td>Creative Experiences for Young Children</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 201</td>
<td>Language Development</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 216</td>
<td>Child Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 217</td>
<td>Literature for Children</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 220</td>
<td>Child Care Management</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 221</td>
<td>Issues and Theories in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 249</td>
<td>Child Development Internship I</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 260</td>
<td>Education of the Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 261</td>
<td>Parenting</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 100</td>
<td>Careers in Human Sciences</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 108</td>
<td>Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 115</td>
<td>Consumer Problems</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 162</td>
<td>Marriage and the Family</td>
<td>3</td>
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</tbody>
</table>

Total Specialized Core credit hours 41

Specialization
In addition to courses in general education and those from the specialized core, the student must complete a minimum of 9 hours from one of the specialization areas.

Infant/Toddler

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDCG 115</td>
<td>Child Growth and Development II: Infant/Toddler</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 230</td>
<td>Program Planning: Infant/Toddler</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 250</td>
<td>Child Development Internship II</td>
<td>3</td>
</tr>
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Total 9

Preschool

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CDCG 116</td>
<td>Child Growth &amp; Development II: Preschool</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 231</td>
<td>Program Planning: Preschool</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 250</td>
<td>Child Development Internship II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 9

School-Age Care

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDCG 117</td>
<td>Child Growth &amp; Development II: School-Age</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 232</td>
<td>Program Planning: School-Age Care</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 250</td>
<td>Child Development Internship II</td>
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</table>

Total 9

Special Needs

<table>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDCG 115</td>
<td>Child Growth and Development II: Infant/Toddler or</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 116</td>
<td>Child Growth &amp; Development II: Preschool or</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 117</td>
<td>Child Growth &amp; Development II: School-Age or</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 233</td>
<td>Program Planning: Special Needs</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 250</td>
<td>Child Development Internship II</td>
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Total 9

Family Studies

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>CDCG 118</td>
<td>Family Development</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 234</td>
<td>Program Planning: Family</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 250</td>
<td>Child Development Internship II</td>
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Total 9

Total credit hours required for the degree 68
Child Growth and Development Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 113</td>
<td>Child Growth &amp; Development I</td>
<td>3</td>
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<tr>
<td></td>
<td>(Birth–12)</td>
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<tr>
<td>CDCG 114</td>
<td>Child Development Observation</td>
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<tr>
<td>CDCG 115</td>
<td>Child Growth and Development II: Infant/Toddler</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>CDCG 116</td>
<td>Child Growth and Development II: Preschool or</td>
<td></td>
</tr>
<tr>
<td>CDCG 117</td>
<td>Child Growth and Development II: School-Age Care</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 130</td>
<td>Creative Experiences for Young Children</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 201</td>
<td>Language Development</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 216</td>
<td>Child Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 217</td>
<td>Literature for Children</td>
<td>3</td>
</tr>
<tr>
<td>CDCG 221</td>
<td>Issues and Theories in Child Growth and Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CDCG 249 Child Development Internship I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CDCG 260 Education of the Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CDCG 261 Parenting</td>
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</tr>
<tr>
<td>HUSC 100</td>
<td>Careers in Human Sciences</td>
<td>1</td>
</tr>
<tr>
<td>HUSC 108</td>
<td>Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate 38

FASHION DESIGN

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

General Education Courses
The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td>3</td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to State and Local Politics or</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
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</table>

Specialty Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ART 100</td>
<td>Art Fundamentals I</td>
<td>3</td>
</tr>
<tr>
<td>ART 110</td>
<td>Basic Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 100</td>
<td>Careers in Human Sciences</td>
<td>1</td>
</tr>
<tr>
<td>FASH 111</td>
<td>Fashion and Clothing Selection</td>
<td>3</td>
</tr>
<tr>
<td>FASH 112</td>
<td>Clothing Construction</td>
<td>3</td>
</tr>
<tr>
<td>ART 130</td>
<td>Fashion Illustration I</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 115</td>
<td>Consumer Problems</td>
<td>3</td>
</tr>
<tr>
<td>FASH 119</td>
<td>Fashion Promotion</td>
<td>3</td>
</tr>
<tr>
<td>FASH 212</td>
<td>Fashion and Household Fabrics</td>
<td>3</td>
</tr>
<tr>
<td>ART 131</td>
<td>Fashion Illustration II</td>
<td>3</td>
</tr>
<tr>
<td>ART 200</td>
<td>Design</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 152</td>
<td>Fashion Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>FASH 211</td>
<td>Flat Pattern Design</td>
<td>3</td>
</tr>
<tr>
<td>FASH 214</td>
<td>Fashion Design Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>ART 220</td>
<td>Painting</td>
<td>3</td>
</tr>
<tr>
<td>FASH 118</td>
<td>Costume History</td>
<td>3</td>
</tr>
<tr>
<td>FASH 213</td>
<td>Advanced Clothing Construction</td>
<td>3</td>
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<tr>
<td></td>
<td>Elective</td>
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</tbody>
</table>

Total Specialty credit hours 50

Total credit hours for the degree 62

FASHION MERCHANDISING

Offered at Penn Valley
This program leads to an Associate in Applied Science degree and prepares students for jobs in fashion merchandizing.

Freshman Year

First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 100</td>
<td>Careers in Human Sciences</td>
<td>1</td>
</tr>
<tr>
<td>FASH 111</td>
<td>Fashion and Clothing Selection</td>
<td>3</td>
</tr>
<tr>
<td>HUSC 115</td>
<td>Consumer Problems</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 152</td>
<td>Fashion Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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</table>

Total credits 16
Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FASH 118</td>
<td>Costume History</td>
<td>3</td>
</tr>
<tr>
<td>FASH 112</td>
<td>Clothing Construction</td>
<td>3</td>
</tr>
<tr>
<td>FASH 119</td>
<td>Fashion Promotion</td>
<td>3</td>
</tr>
<tr>
<td>FASH 212</td>
<td>Fashion and Household Fabrics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100</td>
<td>Mathematics for Business</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total credits</strong></td>
<td><strong>15</strong></td>
</tr>
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</table>

**Sophomore Year**

**First Semester**

*The student must complete one of the following courses:*

- HIST 120 American History I or
- HIST 121 American History II or
- POLS 135 Introduction to Political Science or
- POLS 136 Introduction to American National Politics or
- POLS 137 Introduction to State and Local Politics or
- SOSC 151 Foundations of the Social Sciences II
- BSAD 112 Retailing Principles
- BSAD 205 Marketing
- FASH 218 Fashion Field Experience I
- SPDR 100 Fundamentals of Speech
- **Total credits** 15

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 106</td>
<td>Salesmanship</td>
<td>3</td>
</tr>
<tr>
<td>FASH 110</td>
<td>Fashion Products</td>
<td>3</td>
</tr>
<tr>
<td>FASH 213</td>
<td>Advanced Clothing Construction</td>
<td>3</td>
</tr>
<tr>
<td>FASH 219</td>
<td>Fashion Field Experience II</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 160</td>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Elective</strong></td>
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<tr>
<td></td>
<td><strong>Total credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**Total credit hours required for the degree** 62

---

**INTERIOR DESIGN**

*Offered at Johnson County Community College
  Coordinated at MCC at all locations*

This program leads to an Associate of Applied Science degree. MCC’s interior merchandising program is offered in cooperation with the interior merchandising program at Johnson County Community College. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements.

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

**Degree Requirements**

**Courses Offered at MCC**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 100</td>
<td>Mathematics for Business</td>
<td>3</td>
</tr>
<tr>
<td>FASH 212</td>
<td>Fashion and Household Fabrics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
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<td><strong>Total</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 106</td>
<td>Principles of Salesmanship</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ART 150</td>
<td>History of Art I</td>
<td>3</td>
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<tr>
<td>ECON 210</td>
<td>Principles of Economics I—Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 211</td>
<td>Principles of Economics II—Microeconomics</td>
<td>3</td>
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**Fourth Semester**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Physical Education or Health Elective</td>
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<td></td>
<td><strong>Total credits earned at MCC</strong></td>
<td><strong>22</strong></td>
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</table>

**Recommended Electives**

- BSAD 141 Principles of Management
- BSAD 145 Small Business Management
- BSAD 230 Marketing

**Courses Offered at JCCC**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITMD 133</td>
<td>Furniture and Ornamentation/Antiquity to Renaissance</td>
<td>3</td>
</tr>
<tr>
<td>ITMD 121</td>
<td>Interior Design I</td>
<td>3</td>
</tr>
<tr>
<td>DRAF 261</td>
<td>Graphic Communications I for Interior Design</td>
<td>3</td>
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<td></td>
<td><strong>Total</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAF 264</td>
<td>CAD: Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>ITMD 122</td>
<td>Interior Design II</td>
<td>3</td>
</tr>
<tr>
<td>ITMD 132</td>
<td>Interior Products</td>
<td>3</td>
</tr>
<tr>
<td>ITMD 231</td>
<td>Furniture and Ornamentation/Renaissance to 20th Century</td>
<td>3</td>
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<td><strong>Total</strong></td>
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**Third Semester**

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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITMD 273</td>
<td>Seminar: Business Practices and Procedures</td>
<td>2</td>
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<tr>
<td>ITMD 284</td>
<td>Interiors Internship II</td>
<td>1</td>
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<td></td>
<td><strong>Business/Marketing Elective</strong></td>
<td><strong>3</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
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**Fourth Semester**

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<thead>
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<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ITMD 273</td>
<td>Seminar: Business Practices and Procedures</td>
<td>2</td>
</tr>
<tr>
<td>ITMD 284</td>
<td>Interiors Internship II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Business/Marketing Elective</strong></td>
<td><strong>3</strong></td>
</tr>
<tr>
<td>FASH 125</td>
<td>Visual Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>ITMD 239</td>
<td>Capstone: Portfolio and Presentation</td>
<td>2</td>
</tr>
<tr>
<td>FASH 135</td>
<td>Image Management</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
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<tr>
<td></td>
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</table>

**Recommended Electives**

- ITMD 140 Draperies, Treatments, Construction
- ITMD 148 Furniture and Ornament/Oriental
- ITMD 223 Contract Design or
- ITMD 234 Kitchen/Bath: Planning and Design
- ITMD 145 Upholstery Construction
- ITMD 147 Lighting Design and Planning

**Total credit hours for the degree** 67
CORRECTIONAL SCIENCE

Offered at all colleges
(See also Police Science page 72.)

This program leads to the Associate in Applied Science degree and provides practical knowledge and skills for three kinds of students. First are those who plan to work with youths in detention, residential facilities or group homes. Second are those who want to work as correctional officers on the local, state or federal level. Third are those already employed at adult or juvenile correctional agencies or at residential youth care centers.

Degree Requirements

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

- HIST 120 American History I or
- HIST 121 American History II or
- POLS 135 Introduction to Political Science or
- POLS 136 Introduction to American National Politics or
- POLS 137 Introduction to State and Local Politics or
- SOSC 151 Foundations of the Social Sciences II
- PSYC 140 General Psychology
- SOCI 160 Sociology

Total General Education credit hours 15

Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJU 101</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>105 Principles of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 118</td>
<td>Legal Aspects of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>126 Corrections and the Community</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/PSYC</td>
<td>162 Correctional Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/SOCI</td>
<td>165 Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/SOCI</td>
<td>169 Family Violence and Sexual Abuse</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 201</td>
<td>Criminal Justice Practicum or</td>
<td></td>
</tr>
<tr>
<td>HUMS 201</td>
<td>Human Services Practicum and</td>
<td>3</td>
</tr>
<tr>
<td>HUMS 203</td>
<td>Colloquia</td>
<td>1</td>
</tr>
<tr>
<td>CRJU 233</td>
<td>Principles of Management in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Criminal Justice Systems or</td>
<td></td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>236 Correctional Administration</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 244</td>
<td>Group and Individual Counseling or</td>
<td></td>
</tr>
<tr>
<td>PSYC 210</td>
<td>Interviewing and Interpersonal Communications</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Specialized credit hours 31

Area Specialty Courses

Juvenile Services Specialty

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJU/SOCI</td>
<td>168 Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>166 Behavior Management</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 245</td>
<td>Adolescent Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>275 Alcohol &amp; Drug Addiction</td>
<td>3</td>
</tr>
</tbody>
</table>

Drug Addiction Services Specialty

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJU/HUMS</td>
<td>275 Alcohol &amp; Drug Addiction</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>280 Addiction Counseling with Special People</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>285 Addiction Client Management</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 148</td>
<td>Group Processes</td>
<td>3</td>
</tr>
</tbody>
</table>

Mental Health Services Specialty

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUMS 190</td>
<td>Community Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>275 Alcohol &amp; Drug Addiction</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 148</td>
<td>Group Processes</td>
<td>3</td>
</tr>
<tr>
<td>HUMS/PSYC</td>
<td>270 Social Psychology of Aging</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Electives 6

Total credit hours required for the degree 63

Correctional Science Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>105 Principles of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 118</td>
<td>Legal Aspects of Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>126 Corrections and the Community</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 162</td>
<td>Correctional Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HUMS/PSYC</td>
<td>210 Interviewing and Interpersonal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communications</td>
<td></td>
</tr>
<tr>
<td>CRJU/HUMS</td>
<td>236 Correctional Administration</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 233</td>
<td>Principles of Management in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.J. Systems</td>
<td>3</td>
</tr>
<tr>
<td>CRJU, HUMS, or SOCI Electives</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate 30
## FIRE SCIENCE TECHNOLOGY

*Offered at Penn Valley*

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

### Degree Requirements

#### General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100</td>
<td>Mathematics for Business</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(Advanced Math course also acceptable)</td>
<td></td>
</tr>
</tbody>
</table>

*The student must complete one of the following courses:*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td></td>
</tr>
</tbody>
</table>

Total General Education credit hours **15**

#### Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSTE 161</td>
<td>Fire Investigation</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 162</td>
<td>Code Enforcement and the Fire Service</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 164</td>
<td>Fire Detection, Suppression and Alarm Systems</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 171</td>
<td>Fire Service hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 172</td>
<td>Firefighting Tactics</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 174</td>
<td>Water and Sprinkler Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 180</td>
<td>Fire Administration I</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 181</td>
<td>Fire Administration II</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 182</td>
<td>Fire Service Instructional Methodology</td>
<td>3</td>
</tr>
<tr>
<td>FSTE 183</td>
<td>Emergency Management and the Fire Service</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Specialized credit hours **30**

#### Electives

The student may choose electives, with the consent of the coordinator and counselor, that would best assist the student in enhancing the student’s goals. **17**

Total credit hours required for the degree **62**

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## HOSPITALITY MANAGEMENT

*Offered at Johnson County Community College Kronied throughout MCC at all locations.*

This program leads to an Associate in Applied Science degree with three options: Chef Apprenticeship, Hotel/Motel, and Food and Beverage. It provides an overview of the various departmental functions, the position of the industries in the American economic system, and the functions and limitations of those types of establishments. MCC’s hospitality management program is offered in cooperation with the hospitality management program at Johnson County Community College. Students must be accepted into the program by both MCC and Johnson County Community College. The student is awarded the degree from JCCC upon successful completion of all requirements. Program courses and credit hours are subject to change because of the requirement changes at the degree-granting institution. It is the student’s responsibility to check with an MCC counselor before enrollment.

### Chef Apprenticeship

#### General Education Courses Offered at All MCC Locations

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HUMN 140</td>
<td>Humanities for Today</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100</td>
<td>Mathematics for Business</td>
<td>3</td>
</tr>
</tbody>
</table>

Total General Education credit hours **15**

#### Special Courses Offered at Johnson County Community College

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 121</td>
<td>Hospitality Management Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 123</td>
<td>Basic Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 281</td>
<td>Culinary Practicum I</td>
<td>2</td>
</tr>
<tr>
<td>CPCA 105</td>
<td>Introduction to Personal Computing: IBM</td>
<td>1</td>
</tr>
<tr>
<td>CPCA 106</td>
<td>Introduction to Personal Computing: Macintosh</td>
<td>1</td>
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</table>

Total **9**

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 230</td>
<td>Intermediate Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 273</td>
<td>Seminar in Hospitality Accounting</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 282</td>
<td>Culinary Practicum II</td>
<td>2</td>
</tr>
<tr>
<td>HMEC 151</td>
<td>Nutrition and Meal Planning</td>
<td>3</td>
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</table>

Total **11**

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 271</td>
<td>Seminar in Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 277</td>
<td>Seminar in Menu Planning</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 145</td>
<td>Food Production Specialties</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 285</td>
<td>Culinary Practicum III</td>
<td>2</td>
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</tbody>
</table>

Total **11**

**Fourth Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 226</td>
<td>Food Specialties — Garde-Manger</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 223</td>
<td>Fundamentals of Baking</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 286</td>
<td>Culinary Practicum IV</td>
<td>2</td>
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</tbody>
</table>

Total **8**

**Fifth Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 231</td>
<td>Advanced Food Preparation</td>
<td>4</td>
</tr>
<tr>
<td>HMGT 279</td>
<td>Beverage Control</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 130</td>
<td>Hospitality Law</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 287</td>
<td>Culinary Practicum V</td>
<td>2</td>
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</table>

Total **12**

**Sixth Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMGT 128</td>
<td>Supervisory Management</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 228</td>
<td>Advanced Hospitality Management</td>
<td>3</td>
</tr>
<tr>
<td>HMGT 288</td>
<td>Culinary Practicum VI</td>
<td>2</td>
</tr>
</tbody>
</table>

Total **8**

Total credit hours required for the degree **74**
Hotel/Motel

General Education Courses Offered at All MCC Locations

ENGL 101  Composition and Reading I  3
SPDR 100  Fundamentals of Speech  3
PSYC 140  General Psychology  3
HUMN 140  Humanities for Today (Humanities or Art elective)  3
MATH 100  Mathematics for Business  3
Total General Education credit hours  15

Special Courses Taken at Johnson County Community College

First Semester
HMGT 121  Hospitality Management Fundamentals  3
HMGT 123  Basic Food Preparation  3
HMGT 271  Seminar: Purchasing  3
CPCA 105  Introduction to Personal Computing: IBM  1
CPCA 106  Introduction to Personal Computing: Macintosh  1
Total  10

Second Semester
HMGT 230  Intermediate Food Preparation  3
HMGT 128  Supervisory Management  3
HMGT 273  Seminar: Accounting  3
HMEC 151  Nutrition and Meal Planning  3
Total  12

Summer
HMGT 275  Hospitality Management Internship  3

Third Semester
HMGT 277  Seminar: Menu Planning  3
HMGT 279  Beverage Control  3
HMGT 221  Design Techniques  3
HMGT 145  Food Production Specialties  3
HMGT 130  Hospitality Law  3
Total  15

Fourth Semester
HMGT 126  Food Management  4
HMGT 130  Hospitality Law  3
HMGT 228  Advanced Hospitality Management  3
HMGT 250  Introduction to Catering  3
Total  10

Total credit hours required for the degree  68

Food and Beverage

General Education Courses Offered at All MCC Locations

ENGL 101  Composition and Reading I  3
SPDR 100  Fundamentals of Speech  3
PSYC 140  General Psychology  3
HUMN 140  Humanities for Today (Humanities or Art elective)  3
MATH 100  Mathematics for Business  3
Total General Education credit hours  15

Special Courses Taken at Johnson County Community College

First Semester
HMGT 121  Hospitality Management Fundamentals  3
HMGT 123  Basic Food Preparation  3
HMGT 271  Seminar: Purchasing  3
CPCA 105  Introduction to Personal Computing: IBM or
CPCA 106  Introduction to Personal Computing: Macintosh  1
Total  10

Second Semester
HMGT 230  Intermediate Food Preparation  3
HMGT 128  Supervisory Management  3
HMGT 273  Seminar: Accounting  3
HMEC 151  Nutrition and Meal Planning  3
Total  12

Summer
HMGT 275  Hospitality Management Internship  3

Third Semester
HMGT 277  Seminar: Menu Planning  3
HMGT 279  Beverage Control  3
HMGT 221  Design Techniques  3
HMGT 145  Food Production Specialties  3
HMGT 130  Hospitality Law  3
Total  15

Fourth Semester
HMGT 126  Food Management  4
HMGT 228  Advanced Hospitality Management  3
HMGT 250  Introduction to Catering  3
Total  10

Total credit hours required for the degree  65

HUMAN SERVICES

Offered at Longview and Penn Valley

This program offers an Associate in Applied Science degree and five certificate options: Mental Health Technician, Drug Addiction Services, Youth Development Worker, Youth Work, and Workers in Developmental Disabilities. The program prepare students for career advancement or entry-level jobs that assist families with their social, behavioral, educational, or mental health needs.

Degree Requirements

General Education Courses

ENGL 101  Composition and Reading I  3
SPDR 100  Fundamentals of Speech  3
PSYC 140  General Psychology  3
PSYC 162  Correctional Psychology  3
SOCI 160  Sociology  3
SOCI 171  Comparative Ethnic and Cultural Studies  4

The student must complete one of the following courses:
HIST 120  American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics or
SOSC 151 Foundations of Social Sciences II either
BIOL 101 General Biology or
BIOL 132 Human Nutrition 3-5
Total 25-27

General Requirements
CSIS 101 Computers and Information Technology or
CSOF 105 Computer Survival 3

Required Human Services Core Courses
HUMS 100 Introduction to Human Services 3
HUMS 163 Therapeutic Activities and Recreation 3
HUMS 168 Introduction to Practicum I 1
HUMS 201 Human Services Practicum I 3
HUMS 202 Human Services Practicum II 3
HUMS 203 Colloquia I 1
HUMS 204 Colloquia II 1
HUMS 220 Social Welfare 3
HUMS/PSYC 210 Interviewing and Interpersonal Communications 3
Total 21

Human Services Emphasis Areas
Student must select 15 hours from within any block of courses or select 15 hours from any of the courses listed below.

Correctional Services Emphasis
CRJU/HUMS 105 Principles of Corrections 3
CRJU/HUMS 126 Corrections in the Community 3
CRJU/HUMS 236 Correctional Administration 3
CRJU 118 Legal Aspects of Corrections or
CRJU 203 Criminal Investigation I 3

Drug Addiction Services Emphasis
CRJU/HUMS 275 Introduction to Alcohol and Drug Addiction 3
CRJU/HUMS 280 Addiction Counseling with Special Populations 3
CRJU/HUMS 285 Addiction Client Management 3
HUMS 172 Aging Alcohol and Medications 1
HUMS 175 Spirituality in Addiction 1
HUMS 176 Addiction Management 3
HUMS 177 Positive Dependency 1
HUMS 178 Women’s Issues in Addiction 1
PSYC 148 Group Processes 3

Generalist Emphasis
HUMS 171 Crisis Intervention 1
HUMS 174 Counseling Issues with Today’s Families 1
PSYC 146 Industrial and Organizational Psychology 3

PSYC/HUMS 270 Social Psychology of Aging 3
HUMS 173 Humanistic Perspective on Aging 1

Mental Health Services Emphasis
HUMS 190 Community Mental Health 3
SOCI/CRJU 169 Family Violence and Sexual Abuse 3
CRJU 230 Criminal Law II 3
PSYC 148 Group Processes 3
HUMS 171 Crisis Intervention 1
HUMS/CRJU 275 Alcohol and Drug Addiction 3

Youth Care Services Emphasis
HUMS 160 Principles of Youth Work 3
HUMS 166 Behavior Management Techniques for Children and Youths 3
SOCI/CRJU 168 Juvenile Delinquency 3
PSYC 245 Adolescent Psychology 3
PSYC 240 Child Development 3

Total credit hours required for the degree 64-66
At the discretion of the coordinator or designee, student may substitute a 3-hour course not listed above as elective credit.

Drug Addiction Services Certificate

General Education Courses
ENGL 101 Composition & Reading I 3
PSYC 140 General Psychology 3
SOCI 160 Sociology 3
CRJU/PSYC 162 Correctional Psychology 3
Total General Education courses 12

Required Courses
HUMS 100 Introduction to Human Services 3
HUMS 168 Introduction to Practicum 1
HUMS 201 Human Services Practicum I 3
HUMS 203 Colloquia I 1
HUMS 204 Colloquia II 1
HUMS 220 Social Welfare 3
HUMS/CRJU 275 Alcohol & Drug Addiction 3
CRJU/HUMS 280 Addiction Counseling with Special Populations 3
CRJU/HUMS 285 Addiction Client Management 3
HUMS 172 Aging Alcohol and Medications or
HUMS 175 Spirituality Issues in Addiction Recovery or
HUMS 176 Addiction Management 3
HUMS 177 Positive Dependency or
HUMS 178 Women’s Issues in Addiction 1
Total 18

Total credit hours required for the certificate 30

Mental Health Technician Certificate

General Education Courses
READ 108 College Success Skills 3
SOCI 160 Sociology 3
PSYC 140 General Psychology 3

Total General Education credit hours 9
### Required Courses
- PSYC 162 Correctional Psychology or HUMS/PSYC 210 Interviewing & Interpersonal Communications (3 credits)
- HUMS 100 Introduction to Human Services (3 credits)
- HUMS 168 Introduction to Practicum (1 credit)
- HUMS 201 Human Services Practicum I (3 credits)
- HUMS 203 Human Services Colloquia I (1 credit)

#### Mental Health Concentration
- HUMS 190 Community Mental Health (3 credits)

Total credit hours required for the certificate: **23**

### Workers in Developmental Disabilities Certificate

**General Education Courses**
- ENGL 101 Composition & Reading I (3 credits)
- PSYC 140 General Psychology (3 credits)
- PSYC 241 Human Development (PACE) or PSYC 243 Human Lifespan Development (4 credits)

**Required Course**
- READ 108 College Success Skills (3 credits)

**Required Human Services Courses**
- HUMS 100 Introduction to Human Services (3 credits)
- HUMS 168 Introduction to Practicum (1 credit)
- HUMS 201 Human Services Practicum I (3 credits)
- HUMS 203 Human Services Colloquia I (1 credit)

#### Developmental Disabilities Concentration
- HUMS 215 Developmental Disabilities (4 credits)

Total credit hours required for the certificate: **25**

### Youth Development Worker Certificate

**Human Services Courses**
- HUMS 100 Introduction to Human Services (3 credits)
- HUMS 168 Introduction to Practicum (1 credit)
- HUMS 201 Practicum I (3 credits)
- HUMS 203 Colloquia I (1 credit)

**Concentration Courses**
- HUMS 160 Principles of Youth Work (3 credits)
- HUMS 199 Human Services Seminar (1 credit)

**Youth Work Certificate**
- CSOF 115 Introduction to Microcomputer Applications or CSIS 101 Computers and Information Technology (3 credits)
- CSIS 101 Computers and Information Technology (3 credits)

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### PARALEGAL TECHNOLOGY

*Offered at Penn Valley*

This program leads to either an Associate in Applied Science degree or a certificate of proficiency. It teaches students to prepare and file legal documents, do legal research, and manage a law office. It is strongly recommended that students take ENGL 101 or score a minimum of 40 in the reading section of the ASSET before enrolling in any Paralegal classes.

#### Degree Requirements

**General Education Courses**
- ENGL 101 Composition and Reading I (3 credits)
- ENGL 102 Composition and Reading II (3 credits)
- SPDR 100 Fundamentals of Speech (3 credits)
- The student must complete one of the following courses:
  - HIST 120 American History I
  - HIST 121 American History II
  - POLS 135 Introduction to Political Science
  - POLS 136 Introduction to American National Politics
  - POLS 137 Introduction to State and Local Politics
  - SOSC 151 Foundations of the Social Sciences II (3 credits)
- SOCI 160 Sociology (3 credits)
- PSYC 140 General Psychology (3 credits)

Total General Education credit hours: **18**

**Required Course**
- CSOF 115 Introduction to Microcomputer Applications or CSIS 101 Computers and Information Technology (3 credits)

**Specialized Courses**
- PARA 122 Procedural Law (3 credits)
- PARA 171 Introduction to Paralegal Technology (3 credits)
- PARA 176 Legal Research (3 credits)
- PARA 177 Legal Writing (3 credits)
- PARA 185 Ethics for the Paralegal (3 credits)
- PARA 290 Internship in Paralegal Technology (3 credits)
- PARA Paralegal electives (18 credits)
- Any electives from PARA or other electives (6 credits)

Total Specialized credit hours: **42**

Total credit hours required for the degree: **63**
Paralegal Technology Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>PARA 122</td>
<td>Procedural Law</td>
<td>3</td>
</tr>
<tr>
<td>PARA 171</td>
<td>Introduction to Paralegal Technology</td>
<td>3</td>
</tr>
<tr>
<td>PARA 176</td>
<td>Legal Research</td>
<td>3</td>
</tr>
<tr>
<td>PARA 177</td>
<td>Legal Writing</td>
<td>3</td>
</tr>
<tr>
<td>PARA 185</td>
<td>Ethics for the Paralegal</td>
<td>3</td>
</tr>
<tr>
<td>PARA</td>
<td>Paralegal Electives</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate 33

POLICE ACADEMY

Missouri law requires as of August 28, 1966, every peace officer be certified prior to employment.

The Western Missouri Regional Police Academy of the Blue River Community College satisfies all entry-level requirements for this POST certification. The Academy offers two levels of basic police training: 470 hours and 855 hours. Graduates of the Western Missouri Regional Police Academy 855 Hour Basic Training Program will qualify for the Police Science Certificate.

POLICE SCIENCE

Offered at all Campuses
(See also Correctional Science, page 67)

This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, provides students with training in both the theory and methods of modern law enforcement. It’s geared toward those who plan a career in law enforcement as well as those already in the field who want to upgrade their knowledge and skills.

Degree Requirements

General Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

- HIST 120 American History I
- HIST 121 American History II
- POLS 135 Introduction to Political Science
- POLS 136 Introduction to American National Politics
- POLS 137 Introduction to State and Local Politics
- SOSC 151 Foundations of the Social Sciences
- PSYC 140 General Psychology
- SOCI 160 Sociology

Total General Education credit hours 15

Specialized Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJU 101</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 111</td>
<td>Police Operational Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 112</td>
<td>Traffic Control and Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 122</td>
<td>Procedural Law</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 203</td>
<td>Criminal Investigation I</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 230</td>
<td>Criminal Law II</td>
<td>3</td>
</tr>
<tr>
<td>CRJU</td>
<td>Electives</td>
<td>15</td>
</tr>
</tbody>
</table>

SOCI, PSYC, EMTP, PHED Electives 9

Total Specialized credit hours 48

Total credit hours required for the degree 63

Police Science Certificate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJU 101</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 111</td>
<td>Police Operational Procedures</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 112</td>
<td>Traffic Control and Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 122</td>
<td>Procedural Law</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 203</td>
<td>Criminal Investigation I</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 230</td>
<td>Criminal Law II</td>
<td>3</td>
</tr>
<tr>
<td>CRJU</td>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Any electives in the following areas: SOCI, PSYC, EMTP, PHED (limit of 4 credit hours in PHED) 6

Total credit hours required for the certificate 30
SIGN LANGUAGE INTERPRETING

Offered at Maple Woods

This program leads to an Associate in Applied Science degree, which prepares students for entry-level jobs as sign-language interpreters, or to a certificate of proficiency in deaf studies.

Program Admission

Admission to this program is limited. To be admitted, students must meet the requirements listed below. Students who complete the admissions requirements will be evaluated by a screening committee. The committee will rank each applicant on the following factors: SIGN coursework, materials in the application packet, and videotaped sample of the applicant’s conversational ASL skills while in SIGN 102.

Application Process

1. An application to the Sign Language Program.
2. An application for admission to Maple Woods Community College.
3. A handwritten statement on "Why you want to enter the Sign Language Program" (300 words or less).
4. Official transcripts from high school and/or college.
5. Hearing evaluation by a licensed audiologist. A form is included in SIGN packet.
6. ENGL 30 or a higher level course or a minimum ASSET score for ENGL 101. Completion of ENGL 101 lends weight to the application packet.
7. Complete SIGN 101 and SIGN 102, Conversational American Sign Language I and II, with a grade of B or better. Students enrolled in SIGN 102 for the summer semester may use a midterm assessment and recommendation of instructor in lieu of final grade.

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
SOSI 151 Foundations of the Social Sciences II 3

The student must complete 9 credit hours from any general education electives with the course number of 100 or above 9
Total General Education credit hours 18

Specialized Courses

SIGN 110 American Sign Language I 4
SIGN 112 Fingerspelling 1
SIGN 114 The Interpreting Profession 2
SIGN 116 Deaf Culture 3
SIGN 118 Sign-to-Voice I 3
SIGN 120 American Sign Language II 4
SIGN 122 Linguistics of American Sign Language 3
SIGN 125 Interpreting I 4
SIGN 128 Sign-to-Voice II 3
SIGN 210 American Sign Language III 4
SIGN 212 C.A.S.E. I 2
SIGN 215 Interpreting II 4
SIGN 218 Sign-to-Voice III 4
SIGN 220 American Sign Language IV 4
SIGN 222 C.A.S.E. II 2
SIGN 225 Interpreting III 4
SIGN 228 Sign-to-Voice IV 4
SIGN 230 Practicum/Internship 2
Total Specialized Credits 57

Total credits required for the degree 75

Deaf Studies Certificate

This program prepares an English language user to communicate on an intermediate conversational skill level with an American Sign Language user. It does not lead to any degree of interpreting proficiency. To advance to SIGN 110, the student must complete program admission procedures.

ENGL 101 Composition and Reading I 3
SIGN 101 Conversational American Sign Language I 3
SIGN 102 Conversational American Sign Language II 3
SIGN 110 American Sign Language I 4
SIGN 116 Deaf Culture 3
SIGN 120 American Sign Language II 4
Total credits required for the certificate 20
TRAVEL AND TOURISM

Offered at Maple Woods

This program offers an Associate in Applied Science degree and both a basic and an advanced certificate in Travel and Tourism. These options provide training for entry-level positions or allow persons already employed to qualify for a higher-level positions. The requirements for the degree and certificates are listed below.

## Degree Requirements

### General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 105</td>
<td>World Geography</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td>3</td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td>3</td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td>3</td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td>3</td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
<td>3</td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

General Education Electives: 6
Total General Education credit hours: 18

### Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV 101</td>
<td>Introduction to the Travel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 102</td>
<td>Destination Geography</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 103</td>
<td>Travel Sales and Reservations</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 104</td>
<td>Travel Agency Operations</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 105</td>
<td>Computer Reservation Systems</td>
<td>4</td>
</tr>
<tr>
<td>TRAV 121</td>
<td>Travel Sales and Customer Service or</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 122</td>
<td>Cruise Counseling and Marketing</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 124</td>
<td>Advanced Studies in Travel and Tourism</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose two:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV 111</td>
<td>Destination Specialist: The Caribbean Region and Mexico</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 112</td>
<td>Destination Specialist: Pacific Rim</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 113</td>
<td>Destination Specialist: North America</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 114</td>
<td>Destination Specialist: Western Europe</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 115</td>
<td>Destination Specialist: Corporation Travel Geography</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Specialized credit hours: 28

### Support Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision or</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 120</td>
<td>Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 127</td>
<td>Management Internship</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications or</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 185</td>
<td>Customer Service</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: any two additional Business or Geography courses: 6
Total Support credit hours: 18
Total credit hours required for the degree: 64

---

### Travel and Tourism Basic Certificate

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV 101</td>
<td>Introduction to the Travel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 102</td>
<td>Destination Geography</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 103</td>
<td>Travel Sales and Reservations</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 104</td>
<td>Travel Agency Operations</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 105</td>
<td>Computer Reservation Systems</td>
<td>4</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate: 16

### Travel and Tourism Advanced Certificate

Basic Certificate courses (see above): 16

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV 111</td>
<td>Destination Specialist: The Caribbean Region and Mexico</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 112</td>
<td>Destination Specialist: Pacific Rim</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 113</td>
<td>Destination Specialist: North America</td>
<td>3</td>
</tr>
<tr>
<td>TRAV 114</td>
<td>Destination Specialist: Western Europe</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one additional Destination Specialist course:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAV 115</td>
<td>Destination Specialist: Corporation Travel Geography</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 127</td>
<td>Management Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credit hours required for the certificate: 37
AUTOMOTIVE TECHNOLOGY
Offered at Longview

This program leads to the Associate in Applied Science degree and prepares students for jobs in the automotive industry. Two options open to all qualified students are Mechanical and Merchandising. The Mechanical option prepares students to work as mechanics in dealerships, service centers, independent garages or service stations. The Merchandising option prepares students to work as assistant service manager, automotive service center trainee, automotive salesperson, factory service representative, parts counterperson or service salesperson. The Collision Repair Technology option, which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.

An additional three options — General Motors Automotive Service Educational Program, Ford Automotive Student Service Educational Training Program and Toyota Technical Education Training Program — have special admission requirements.

The Automotive Technology Certificate is a 55-credit hour offering at the Longview campus.

General Education Courses Required for All Options

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics or
SOSC 151 Foundations of the Social Sciences II 3
ENGL 175 Technical Writing 3
MATH 100 Mathematics for Business 3

Total General Education credit hours 15

Additional Requirements for Each Option

Option I Mechanical

AUTO 150 Automotive Power Plants 6
AUTO 160 Diagnosis and Repair 6
AUTO 166 Automotive Electrical Systems 6
AUTO 170 Automotive Braking Systems 4
AUTO 172 Automotive Suspension and Steering 4
AUTO 174 Automotive Power Trains 4
AUTO 176 Emissions and Fuel Control Systems 6
AUTO 279 Automotive Electronic Systems 6
AUTO 264 Air Conditioning 4
AUTO 272 Automatic Transmissions 6
BSAD 109 Principles of Supervision 3
BSAD 135 Small Business Management or

Option II Merchandising

AUTO 100 Automotive Internship I or
BSAD 127 Management Internship I 3
AUTO 101 Automotive Internship II or
BSAD 128 Management Internship II 3
AUTO 150 Automotive Power Plants 6
AUTO 160 Diagnosis and Repair 6
AUTO 166 Automotive Electrical Systems 6
AUTO 170 Automotive Braking Systems 4
AUTO Elective 3

Total credit hours required for the degree 73

Total General Education credit hours 3

Total credit hours required for the degree 67
### Option III Collision Repair Technology
This program is for students who have attended or are attending a collision repair program holding a nationally recognized certification.

### General Education Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 101</td>
<td>Introductory Physics or</td>
<td></td>
</tr>
<tr>
<td>PHSC 107</td>
<td>Foundations of Physical Science or</td>
<td></td>
</tr>
<tr>
<td>PHSC 101</td>
<td>Physical Science I (PACE)</td>
<td>4-5</td>
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</table>

### Automotive Courses Provided by Participating Articulation Agreement Schools
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 120</td>
<td>MIG and Structural Welding</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 125</td>
<td>Structural Analysis and Damage Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 130</td>
<td>Non-Structural Analysis and Damage Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 135</td>
<td>Plastics and Adhesives</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 140</td>
<td>Automotive Painting</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 141</td>
<td>Automotive Refinishing</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Automotive Steering and Suspension</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Automotive Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 260</td>
<td>Advanced Diagnosis</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
</tbody>
</table>

### Automotive Courses Provided by Longview Automotive Technology Department
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 260</td>
<td>Advanced Diagnosis</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 278</td>
<td>Electronic Engine Control</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
</tbody>
</table>

### Related Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 105</td>
<td>Cooperative Work Experience I</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 106</td>
<td>Cooperative Work Experience II</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 107</td>
<td>Cooperative Work Experience III</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 108</td>
<td>Cooperative Work Experience IV</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Supervision</td>
<td>3</td>
</tr>
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<td>BSAD 135</td>
<td>Small Business Management or</td>
<td></td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
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</tr>
<tr>
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<td>Cooperative Work Experience I</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
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<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
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</tr>
<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 260</td>
<td>Advanced Diagnosis</td>
<td>6</td>
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<tr>
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<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 135</td>
<td>Small Business Management or</td>
<td></td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
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</table>

### Total credit hours required for the degree
- Option III: 71-72
- Option IV: 88
- Option V: 88
- Option VI: 88

### Option IV General Motors Automotive Service Educational Program
**Admission to the Program:** Enrollment in this program is limited, and students must apply for admission. Information about the requirements is available from automotive instructors and the counseling center.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
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<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental Health and Safety</td>
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<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
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</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Supervision</td>
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### Option V Ford Automotive Service Educational Training Program
**Admission to the Program:** Enrollment in this program is limited, and students must apply for admission. Information about the requirements is available from automotive instructors and the counseling center.

<table>
<thead>
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<tbody>
<tr>
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<td>Principles of Supervision</td>
<td>3</td>
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<td>CSOF 115</td>
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<td>AUTO 105</td>
<td>Cooperative Work Experience I</td>
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<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
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<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
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<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
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<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
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<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Supervision</td>
<td>3</td>
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</table>

### Option VI Toyota Technical Education Training Program
**Admission to the Program:** Enrollment in this program is limited, and students must apply for admission. Information about the requirements is available from automotive instructors and the counseling center.

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
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<td>Principles of Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CSOF 115</td>
<td>Introduction to Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>AUTO 150</td>
<td>Automotive Power Plants</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 160</td>
<td>Diagnosis and Repair</td>
<td>6</td>
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<tr>
<td>AUTO 166</td>
<td>Automotive Electrical Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 170</td>
<td>Automotive Braking Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 172</td>
<td>Suspension and Steering</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 174</td>
<td>Automotive Power Trains</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 176</td>
<td>Emission &amp; Fuel Control Systems</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 264</td>
<td>Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>AUTO 272</td>
<td>Automatic Transmissions</td>
<td>6</td>
</tr>
<tr>
<td>AUTO 279</td>
<td>Automotive Electronic Systems</td>
<td>6</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

### Total credit hours required for the degree
- Option IV: 71-72
- Option V: 88
- Option VI: 88
Automotive Technology Certificate

As an alternative to the Associate in Applied Science degree programs listed above, Longview offers a Certificate of Proficiency in Automotive Technology to students who complete the following courses satisfactorily.

AUTO 150 Automotive Power Plants 6
AUTO 160 Diagnosis and Repair 6
AUTO 166 Automotive Electrical Systems 6
AUTO 170 Automotive Braking Systems 4
AUTO 172 Suspension and Steering 4
AUTO 174 Automotive Power Trains 4
AUTO 176 Emission and Fuel Control Systems 6
AUTO 260 Advanced Diagnosis 6
AUTO 264 Air Conditioning 4
AUTO 272 Automatic Transmissions 6
BSAD 135 Small Business Management or
CSOF 115 Introduction to Microcomputer Applications 3

Total credit hours required for the certificate 55

Collision Repair Technology Certificate

This program is for students who have attended or are attending a collision repair program holding a nationally recognized certification.

Automotive Courses Provided by participating articulation agreement schools

AUTO 120 MIG and Structural Welding 3
AUTO 125 Structural Analysis and Damage Repair 6
AUTO 130 Non-Structural Analysis and Damage Repair 6
AUTO 135 Plastics and Adhesives 3
AUTO 140 Automotive Painting 4
AUTO 141 Automotive Refinishing 4

Total 26

Provided by Longview Automotive Technology Department

AUTO 166 Automotive Electrical Systems 6
AUTO 172 Automotive Steering and Suspension 4
AUTO 264 Automotive Air Conditioning 4

Total 14

Total credit hours required for the certificate 40

DRAFTING AND DESIGN ENGINEERING TECHNOLOGY

Offered at the Business & Technology Center through Longview

This program leads to the Associate in Applied Science degree and gives students basic skills necessary for industrial jobs.

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

Total 34-41

Specialized Courses

DRAF 152 Engineering Graphics and CADD I 5
DRAF 153 Descriptive Geometry 3
DRAF 155 Architectural Drafting 3
DRAF 258 Principles of Design 3
DRAF 262 Technical Illustration 3
DRAF 268 Structural Design 3
DRAF 269 CADD II 4
DRAF 270 CADD Applications 2
DRAF Electives 4-5
ENGR 128 Machine Tool Laboratory 3
Electives* 1-7

Total 34-41

The student must complete one of the following courses:

HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics or
SOSC 151 Foundations of the Social Sciences II 3
ENGL 102 English Composition and Reading II 3
MATH 103 Technical Math I and
MATH 104 Technical Math II or
MATH 120 College Algebra and
MATH 130 Trigonometry 6
PHYS 130 General Physics I and
PHYS 131 General Physics II or
PHYS 112 Technical Physics 5-10

Total 23-28

Total credit hours required for the degree 62

* Electives must be selected from any of the following disciplines: BSAD, CSIS, CSOF, DRAF, MATE, MATH, PHYS, QCAT.
ENGLISH TECHNOLOGY AND ELECTRONICS ENGINEERING TECHNOLOGY

See Industrial Technologies, page 84.

ENVIRONMENTAL HEALTH AND SAFETY

Offered at the Business & Technology Center through Maple Woods.

This program leads to three Associate in Applied Science degrees or three certificates. This program provides a specialized technical background necessary to work in the field of environmental health and safety.

Environmental Health and Safety Option

**General Education and Support Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 109</td>
<td>Anatomy and Physiology</td>
<td>6</td>
</tr>
<tr>
<td>GEOL 103</td>
<td>Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td>3</td>
</tr>
</tbody>
</table>

*The student must complete one of the following courses:*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
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<tr>
<td>HIST 121</td>
<td>American History II or</td>
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<td>POLS 135</td>
<td>Introduction to Political Science or</td>
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<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
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<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
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<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry or</td>
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<td>CHEM 111</td>
<td>General College Chemistry</td>
</tr>
<tr>
<td>CHEM 205</td>
<td>Organic Chemistry or</td>
</tr>
<tr>
<td>CHEM 221</td>
<td>Organic Chemistry I</td>
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</table>

**Total General Education and Support** 34

**Specialized Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>EHSS 200</td>
<td>Safety and Health Regulations and Standards</td>
</tr>
<tr>
<td>EHSS 101</td>
<td>Hazardous Material Management and Emergency Response Operations</td>
</tr>
<tr>
<td>EHSS 110</td>
<td>Properties and Hazards of Hazardous Materials</td>
</tr>
<tr>
<td>EHSS 202</td>
<td>Transportation and Storage of Hazardous Materials</td>
</tr>
<tr>
<td>EHSS 203</td>
<td>Environmental Regulations</td>
</tr>
<tr>
<td>EHSS 204</td>
<td>Emergency Preparedness and Planning</td>
</tr>
<tr>
<td>EHSS 205</td>
<td>Principles of Industrial Hygiene or</td>
</tr>
<tr>
<td>EHSS 210</td>
<td>Incident and Accident Investigation or</td>
</tr>
<tr>
<td>EHSS 211</td>
<td>Worker’s Compensation Legislation for EHS</td>
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</table>

**Total Specialized Core credit hours** 30

**Total credit hours required for the degree** 64

Health and Safety Option

**General Education and Support Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 178</td>
<td>Business Communications</td>
<td>3</td>
</tr>
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</tr>
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</tbody>
</table>

*The student must complete one of the following courses:*

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<th>Course</th>
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</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
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<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
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<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry or</td>
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<td>General College Chemistry</td>
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<td>CHEM 205</td>
<td>Organic Chemistry or</td>
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<td>CHEM 221</td>
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</table>

**Total General Education and Support** 31

**Specialized Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>EHSS 200</td>
<td>Safety and Health Regulations and Standards</td>
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<tr>
<td>EHSS 101</td>
<td>Hazardous Material Management and Emergency Response Operations</td>
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<tr>
<td>EHSS 110</td>
<td>Properties and Hazards of Hazardous Materials</td>
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<tr>
<td>EHSS 202</td>
<td>Transportation and Storage of Hazardous Materials</td>
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<td>EHSS 203</td>
<td>Environmental Regulations</td>
</tr>
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<td>Emergency Preparedness and Planning</td>
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<td>EHSS 210</td>
<td>Incident and Accident Investigation or</td>
</tr>
<tr>
<td>EHSS 211</td>
<td>Worker’s Compensation Legislation for EHS</td>
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**Total Specialized Core credit hours** 30

**Total credit hours required for the degree** 64
<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EHSS 213 EHS Program Development and Management</td>
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<td>EHSS 218 Industrial Processes and Hazard Control</td>
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<td><strong>Environmental Option</strong></td>
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<td><strong>General Education and Support Courses</strong></td>
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<tr>
<td>ENGL 101 Composition and Reading I</td>
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<td>SPDR 100 Fundamentals of Speech</td>
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<td>PHYS 112 Technical Physics</td>
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<td>GEOL 103 Environmental Geology</td>
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</tr>
<tr>
<td>HIST 120 American History I or</td>
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<tr>
<td>HIST 121 American History II or</td>
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<td>POLS 137 Introduction to State and Local Politics or</td>
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<tr>
<td>SOSE 151 Foundations of the Social Sciences II</td>
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<td>MATH 103 Technical Mathematics I and</td>
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<td>MATH 104 Technical Mathematics II (6 cr.) or</td>
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<td>MATH 106 Technical Algebra and Trigonometry (5 cr.) or</td>
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<td>EHSS 200 Safety and Health Regulations and Standards</td>
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<td>EHSS 101 Hazardous Material Management and Emergency Response Operations</td>
<td>3</td>
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<tr>
<td>EHSS 110 Properties and Hazards of Hazardous Materials</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
<td>3</td>
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<tr>
<td>EHSS 203 Environmental Regulations</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 204 Emergency Preparedness and Planning or</td>
<td>3</td>
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<tr>
<td>EHSS 217 Concepts of Waste Minimization, Recycling and Pollution Prevention</td>
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<tr>
<td>EHSS 213 EHS Program Development and Management</td>
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<tr>
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<td><strong>Total credit hours required for the degree</strong></td>
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<tr>
<td>EHSS 110 Properties and Hazards of Hazardous Materials</td>
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<td>EHSS 200 Safety and Health Regulations and Standards</td>
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<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
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<td>EHSS 203 Environmental Regulations</td>
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<td>EHSS 204 Emergency Preparedness and Planning or</td>
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<td>EHSS 217 Concepts of Waste Minimization, Recycling and Pollution Prevention</td>
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<tr>
<td>EHSS 213 EHS Program Development and Management</td>
<td>3</td>
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<td>EHSS 220 Air Quality Management</td>
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<td>EHSS 225 Water Quality Management</td>
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<td><strong>Environmental Health and Safety Technology Certificate</strong></td>
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<tr>
<td>BSAD 178 Business Communications</td>
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<td>EHSS 110 Properties and Hazards of Hazardous Materials</td>
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<tr>
<td>EHSS 200 Safety and Health Regulations and Standards</td>
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<td>EHSS 202 Transportation and Storage of Hazardous Materials</td>
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<tr>
<td>EHSS 203 Environmental Regulations</td>
<td>3</td>
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<tr>
<td>EHSS 204 Emergency Preparedness and Planning or</td>
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</tr>
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<td>3</td>
</tr>
<tr>
<td><strong>Total credit hours required for the certificate</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>
# GROUNDS AND TURF MANAGEMENT

*Offered at Longview*

This program leads to an Associate in Applied Science degree and a certificate of proficiency in Grounds Maintenance and prepares students for jobs in the groundskeeping and turf management industry.

## Degree Requirements

### General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>ENGL 101</td>
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<tr>
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<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science or</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics or</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics or</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total General Education credit hours 9

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 110</td>
<td>Introduction to Economics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100</td>
<td>Math for Business</td>
<td>3</td>
</tr>
<tr>
<td>PHED 117</td>
<td>Golf I</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 140</td>
<td>General Psychology</td>
<td>3</td>
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</table>

Total Required credit hours 10

### Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>AGBS 100</td>
<td>Introduction to Urban Agribusiness</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 106</td>
<td>Landscape Design &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 107</td>
<td>Deciduous Trees and Shrubs</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 109</td>
<td>Pest Management/Turf &amp; Ornamental</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 115</td>
<td>Soil Fertility and Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 135</td>
<td>Turfgrass Management I</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 145</td>
<td>Irrigation and Installation</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 104</td>
<td>General Botany</td>
<td>5</td>
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<tr>
<td>BIOL 202</td>
<td>Ecology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry</td>
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Total Specialized credit hours 36

### Electives (Choose 9 credit hours)

<table>
<thead>
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<th>Credit</th>
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<tbody>
<tr>
<td>AGBS 108</td>
<td>Evergreens and Herbaceous Plants</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 140</td>
<td>Turfgrass Management II</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 151</td>
<td>Special Topics in Horticulture I</td>
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<tr>
<td>AGBS 152</td>
<td>Special Topics in Horticulture II</td>
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<tr>
<td>AGBS 153</td>
<td>Special Topics in Horticulture III</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 200</td>
<td>Occupational Internship</td>
<td>3</td>
</tr>
<tr>
<td>AGBS 206</td>
<td>Advanced Landscape Design and Maintenance</td>
<td>3</td>
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</tbody>
</table>

Total Elective credit hours 9

Total credit hours required for the degree 64

## Grounds Maintenance Certificate

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

Total credit hours required for the certificate 18

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# INDUSTRIAL TECHNOLOGIES

*Offered at the Business & Technology Center through Maple Woods.*

This program offers 23 degree and certificate options. The Associate in Applied Science degree has 16 options: Bricklayer; Construction Carpenter; Construction Ironworking; Construction Cement Masons; Construction Laborer; Electronics Engineering Technology; Electronics Technology; Glaziers; Heating, Ventilation and Air Conditioning; Industrial Electrical; Industrial Maintenance; Inside Wiring; Machine Tool; Millwright; and Stationary Engineer. Certificates are: Heating, Ventilation and Air Conditioning; Industrial Electrical; Industrial Maintenance; Machine Tool; Millwright; Painter; and Stationary Engineering. The requirements for the degree and certificates are listed below.

### Bricklayer Option

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Technical Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>DRAF 107</td>
<td>Computer Aided Drafting for Industrial Technology</td>
<td>3</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

One of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>SRVY 135</td>
<td>Elementary Surveying</td>
<td>3</td>
</tr>
<tr>
<td>INTE 151</td>
<td>Industrial Rigging</td>
<td>3</td>
</tr>
</tbody>
</table>

One of the following:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
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<tr>
<td>HIST 121</td>
<td>American History II or</td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td>3</td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
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</table>

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<thead>
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<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 105</td>
<td>Introductory Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 107</td>
<td>Preparatory General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 112</td>
<td>Technical Physics</td>
<td>5</td>
</tr>
</tbody>
</table>

Plus completion of a federally-approved apprenticeship program in bricklaying that contains at a minimum 450 clock hours of classroom instruction and 4,000 clock hours of on-the-job training.

Total credit hours required for the degree 65

### Construction Carpentry Option

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I or</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II or</td>
<td></td>
</tr>
</tbody>
</table>
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National
Politics or
POLS 137 Introduction to State and Local
Politics or
SOSC 151 Foundations of the Social Sciences II 3
MATH 103 Technical Mathematics I 3
MATH 104 Technical Mathematics II 3
EHSS 100 Introduction to Environmental Health
and Safety 3
CSIS 101 Computers and Information Technology 3
DRAF 107 Computer Aided Drafting for
Industrial Technologies 3
BSAD 109 Principles of Supervision 3
INTE 151 Industrial Rigging 3
One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Plus completion of a federally approved carpentry
apprenticeship program that contains at a
minimum 540 clock hours of classroom instruction
and 4,000 clock hours of on-the-job training. 30

Total credit hours required for the degree 65

Construction Ironworking Option

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National
Politics or
POLS 137 Introduction to State and Local
Politics or
SOSC 151 Foundations of the Social Sciences II 3
MATH 103 Technical Mathematics I 3
MATH 104 Technical Mathematics II 3
EHSS 100 Introduction to Environmental Health and Safety 3
CSIS 101 Computers and Information Technology 3
DRAF 107 Computer Aided Drafting for Industrial Technologies 3
BSAD 109 Principles of Supervision 3
MATE 201 Basic Metallurgy 3

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Total 35

Plus completion of a federally approved ironworking
apprenticeship program that contains at a minimum
540 clock hours of classroom instruction and
4,000 clock hours of on-the-job training. 30

Total credit hours required for the degree 65

Construction Cement Masons Option

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National
Politics or
POLS 137 Introduction to State and Local
Politics or
SOSC 151 Foundations of the Social Sciences II 3
MATH 103 Technical Mathematics I 3
MATH 104 Technical Mathematics II 3
EHSS 100 Introduction to Environmental Health and Safety 3
CSIS 101 Computers and Information Technology 3
DRAF 107 Computer Aided Drafting for Industrial Technologies 3
BSAD 109 Principles of Supervision 3

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Total 35

Plus completion of a federally approved carpentry
apprenticeship program that contains at a minimum
540 clock hours of classroom instruction and
4,000 clock hours of on-the-job training. 30

Total credit hours required for the degree 65

Total credit hours required for the degree 65

86
Construction Laborer Option

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3
MATH 103 Technical Mathematics I 3
MATH 104 Technical Mathematics II 3
EHSS 205 Principles of Industrial Hygiene 3
CSIS 101 Computers and Information Technology 3
BSAD 109 Principles of Supervision 3
DRAF 107 Computer Aided Drafting for Industrial Technology 3
SRVY 135 Basic Land Surveying 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics 3

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Total credit hours 35

In addition to the above degree requirements, a completion of a federally approved apprenticeship program in construction laborer that contains a minimum of 4,000 hours of on-the-job training and 450 hours classroom training.

Total credit hours required for the degree 30

Electronics Technology Option

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Total credit hours 35

In addition to the above degree requirements, a completion of a federally approved apprenticeship program in construction laborer that contains a minimum of 4,000 hours of on-the-job training and 450 hours classroom training.

Total credit hours required for the degree 30

Electronics Engineering Technology Option

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5

Total credit hours 35

In addition to the above degree requirements, a completion of a federally approved apprenticeship program in construction laborer that contains a minimum of 4,000 hours of on-the-job training and 450 hours classroom training.

Total credit hours required for the degree 30

One of the following CSIS courses:
CSIS 125 Visual Basic Programming or
CSIS 135 Fortran Programming or
CSIS 155 C++ Programming 3

DRAF 107 Computer Aided Drafting for Industrial Technologies 3

Total 26-28

PHYS 112 Technical Physics 5

CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry 5

Total 10

Total credit hours required for the degree 65

Technical Courses

All of the following technical courses:
ELTE 110 Basic Electronics 3
ELTE 114 Dc Circuit Analysis 3
ELTE 118 Ac Circuit Analysis 3
ELTE 120 Analog Devices I 3
ELTE 220 Analog Devices II 3
ELTE 130 Digital and Microprocessors 3
ELTE 150 Operational Amplifiers 3
ELTE 230 Microcomputer Architecture 3

One of the following courses:
ELTE 270 Industrial Electronics or
ELTE 260 Communications Electronics 3

Total 27

Total credit hours required for the degree 63-65

Electronics Technology Option

General Education Courses

ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3

The student must complete one of the following courses:
HIST 120 American History I or
HIST 121 American History II or
POLS 135 Introduction to Political Science or
POLS 136 Introduction to American National Politics or
POLS 137 Introduction to State and Local Politics

One of the following courses:
MATH 103 Technical Mathematics I (3 cr.) and
MATH 104 Technical Mathematics II (3 cr.) or
MATH 106 Technical Algebra and Trigonometry (5) 5-6

EHSS 100 Introduction to Environmental Health and Safety 3

One of the following CSIS courses:
CSIS 125 Visual Basic Programming or
CSIS 135 Fortran Programming or
CSIS 155 C++ Programming 3
DRAF 107 Computer Aided Drafting for Industrial Technologies 3
Total 23-24

One of the following courses:
CHEM 105 Introductory Chemistry or
CHEM 107 Preparatory General Chemistry or
PHYS 112 Technical Physics 5
Total 5

Technical Courses
All of the following technical courses:
ELTE 110 Basic Electronics 3
ELTE 114 DC Circuit Analysis 3
ELTE 118 AC Circuit Analysis 3
ELTE 120 Analog Devices I 3
ELTE 220 Analog Devices II 3
ELTE 130 Digital and Microprocessors 3
ELTE 150 Operational Amplifiers 3
ELTE 230 Microcomputer Architecture 3
ELTE 260 Communications Electronics 3
ELTE 270 Industrial Electronics 3
INTE 271 Programmable Logic Controllers 3
ELTE 240 Design Project 3
Total 36

Glaziers Option

Required Courses
ENGL 101 Composition and Reading I 3
SPDR 100 Fundamentals of Speech 3
MATH 103 Technical Mathematics I 3
MATH 104 Technical Mathematics II 3
EHSS 100 Introduction to Environmental Health and Safety 3
CSIS 101 Computers and Information Technology 3
DRAF 107 Computer Aided Drafting for Industrial Technology 3
BSAD 109 Principles of Supervision 3
SRVY 135 Elementary Surveying 3
One of the following:
HIST 120 American History I
HIST 121 American History II
POLS 135 Introduction to Political Science
POLS 136 Introduction to American National Politics
SOSC 151 Foundations of the Social Sciences II 3
Total credit hours required for the degree 64-65

Support Courses
MATH 106 Technical Algebra & Trigonometry 5-6
PHYS 112 Technical Physics 5
DRAF 105 Blueprint Reading and Manufacturing 2
Total Support credit hours 12-13

Specialized Courses
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 221 Commercial Refrigeration 4
HVAC 135 Residential Heating and Air Conditioning I 4
HVAC 136 Residential Heating and Air Conditioning II 4
INTE 110 Industrial Electrical Principles 3
HVAC 230 Design and Distribution 4
HVAC 211 Design and Estimating 3
HVAC Electives 7-8
Total Specialized credit hours 40-41

Total credit hours required for the degree 62

HVAC Certificate
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 221 Commercial Refrigeration 4
HVAC 135 Residential Heating and Air Conditioning I 4
HVAC 136 Residential Heating and Air Conditioning II 4
INTE 110 Industrial Electrical Principles 3
HVAC 230 Design and Distribution 4
MATH 103 Technical Mathematics I 3
Total credit hours required for the degree 33
### Industrial Electrical Option

#### General Education Courses
- **ENGL 101** Composition and Reading I 3
- **SPDR 100** Fundamentals of Speech 3

*The student must complete one of the following courses:
- **HIST 120** American History I or
- **HIST 121** American History II or
- **POLS 135** Introduction to Political Science or
- **POLS 136** Introduction to American National Politics or
- **POLS 137** Introduction to State and Local Politics*

#### Support Courses
- **EHSS 100** Introduction to Environmental Health and Safety 3
- **CSIS 101** Computers and Information Technology 3
- **DRAF 107** Computer Aided Drafting for Industrial Technologies 3

#### Specialized Courses
- **INTE 110** Industrial Electrical Principles 3
- **INTE 142** National Electrical Code 3
- **INTE 271** Programmable Logic Controllers 3
- **INTE 273** Variable Speed Drives and Controls 3
- **INTE 275** Electric Motor Controls II 3
- **INTE 276** Electrical Troubleshooting 3
- **INTE, CHEM, PHYS, CSIS Electives** 10

**Total credit hours required for the degree**: 63

### Industrial Maintenance Option

#### General Education Courses
- **ENGL 101** Composition and Reading I 3
- **SPDR 100** Fundamentals of Speech 3

*The student must complete one of the following courses:
- **HIST 120** American History I or
- **HIST 121** American History II or
- **POLS 135** Introduction to Political Science or
- **POLS 136** Introduction to American National Politics or
- **POLS 137** Introduction to State and Local Politics*

#### Support Courses
- **EHSS 100** Introduction to Environmental Health and Safety 3
- **CSIS 101** Computers and Information Technology 3
- **DRAF 107** Computer Aided Drafting for Industrial Technologies 3

#### Specialized Courses
- **DRAF 105** Blueprint Reading and Manufacturing 2
- **DRAF 108** Advanced Blueprint Reading for Metal Trades 2
- **INTE 110** Industrial Electrical Principles 3
- **INTE 140** Fundamentals of Industrial Maintenance 3
- **INTE 142** National Electrical Code 3
- **INTE 150** Introduction to Fluid Power 3
- **INTE 175** Electric Motor Controls I 3
- **INTE 122** Layout and Fabrication 3
- **INTE 151** Industrial Rigging 3
- **INTE 167** Welding I, SMAW 3
- **INTE, CHEM, PHYS, CSIS Electives** 6

**Total credit hours required for the certificate**: 33

---
Inside Wiring Option

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Technical Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>CSIS 101</td>
<td>Computers and Information Technology</td>
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<tr>
<td>PHYS 112</td>
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<td>5</td>
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<td>Electives</td>
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One of the following:

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HIST 120</td>
<td>American History I</td>
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<td>HIST 121</td>
<td>American History II</td>
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<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>EHSS 100</td>
<td>Introduction to Environmental Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>INTE 101</td>
<td>Industrial Electrical Principles</td>
<td>3</td>
</tr>
<tr>
<td>DRAF 109</td>
<td>Blue Print Reading, Electrical</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 115</td>
<td>Inside Wiring I</td>
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<tr>
<td>ELEC 116</td>
<td>Inside Wiring II</td>
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<tr>
<td>ELEC 117</td>
<td>Inside Wiring III</td>
<td>3</td>
</tr>
<tr>
<td>INTE 142</td>
<td>National Electrical Code</td>
<td>3</td>
</tr>
<tr>
<td>INTE 175</td>
<td>Electric Motor Controls I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 215</td>
<td>Inside Wiring IV</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 216</td>
<td>Inside Wiring V</td>
<td>3</td>
</tr>
<tr>
<td>INTE 271</td>
<td>Programmable Logic Controllers</td>
<td>3</td>
</tr>
<tr>
<td>INTE 275</td>
<td>Electric Motor Controls II</td>
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</tbody>
</table>

Total credit hours required for the certificate: 31

Electives 3

Degree Requirements

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
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</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total General Education credit hours: 9

Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td></td>
</tr>
<tr>
<td>MATH 104</td>
<td>Technical Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 106</td>
<td>Technical Algebra and Trigonometry</td>
<td>5-6</td>
</tr>
<tr>
<td>PHYS 112</td>
<td>Technical Physics</td>
<td>5</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td></td>
</tr>
<tr>
<td>BSAD 135</td>
<td>Small Business Management</td>
<td></td>
</tr>
<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
</tr>
<tr>
<td>DRAF 105</td>
<td>Blueprint Reading and Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>DRAF 108</td>
<td>Advanced Blueprint Reading for Metal Trades</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Technical Support credit hours: 17-18

Technical Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATE 100</td>
<td>Introduction to Machine Tool Technology</td>
<td>2</td>
</tr>
<tr>
<td>MATE 101</td>
<td>Machining and Tooling I</td>
<td>5</td>
</tr>
<tr>
<td>MATE 102</td>
<td>Machining and Tooling II</td>
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<tr>
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<td>Machining and Tooling III and</td>
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</tr>
<tr>
<td>MATE 104</td>
<td>Machining and Tooling IV or</td>
<td></td>
</tr>
<tr>
<td>MATE 105</td>
<td>Machining and Tooling Internship I and</td>
<td></td>
</tr>
<tr>
<td>MATE 205</td>
<td>Machining and Tooling Internship II</td>
<td>6</td>
</tr>
<tr>
<td>MATE 107</td>
<td>Machinery’s Handbook</td>
<td>3</td>
</tr>
</tbody>
</table>

Machine Tool Option

Offered at the Business & Technology Center through Maple Woods

This NIMS (National Institute of Metalworking Skills) Certified program, which leads to an Associate in Applied Science degree or a certificate of proficiency, is offered in conjunction with the Kansas City Chapter of the National Tooling and Machining Association. Requirements for the Machine Tool Pre-Apprenticeship, Machine Tool Certificate, and the Machine Tool Degree are listed below.

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

Degree Requirements

General Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Composition and Reading I</td>
<td>3</td>
</tr>
<tr>
<td>SPDR 100</td>
<td>Fundamentals of Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must complete one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120</td>
<td>American History I</td>
<td></td>
</tr>
<tr>
<td>HIST 121</td>
<td>American History II</td>
<td></td>
</tr>
<tr>
<td>POLS 135</td>
<td>Introduction to Political Science</td>
<td></td>
</tr>
<tr>
<td>POLS 136</td>
<td>Introduction to American National Politics</td>
<td></td>
</tr>
<tr>
<td>POLS 137</td>
<td>Introduction to State and Local Politics</td>
<td></td>
</tr>
<tr>
<td>SOSC 151</td>
<td>Foundations of the Social Sciences II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total General Education credit hours: 9

Specialized Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 103</td>
<td>Technical Mathematics I</td>
<td></td>
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<tr>
<td>MATH 104</td>
<td>Technical Mathematics II</td>
<td></td>
</tr>
<tr>
<td>MATH 106</td>
<td>Technical Algebra and Trigonometry</td>
<td>5-6</td>
</tr>
<tr>
<td>PHYS 112</td>
<td>Technical Physics</td>
<td>5</td>
</tr>
<tr>
<td>BSAD 109</td>
<td>Principles of Supervision</td>
<td></td>
</tr>
<tr>
<td>BSAD 135</td>
<td>Small Business Management</td>
<td></td>
</tr>
<tr>
<td>BSAD 204</td>
<td>Business Management</td>
<td>3</td>
</tr>
<tr>
<td>DRAF 105</td>
<td>Blueprint Reading and Manufacturing</td>
<td>2</td>
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<tr>
<td>DRAF 108</td>
<td>Advanced Blueprint Reading for Metal Trades</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Technical Support credit hours: 17-18

Technical Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATE 100</td>
<td>Introduction to Machine Tool Technology</td>
<td>2</td>
</tr>
<tr>
<td>MATE 101</td>
<td>Machining and Tooling I</td>
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<td>MATE 102</td>
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<tr>
<td>MATE 104</td>
<td>Machining and Tooling IV or</td>
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</tr>
<tr>
<td>MATE 105</td>
<td>Machining and Tooling Internship I and</td>
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</tr>
<tr>
<td>MATE 205</td>
<td>Machining and Tooling Internship II</td>
<td>6</td>
</tr>
<tr>
<td>MATE 107</td>
<td>Machinery’s Handbook</td>
<td>3</td>
</tr>
</tbody>
</table>
MATE 201 Basic Metallurgy 3
MATE 203 Process Planning and Production Problems 3
MATE 210 Computerized Numerical Control 3
Total Technical courses 30
Electives 6
Total Technical courses 36
Total credit hours required for the degree 62-63

**Machine Tool Technology Pre-Apprenticeship**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<td>READ 124</td>
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<td>MATE 102</td>
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**Machine Tool Technology Certificate**

All of the following courses:

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<th>Course</th>
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<tbody>
<tr>
<td>ENGL 101</td>
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<tr>
<td>SPDR 100</td>
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**Millwright Option**

**General Education Courses**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENGL 101</td>
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<td>HIST 121</td>
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<td>POLS 135</td>
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<td>POLS 136</td>
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<td>POLS 137</td>
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<td>SOSC 151</td>
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<td>MATH 103</td>
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<td>MATH 104</td>
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</table>

The student must complete one of the following courses:

<table>
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<th>Course</th>
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<tr>
<td>CSIS 101</td>
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<td>INTE 110</td>
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<tr>
<td>Total</td>
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**Support Courses**

<table>
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</thead>
<tbody>
<tr>
<td>EHSS 100</td>
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<td>CSIS 101</td>
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<td>DRAF 107</td>
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<tr>
<td>Total</td>
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**Specialized Courses**

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<th>Course</th>
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<tbody>
<tr>
<td>DRAF 105</td>
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<td>DRAF 108</td>
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<tr>
<td>INTE 110</td>
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<td>INTE 260</td>
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<td>Total</td>
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</table>

**Millwright Certificate**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DRAF 105</td>
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<tr>
<td>DRAF 108</td>
<td></td>
</tr>
<tr>
<td>CSIS 101</td>
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<tr>
<td>INTE 110</td>
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<td>INTE 167</td>
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<td>INTE 168</td>
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<td>INTE 260</td>
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</tr>
<tr>
<td>Total</td>
<td>31</td>
</tr>
</tbody>
</table>
**Painter Option**

**Required Courses**

- **ENGL 101** Composition and Reading I  
- **SPDR 100** Fundamentals of Speech  
- **MATH 103** Technical Mathematics I  
- **MATH 104** Technical Mathematics II  
- **EHSS 100** Introduction to Environmental Health and Safety  
- **CSIS 101** Computers and Information Technology  
- **BSAD 109** Principles of Supervision  
- **DRAD 106** Blueprint Reading and Construction  
- **INTE 151** Industrial Rigging  

The student must complete one of the following courses:

- **HIST 120** American History I or
- **HIST 121** American History II or
- **POLS 135** Introduction to Political Science or
- **POLS 136** Introduction to American National Politics or
- **POLS 137** Introduction to State and Local Politics or
- **SOSC 151** Foundations of the Social Sciences II

One of the following:

- **CHEM 105** Introductory Chemistry or
- **CHEM 107** Preparatory General Chemistry or
- **PHYS 112** Technical Physics  
  Total credit hours 35

In addition to the above degree requirements, a completion of a federally approved apprenticeship program in painting that contains a minimum 450 clock hours of classroom instruction and 4,000 clock hours of on-the-job training 30

Total credit hours required for the degree 65

**Stationary Engineer Option**

**General Education Courses**

- **ENGL 101** Composition and Reading I  
- **SPDR 100** Fundamentals of Speech  

The student must complete one of the following courses:

- **HIST 120** American History I or
- **HIST 121** American History II or
- **POLS 135** Introduction to Political Science or
- **POLS 136** Introduction to American National Politics or
- **POLS 137** Introduction to State and Local Politics or
- **SOSC 151** Foundations of the Social Sciences II

One of the following:

- **CHEM 105** Introductory Chemistry or
- **CHEM 107** Preparatory General Chemistry or
- **PHYS 112** Technical Physics  
  Total General Education credit hours 20

Total credit hours required for the degree 65

**Support Courses**

- **EHSS 100** Introduction to Environmental Health and Safety  
- **CSIS 101** Computers and Information Technology  
- **DRAF 107** Computer Aided Drafting for Industrial Technologies  
- **HVAC 109** Electricity for HVAC/R Technicians  
- **HVAC 111** Principles of Heating, Ventilation and Air Conditioning  
- **HVAC 120** Fundamentals of Refrigeration  
- **HVAC 201** Stationary Engineering  
- **HVAC 221** Commercial Refrigeration  
- **HVAC 230** Sheet Metal for HVAC  
- **INTE 110** Industrial Electrical Principles  
- **DRAF 109** Blueprint Reading, Electrical  
- **INTE 150** Introduction to Fluid Power  
- **INTE 175** Electric Motor Controls I  
- **INTE 271** Programmable Logic Controllers  
- **HVAC 109** Electricity for HVAC/R Technicians  
- **HVAC 111** Principles of Heating, Ventilation and Air Conditioning  
- **HVAC 120** Fundamentals of Refrigeration  
- **HVAC 201** Stationary Engineering  
- **HVAC 221** Commercial Refrigeration  
- **HVAC 230** Sheet Metal for HVAC  
- **INTE 110** Industrial Electrical Principles  
- **DRAF 109** Blueprint Reading, Electrical  
- **INTE 150** Introduction to Fluid Power  
- **INTE 175** Electric Motor Controls I  
- **INTE 271** Programmable Logic Controllers  

Total credit hours required for the certificate 33

**LAND SURVEYING**

Offered at Longview

This program leads to an Associate in Applied Science degree and provides students with the experience and knowledge they need to take the exam to become a land surveyor.

**General Education Requirements**

**American Institutions**

The student must complete A, B, or C.

A. **HIST 120** American History I or
   - **HIST 121** American History II and either
   - **ECON 100** Introduction to Economics or
   - **ECON 210** Principles of Economics

B. **SOSC 150** Foundations of Social Science I and
   - **SOSC 151** Foundations of Social Science II

C. The student must complete two of the following three courses:
   - **POLS 135** Introduction to Political Science
   - **POLS 136** Introduction to American National Politics
   - **POLS 137** Introduction to State and Local Politics
### Communications
- ENGL 101 Composition and Reading I  3
- ENGL 102 Composition and Reading II  3
- SPDR 100 Fundamentals of Speech  3
- ENGL 175 Technical Writing  3
  - Total General Education credit hours  18

### Support Courses
- MATH 115 Statistics  3
- MATH 103 Technical Math I  3
- MATH 104 Technical Math II  3
- GEOL 101 General Geology or
- PHYS 106 General Astronomy  5
- PHYS 112 Technical Physics  5
- DRAF 152 Engineering Graphics I  3
- BSAD 135 Small Business Management  3
  - Total Support credit hours  25

### Specialized Courses
- SRVY 135 Elementary Surveying  3
- SRVY 136 Analysis of Survey Measurements  3
- SRVY 137 Subdivision Planning and Layout  3
- SRVY 139 Route and Construction Surveying  3
- SRVY 235 Advanced Surveying  3
- SRVY 236 Legal Aspects of Surveying  3
- SRVY 237 Land Surveying  3
  - Total Specialized credit hours  21

- Total credit hours required for the degree  64

### OCCUPATIONAL EDUCATION
This program, which prepares students to become vocational educators, leads to an Associate of Applied Science degree. The program is a collaborative effort between 12 community colleges and four 4-year institutions.

### Degree Requirements

#### General Education Courses
- ENGL 101 Composition and Reading I  3
- SPDR 100 Fundamentals of Speech  3
- MATH 119 College Mathematics or
- MATH 120 College Algebra  3

#### American Institutions
- Choose one of the following three sets:
  - HIST 120 American History I and
  - HIST 121 American History II or
  - SOSC 150 Foundations of the Social Sciences I and
  - SOSC 151 Foundations of the Social Sciences II or two of the following:
  - POLS 135 Introduction to Political Science
  - POLS 136 Introduction to American National Politics
  - POLS 137 Introduction to State and Local Politics  6

- Choose one of the following:
  - BIOL 101 General Biology
  - CHEM 107 Preparatory General Chemistry

- PHYS 112 Technical Physics  5
- General Education Elective  3
  - Total General Education credit hours  23

### Technical Education
The Technical Education component of the degree must focus on the occupation. The credits may be any or a combination of formal college coursework, occupational certification, or credit by certification.

- Total Technical Education credit hours  24

### Professional Education
The following courses must be taken at one of the four-year teacher education institutions:
- New Teacher Institute  3
- Development and Assessments of Vocational/Technical Curriculum  3
- Principles of Teaching Technology and Industrial Education  3

- Three of the following electives
  - Occupational Analysis
  - Coordination of Cooperative Education
  - Vocational Guidance
  - Vocational Education for Handicapped Students
  - Philosophy of Vocational Education
  - Educational Psychology  9
  - Total Professional Education credits  18

- Total credit hours required for the degree  65

### QUALITY ASSURANCE TECHNOLOGY
Offered at Business and Technology Center through Longview

This program leads to either an Associate of Applied Science degree or a certificate of proficiency. It provides new students or people who are already in the field with the quality assurance knowledge and skills they need to become quality planners, analysts, engineers and managers. Requirements for the degree are listed below.

### Degree Requirements

#### General Education Courses
- ENGL 101 Composition and Reading I  3
- ENGL 175 Technical Writing  3
- SPDR 100 Fundamentals of Speech  3

- The student must complete one of the following courses:
  - HIST 120 American History I or
  - HIST 121 American History II or
  - POLS 135 Introduction to Political Science or
  - POLS 136 Introduction to American National Politics or
  - POLS 137 Introduction to State and Local Politics or
  - SOSC 151 Foundations of the Social Sciences II  3
  - MATH 103 Technical Mathematics I and
  - MATH 104 Technical Mathematics II or
  - MATH 120 College Algebra and
  - MATH 130 Trigonometry  6

- Total credit hours required for the degree  65
MATH 115  Statistics  3
PHYS 112  Technical Physics  5
Total General Education credit hours  26

**Specialized Courses**

QCAT 150  Introduction to Quality Assurance I  3
QCAT 151  Introduction to Quality Assurance II  3
QCAT 251  Process Quality Control  3
QCAT 261  Quality Statistical Applications  3
QCAT 270  Reliability Engineering & Metrology  3
QCAT 281  Design and Analysis of Experiments  3
BSAD 109  Principles of Supervision  3
BSAD 120  Human Relations in Business  3
Total Specialized credit hours  24

**Restricted Electives**

_Eleven or twelve hours from the following disciplines._

BIOL 101 or above
BSAD 100 or above
CHEM 107 or above
CSIS/CSOF 100 or above
DRAF 105 or above
ELTE 110 or above
ENGR 101 or above
MATE 100 or above
MATH 120 or above
PHYS 190 or above  11-12
Total credit hours required for the degree  62-65

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**Quality Assurance Technology Certificate**

MATH 103  Technical Mathematics I and  3
MATH 104  Technical Mathematics II or  3
MATH 120  College Algebra and  6
MATH 130  Trigonometry  3
MATH 115  Statistics  3
PHYS 112  Technical Physics  5
Total General Education credit hours  14

**Specialized Courses**

QCAT 150  Introduction to Quality Assurance I  3
QCAT 151  Introduction to Quality Assurance II  3
QCAT 251  Process Quality Control  3
QCAT 261  Quality Statistical Applications  3
QCAT 270  Reliability Engineering & Metrology  3
QCAT 281  Design and Analysis of Experiments  3
Total Specialized credit hours  18
Total credit hours required for the certificate  32

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**RAILROAD OPERATIONS TECHNOLOGY**

*Offered at Johnson County Community College*
*Coordinated at MCC at all locations*

This program leads to an Associate of Applied Science degree. It offers two options: Railroad Conductor and Railroad Dispatcher. MCC’s Railroad Operations program is offered in cooperation with the railroad operations program at Johnson County Community College. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements.

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

**Degree Requirements**

**Courses Offered at MCC**

CSOF 115  Introduction to Microcomputer Applications  3
ENGL 101  Composition and Reading I  3
MATH 120  College Algebra  3
MATH 130  Trigonometry  3
PHIL 200  Logic  3
ENGL 175  Technical Writing  3
PHYS 110  Physics for Technology I  3
PHYS 111  Physics for Technology II  3
BSAD 150  Introduction to Business  3
ECON 110  Introduction to Economics  3
SPDR 100  Fundamentals of Speech  3
Physical Education elective  1
Total credits offered at MCC  34

**Courses Offered at JCCC**

PHIL 138  Business Ethics  1
RRT 120  History of Railroading  3
RRT 121  Railroad Technical Careers  3
RRT 150  Railroad Operations  3
RRT 165  Railroad Safety, Quality and Environment  3
Total  13

**Additional Courses for Railroad Conductor Option**

RRTC 123  Introduction to Conductor Service  4
RRTC 175  Conductor Mechanical Operation  2
RRTC 261  Conductor Service  2
RRTC 263  General Code of Operating Rules  4
RRTC 265  Conductor Field Application  9
Total for additional courses  21
Total credits offered at JCCC  34

Total credits required for the degree  68

**Additional Courses for Railroad Dispatcher Option**

RRTD 122  Introduction to Railroad Dispatching  2
RRTD 271  Apprentice Railroad Dispatching Training I  6
RRTD 272  Apprentice Railroad Dispatching Training II  6
RRTD 275  Railroad Dispatching Field Observation  3
RRTD 276  Railroad Dispatching Field Application  5
Total for additional courses  22
Total credits offered at JCCC  35

Total credits required for the degree  69
CONTINUING EDUCATION

The Business & Technology Center

The Metropolitan Community Colleges (MCC) have been working with area businesses for more than 20 years to provide business solutions. In 1995 resources from all campus locations were consolidated and relocated to create the largest and most comprehensive business training and services facility in the Midwest, the Business & Technology Center. Located near I-435 and Front Street, this 110,000 square-foot facility houses classrooms, labs, offices, conference rooms, a conference center and a 64-station, fully-functional call center.

The BTC was born of a strong partnership between business and education. MCC works actively with the Kansas City Area Development Council to bring new businesses and jobs to the Kansas City area. The goals of the BTC are: to develop partnerships with businesses and agencies, to provide lifelong learning opportunities, to deliver training for real jobs, and to strengthen MCC’s role in the economic and resource development of the metropolitan area.

Business and Technical Services

Business services provided by the BTC include a variety of performance improvement, analysis, and consulting services. As the first community college unit of its kind in the country to achieve ISO 9002 registration, the BTC offers comprehensive assistance to private businesses preparing for ISO certification. ISO services include assessment, planning, training, development, auditing, implementation, and consulting.

Assessment services offered by the BTC provide clients with the information they need to make good management decisions about hiring, promotions and training. We conduct an Organizational Needs Assessment which examines organizational climate and compiles information from surveys and focus group discussions. Other assessment services include: 1) job and task analyses to pinpoint skills requirements, 2) personnel assessments to discover present and prospective employees’ interests, abilities, and skills, and 3) synthesis of analyses and assessments to enable clients to match skills and aptitudes with job functions.

Training Programs

Many training opportunities are available through the Business & Technology Center. Training can take place at the BTC or can be delivered at our clients’ locations. In addition to the programs listed below, we tailor training services specifically to meet the needs of our clients. Some of our programs include:

- Business Computer training on the most popular business software applications
- Customer Service and Call Center Management training in our state-of-the-art call center
- Environmental Health & Safety and OSHA training (U.S. Dept. of Labor authorized training site, courses approved by the Environmental Protection Agency)
- AutoCAD training at our authorized Autodesk Training Center
- Leadership and management development
- Team building
- Interpersonal skills

ISO 9000, QS 9000
- Machine Tool Technology and Industrial Technology (welding, hydraulics, metal fabrication, pneumatics, etc.)
- Heating, Ventilation, and Air Conditioning (HVAC) training
- Transportation & Logistics training on regulations, safety issues, distribution management and international trade.
- Basic Skills training (reading, math, and writing) in our Workforce Skills Computer Lab

Funding Programs

The BTC’s revenue sources include the State of Missouri Customized Training and New Jobs Training programs which provide our clients access to funding for BTC/MCC training and services. These programs are provided in cooperation with the Missouri Department of Economic Development (DED) and the Department of Elementary and Secondary Education (DESE) and can help qualified companies finance training.

Community Education

Noncredit community education courses, workshops, seminars, conferences, and special events are offered each semester at most MCC campuses. These include opportunities for adults, children, and special populations. The mission of community education is to provide diverse classes and programs to meet the needs of the communities we serve—lifelong learning opportunities for education, enrichment, and enjoyment.

Adult classes are offered in the areas of business, communication, computers, financial planning, fine arts, health and fitness, language and writing, law, recreation, personal enhancement, professional development, special interests, and more. Programs for adults with disabilities, families experiencing divorce, and other special populations also are included within the realm of community education.

College for Kids features a variety of innovative courses and camps for children of all ages. Class enrollments are limited to provide individual attention and allow for optimal educational experiences.

Information about specific offerings, schedules, and policies is available from the community education offices at Blue River (816) 220-6518, Longview (816) 672-2030, and Maple Woods (816) 437-3011.
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This section describes each of the for-credit courses offered by the Metropolitan Community Colleges. 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.

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.

AGRIBUSINESS

AGBS 100 INTRODUCTION TO URBAN AGRIBUSINESS
3 credits, 3 hours.
Survey of arboricultural, floricultural, and ornamental horticulture occupations in the greens industry.

AGBS 106 LANDSCAPE DESIGN AND MAINTENANCE
3 credits, 4 hours (Laboratory: 2 hours.)
Principles of planning, producing, setting out, and maintaining trees, vines, ground covers, perennials, turf, and annuals.

AGBS 107 DECIDUOUS TREES AND SHRUBS
3 credits, 3 hours.
A practical study of woody plants, shade trees, ornamental and flowering trees, and deciduous and flowering shrubs indigenous to the midwest. Designed for the practitioner in agribusiness, the course provides an in-depth study of environmental adaptability, cultural practices, diseases, pests, and seasonal effects in the midwest.

AGBS 108 EVERGREENS AND HERBACEOUS PLANTS
3 credits, 3 hours.
A practical study of coniferous evergreens, broadleaf evergreens, reliable low-maintenance perennials, and bedding annuals indigenous to the midwest. Designed for the practitioner in agribusiness. Discussion of diseases, pests, and seasonal effects in the midwest.

AGBS 109 PEST MANAGEMENT/TURF AND ORNAMENTAL
3 credits, 3 hours.
Environmental, safety, and regulatory considerations of turf and ornamental pest control.

AGBS 115 SOIL FERTILITY AND FERTILIZERS
3 credits. 3 hours.
Types of fertilizers for soil and crops. Fertilizers: their components, their formulation, and their application.

AGBS 135 TURFGRASS MANAGEMENT I
3 credits. 4 hours. (Laboratory: 2 hours.)
Introduce students to the basics of turfgrass management. Emphasis on plant growth, identification, and characteristics of the major cold- and warm-season turf grasses such as blue grasses, rye grasses, bent grass, fescues, Bermuda grass, and zoysia grass. Establishment procedures and mowing practices will be covered.

AGBS 140 TURFGRASS MANAGEMENT II
3 credits. 4 hours. (Laboratory: 2 hours.)
Prerequisite: AGBS 135.
More specific information provided on turfgrass management. Topics such as green construction, topdressing, sprayer calibration, management programs (i.e., setting up a lawn care program), and the influence environment has on turfgrass growth.

AGBS 145 IRRIGATION AND INSTALLATION
3 credits. 3 hours.
A study of the design, operations, and maintenance of modern golf courses and landscape facilities, including water requirements, supply, and distribution.

AGBS 151 SPECIAL TOPICS IN HORTICULTURE I
1 credit. 1 hour.
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.

AGBS 152 SPECIAL TOPICS IN HORTICULTURE II
2 credits. 2 hours.
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.

AGBS 153 SPECIAL TOPICS IN HORTICULTURE III
3 credits. 3 hours.
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.
**AGBS 200  OCCUPATIONAL INTERNSHIP**  
3 credits. 15 hours.  
On-the-job training in agribusiness.

**AGBS 206  ADVANCED LANDSCAPE DESIGN AND MAINTENANCE**  
3 credits. 4 hours. (Laboratory: 2 hours.)  
*Prerequisite: AGBS 106.*  
Planning and landscape design. Installation and maintenance of various plants. The commercial process of bidding and contracting.

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### ANTHROPOLOGY

**ANTH 100  GENERAL ANTHROPOLOGY**  
3 credits. 3 hours.  

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### ART

**ART 100  ART FUNDAMENTALS I**  
3 credits. 6 hours. (Studio: 5 hours.)  
Introduction to the principles of visual perception in drawing, color study, and two- and three-dimensional design. Exploratory use of various materials and methods of expression in studio applications.

**ART 101  ART FUNDAMENTALS II**  
3 credits. 6 hours. (Studio: 6 hours.)  
*Prerequisite: ART 100.*  
Use of the plastic elements of art and principles of design in studio application. Emphasis on study of art styles, techniques, and media.

**ART 102  COMPUTERS IN DESIGN I**  
3 credits. 6 hours. (Studio: 5 hours.)  
An introduction to the computer for the creation of artwork applicable to the advertising and graphic design industry.

**ART 108  SURVEY OF ART**  
3 credits. 3 hours.  
A brief history of painting, architecture, and sculpture from prehistoric times through the present day. Penn Valley.

**ART 110  BASIC DRAWING I**  
3 credits. 6 hours. (Studio: 5 hours.)  
Development of fundamental drawing skills and techniques using various media. Observation and compositional aspects of drawing.

**ART 111  BASIC DRAWING II**  
2-3 credits. 4-6 hours. (Studio: 4-6 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  BASIC DRAWING III**  
2-3 credits. 4-6 hours. (Studio: 4-6 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  BASIC DRAWING IV**  
2-3 credits. 4-6 hours. (Laboratory 4-6 hours.)  
*Prerequisite: ART 112.*  
Exploration of a variety of subject matter for personally expressive and compositional aspects of drawing. Individual projects.

**ART 115  ORIENTATION TO GRAPHIC COMMUNICATIONS**  
3 credits. 4 hours. (Lab: 2 hours)  
Study of the graphic communications industry and production methods from design through bindery. Emphasis on current trends for the professional preparation for careers in graphic communications. Penn Valley.

**ART 130  FASHION ILLUSTRATION I**  
3 credits. 6 hours. (Studio: 5 hours.)  
Fundamentals of fashion illustration with emphasis on basic drawing techniques, fabric, advertising concepts, and media use in the field.

**ART 131  FASHION ILLUSTRATION II**  
3 credits. 6 hours. (Laboratory: 5 hours.)  
*Prerequisite: ART 130.*  
Principles of fashion drawing with emphasis on media and reproduction techniques.

**ART 139  INTRODUCTION TO PHOTOGRAPHY**  
3 credits. 6 hours. (Studio: 6 hours.)  
Use of the camera with basic processes and principles of black and white photography. Historical background and influences with contemporary photography. Introduction to the use of photographic equipment, dark room procedures, and materials. (Students will furnish their own cameras.)

**ART 142  CRAFTS DESIGN: FIBER**  
3 credits. 3 hours. (Studio: 5 hours.)  
Principles of design in crafts, using a variety of media and methods within the discipline of fiber: surface design on fabric, feltmaking, and papermaking.

**ART 150  HISTORY OF ART I**  
3 credits. 3 hours.  
Historical events and their influence on the development of architecture, painting, and sculpture from prehistoric times through the medieval period in western civilization.
ART 171  CERAMICS II
3 credits. 6 hours. 
Prerequisite: ART 170.
Further development of skills and techniques in ceramic structure, decoration, and glazing. Studio experience in pottery wheel techniques.

ART 170  CERAMICS I
3 credits. 6 hours. (Studio: 5 hours.)
Students will be introduced to fundamentals of ceramics, working with three dimensions, handling texture, form, design. Work will be fired and glazed.

ART 166  CALLIGRAPHY
3 credits. 6 hours (Laboratory: 5 hours.)
Creative designing of type. Matting and framing of finished work.

ART 165  CARTOONING
3 credits. 6 hours. (Studio: 5 hours.)
Fundamentals of drawing styles and techniques. Advertising, gag, editorial, caricature, and greeting card cartoons.

ART 164  LETTERING
3 credits. 6 hours. (Laboratory: 5 hours.)
The evolution of letter forms. Hand-lettering techniques with pen, brush, and marker as well as mechanically produced letter forms.

ART 160  GRAPHIC DESIGN I
3 credits. 6 hours. (Studio: 5 hours.)
Prerequisite: ART 102 (or concurrent enrollment) or approval of the instructor.
An introduction to the principles of the graphic design field. This includes the study of typography, layout, production methods, and career opportunities.

ART 159  AMERICAN ART HISTORY
3 credits. 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. Maple Woods.

ART 158  THE ART OF INDIA AND CHINA
3 credits. 3 hours.
Religion and culture from prehistory through present day. Historical progress in the arts. Architecture, sculpture, painting, and the minor arts of India and China with the link of the Buddhist religion. Maple Woods.

ART 151  HISTORY OF ART II
3 credits. 3 hours.
Western civilization through the historical developments and relationships of architecture, painting, and sculpture from the renaissance to present day.

ART 150  GRAPHIC DESIGN II
3 credits. 6 hours. (Studio: 5 hours.)
Prerequisite: ART 160 or equivalent.
Continued study of painting styles with emphasis on developing visual perception and compositional aspects.

ART 147  COMPUTER GRAPHICS
3 credits. 6 hours. (Laboratory: 5 hours.)
Prerequisite: ART 110 or equivalent. Experimentation in watercolor medium techniques and brushwork. Projects will stress composition, theme development, and technique.

ART 146  COMPUTER GRAPHICS II
3 credits. 6 hours. (Laboratory: 5 hours.)
Prerequisite: ART 147.
Advanced and individual projects under the direction of the instructor. Emphasis on skill building, research in glazing techniques, and knowledge of kiln firing.

ART 145  COMPUTER GRAPHICS III
3 credits. 6 hours. (Studio: 6 hours.)
Prerequisite: ART 144.
Exploration of the problems in production type ceramic ware. Methods and techniques. Individual skill building on wheel-thrown and/or hand-building procedures.

ART 140  COMPUTER GRAPHICS
3 credits. 6 hours. (Studio: 5 hours.)
Exploration of two- and three-dimensional design with emphasis on solving various design problems. Exploration of various media, color patterns, structure, and shape relationships.

ART 136  COMPUTER GRAPHICS II
3 credits. 6 hours. (Studio: 5 hours.)
Students will utilize a combination of advanced graphic software to solve illustration/graphic design problems. Students will further develop skills and techniques utilizing the computer as an integrated environment for artist. Advanced layered drawing, layout, specialized applications, and resources will be covered.

ART 135  COMPUTER GRAPHICS I
3 credits. 6 hours. (Studio: 5 hours.)
Prerequisite: ART 110 or equivalent.
In this course, students will explore the human form using live models. Assignments will cover a variety of drawing styles and media.

ART 132  LIFE DRAWING I
2-3 credits. 4-6 hours. (Studio: 4-6 hours.)
Prerequisite: ART 212.
Further study of the figure with emphasis on proportion and action using a knowledge of basic anatomical structure. Development of skills in various media.

ART 131  LIFE DRAWING II
2-3 credits. 4-6 hours. (Studio: 4-6 hours.)
Prerequisite: ART 213.
Advanced study of drawing the figure from models. Introduction to new media and the study of various styles for the improvement of the student’s own style. More emphasis on portraiture.

ART 125  WATERCOLOR PAINTING
3 credits. 6 hours (Studio: 5 hours.)
Prerequisite: ART 110 or equivalent.
Experimentation in watercolor medium techniques and brushwork. Projects will stress composition, theme development, and technique.
ART 216 LIFE DRAWING AND PORTRATURE IV  
2-3 credits. 4-6 hours. (Studio: 4-6 hours.)  
Prerequisite: ART 214.  
Projects using selected media. Introduction of color and further study of relationship of subject matter, media and style.

ART 220 PAINTING I  
3 credits. 6 hours. (Studio: 5 hours.)  
Prerequisite: ART 110 or equivalent.  
This course will introduce basic principles of design and pictorial composition. Students will execute a series of paintings on various themes.

ART 221 PAINTING II  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 220.  
Continued study of painting styles with emphasis on developing visual perception and compositional aspects. Exploration of various media to increase proficiency in skills and techniques.

ART 222 PAINTING III  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 221.  
Individual projects to meet the student’s needs in dealing with composition and color problems to increase proficiency in techniques of various media.

ART 223 PAINTING IV  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 222.  
Advanced study to develop skills and handle one or more media. Special projects to develop awareness of creative responsibility and expression. Exploration of a variety of styles and subjects.

ART 230 SCULPTURE I  
3 credits. 6 hours. (Studio: 5 hours.)  
Introduction to the principles and styles of three-dimensional forms. Exploration of natural and synthetic sculptural forms through the use of traditional material.

ART 231 SCULPTURE II  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 230.  
Advanced methods and techniques. Emphasis on sculpture materials and forms. Continued exploration in various media and styles.

ART 232 SCULPTURE III  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 230 and 231.  
Further experimentation with various media, styles, and techniques. Special projects working from live models. Environmental aspects of sculptural problems.

ART 233 SCULPTURE IV  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 232.  
Skills through individual selections of creative projects using student’s choice of media. Choice of working from live models.

ART 239 PHOTOGRAPHY II  
3 credits. 6 hours: (Studio: 6 hours.)  
Prerequisite: ART 139.  
Development of professional standards of photographic techniques in black and white as well as an introduction to color processes. Emphasis on camera compositional techniques.

ART 242 PHOTOGRAPHY III  
2-3 credits. 4-6 hours. (Studio: 4-6 hours.)  
Prerequisites: ART 239.  
Individual student projects developing visual communication techniques. Further study in black and white processes. Advanced color projects and advanced darkroom techniques.

ART 243 PHOTOGRAPHY IV  
2-3 credits. 4-6 hours. (Studio: 4-6 hours.)  
Prerequisite: ART 242.  
Use of projects to develop abilities of individual students. Professional competence in use of photographic equipment and materials.

ART 244 DIGITAL PHOTOGRAPHY  
3 credits. 6 hours. (Laboratory: 5 hours)  
Prerequisites: ART 102 or equivalent and ART 244 or permission of instructor.  
Concept, development, design and production, registration and launching of web sites. Visual design, color, typography, digital images and illustrations will be stressed. A variety of software packages will be used.

ART 245 WEB DESIGN  
3 credits. 6 hours. (Studio: 5 hours.)  
Prerequisites: ART 102 or equivalent and ART 244 or permission of instructor.  
Concept, development, design and production, registration and launching of web sites. Visual design, color, typography, digital images and illustrations will be stressed. A variety of software packages will be used.

ART 250 PRINTMAKING I  
3 credits. 6 hours. (Laboratory: 5 hours.)  
Introduction to a variety of traditional and contemporary printmaking processes, including on- and off-the-press techniques. Historical styles of printmaking and application to current trends. Exploration of woods, linoleum, and silk-screen techniques.

ART 251 PRINTMAKING II  
3 credits. 6 hours. (Laboratory: 6 hours.)  
Prerequisite: ART 250.  
Development of student skills in handling various printmaking processes. Styles, subject matter, and the development of a visual awareness of the basic elements.

ART 254 SILK SCREEN PRINTING I  
3 credits. 6 hours. (Studio: 5 hours.)  
Screen printing techniques ranging from the use of a simple paper stencil to photographic processes.
ART 255  SILK SCREEN PRINTING II  
3 credits. 6 hours. (Laboratory: 5 hours.)  
Prerequisite: ART 254.  
Advanced problems in lacquer and photofilm with emphasis on two-color printing.

ART 256  SILK SCREEN PRINTING III  
3 credits. 6 hours. (Laboratory: 5 hours.)  
Prerequisite: ART 255.  
Application of advanced problem solving techniques to commercial printing methods projects.

ART 260  GRAPHIC DESIGN II  
3 credits. 6 hours. (Studio: 5 hours.)  
Prerequisite: ART 160, ART 102  
Advanced problems in graphic design, which may include newspaper, magazine package, and trademark designs.

ART 261  GRAPHIC DESIGN III  
3 credits. 6 hours. (Studio: 5 hours.)  
Prerequisite: ART 260, 102, and 202  
Advanced problems in advertising and editorial layout. Theory and design for effective composition of verbal and visual communication designed for publication.

ART 262  GRAPHIC DESIGN IV  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: ART 261.  
Advanced exploration of the development of visual communication; problems relating to social, industrial, and commercial needs.

ART 263  ART PORTFOLIO  
3 credits. 6 hours. (Studio: 6 hours.)  
Prerequisite: Approval of the instructor.  
Selection, revamping, and mounting of student work for the professional portfolio.

ART 264  ART PORTFOLIO–GRAPHIC DESIGN  
3 credits. 6 hours. (Studio: 5 hours)  
Prerequisites: ART 160, 260, 261 and the student should be in the last semester of the Graphic Design program.  
Selection and presentation of the professional graphic design portfolio along with interviewing techniques and employment searches.

ART 265  GRAPHIC DESIGN FIELD PROJECT I  
2-6 credits. 4-10 hours. (Studio: 4-10 hours.)  
Prerequisite: Approval of the instructor.  
The student will work in an approved training site in the graphic design field.

ART 270  ILLUSTRATION  
3 credits. 6 hours. (Laboratory: 5 hours.)  
Prerequisites: ART 100, 110, 200, or approval of the instructor.  
Rendering of forms pictorially. Finer points of the techniques and media.

ART 280  SPECIAL STUDIES  
1-3 credits. 2-6 hours. (Studio: 2-6 hours.)  
Prerequisite: Approval of the instructor.  
Individual projects involving media and techniques chosen by the student with the advice of the instructor.

ART 281  INTRODUCTION TO PREPRESS  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisites: ART 115 and ART 102. Prerequisites may be waived with approval of program coordinator.  
The prepress process from manual production methods to digital prepress construction. Emphasis on tools, techniques, and workflows.

ART 282  IMAGE INPUT  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisites: ART 202 and ART 281. Prerequisites may be waived with approval of program coordinator.  
Capturing images through scanning. Focus on color theory, image quality, and color calibration to achieve predictable, high-quality results.

ART 283  ADVANCED PREPRESS  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisites: ART 115, 202, 281, and 282 or approval of the instructor.  

ART 284  PREPRESS INTERNSHIP  
3 credits. (Clin./Intern: 14 hours; 210 total hours)  
Prerequisites: ART 282 and ART 283. Prerequisites may be waived with approval of program coordinator.  
Cooperative work experience in digital prepress.

ART 290  PREPRESS INTERNSHIP II  
3 credits. (Clin./Intern: 14 hours; 210 total hours)  
Prerequisites: ART 282 and ART 283. Prerequisites may be waived with approval of program coordinator.  
Cooperative work experience in digital prepress.

AUTOMOTIVE TECHNOLOGY

Longview
Paul Damminga  William Fairbanks  Rory Perrodin  
Richard Diklich  Gary McDaniel  Edward Schaufller

AUTO 100  AUTOMOTIVE INTERNSHIP I  
3 credits. 15 hours.  
Prerequisites: One semester of automotive course work and approval of the automotive coordinator.  
Cooperative on-the-job training in the automotive industry under college supervision.

AUTO 101  AUTOMOTIVE INTERNSHIP II  
3 credits. 15 hours.  
Prerequisites: AUTO 100 and approval of the automotive coordinator.  
Cooperative on-the-job training.

AUTO 103  INTRODUCTION TO AUTOMOTIVE TECHNOLOGY  
2 credits. 2 hours.  
A nonmechanic course covering engine, steering and suspension, brake, drive train, electrical, transmission, heating/air conditioning, and engine performance.
AUTO 105 COOPERATIVE WORK EXPERIENCE I
3 credits. 40 hours.
Prerequisite: Approval of the automotive coordinator.
Cooperative on-the-job training.

AUTO 106 COOPERATIVE WORK EXPERIENCE II
3 credits. 40 hours.
Prerequisite: Approval of the automotive coordinator.
Cooperative on-the-job training.

AUTO 107 COOPERATIVE WORK EXPERIENCE III
3 credits. 40 hours.
Prerequisite: Approval of the automotive coordinator.
Cooperative on-the-job training.

AUTO 108 COOPERATIVE WORK EXPERIENCE IV
3 credits. 40 hours.
Prerequisite: Approval of the automotive coordinator.
Cooperative on-the-job training.

AUTO 120 MIG AND STRUCTURAL WELDING
3 credits. 5 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. 12.5 hours. (Laboratory: 9.5 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
The analysis, measurement, and repair of frames and unibody structures of automobiles and light trucks.

AUTO 130 NON-STRUCTURAL ANALYSIS AND DAMAGE REPAIR
6 credits. 12.5 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. (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. (Laboratory: 9 hours.)
Prerequisite: Accepted 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. (Laboratory: 9 hours.)
Prerequisite: Accepted into the articulation program for Auto Collision Repair.
Analysis, preparation, and performance of paint repair and refinishing applications on modern automobiles and light trucks.

AUTO 150 AUTOMOTIVE POWER PLANTS
6 credits. 9 hours. (Laboratory: 6 hours.)
History, theory of operation, diagnosis, and repair of automotive gasoline and diesel engines. Covers the basic and special tools required to properly overhaul or rebuild. Includes head and valve service, piston and ring service, block and bearing service. Special emphasis on measuring and diagnosis.

AUTO 160 DIAGNOSIS AND REPAIR
6 credits. 9 hours. (Laboratory: 6 hours).
Prerequisites: AUTO 150, 166, and 176.
A lecture laboratory approach to the use of diagnostic equipment pertaining to driveability with an emphasis on ignition, fuel, starting and charging systems, and efficient engine operation.

AUTO 166 AUTOMOTIVE ELECTRICAL SYSTEMS
6 credits. 9 hours. (Laboratory: 6 hours.
An in-depth consideration of modern electrical systems and use of meters in trouble shooting and maintenance of batteries, starters, voltage regulators, alternators, relays, solenoids, lighting, charging circuits, ignition system, and accessories.

AUTO 170 AUTOMOTIVE BRAKING SYSTEMS
4 credits. 6 hours. (Laboratory: 4 hours.)
History, theory of operation, and current service procedures on drum and disc brakes systems. Includes vacuum and hydraulic power assist and anti-lock brake systems.

AUTO 172 AUTOMOTIVE SUSPENSION AND STEERING
4 credits. 6 hours. (Laboratory: 4 hours.)
History, theory and service of front and rear suspension and steering systems. Includes control arm, strut types and air ride, steering gear boxes, rack and pinion steering, power assist, and spring installation. Extensive coverage on four-wheel alignment, tire and wheel balance and vibration analysis. Also covers automatic ride control.

AUTO 174 AUTOMOTIVE POWER TRAINS
4 credits. 6 hours. (Laboratory: 4 hours.)
Theory of operation and service procedures for drivelines, constant velocity joints, manual transmissions and transaxles, differentials, and clutches. Driveline phasing and vibration analysis.

AUTO 176 EMISSION AND FUEL CONTROL SYSTEMS
6 credits. 9 hours. (Laboratory: 6 hours.)
Prerequisites: AUTO 150 and 166.
History, theory of operation, diagnosis, and repair of emission control systems. Includes electronically controlled emission systems. History, theory of operation, diagnosis and repair of gasoline fuel system including basic carburetion, throttle body injection, and port fuel injection.
AUTO 260 ADVANCED DIAGNOSIS  
6 credits. 9 hours. (Laboratory: 6 hours.)  
**Prerequisites:** AUTO 150, 160, 166, 170, 172, 174, 176, 264, 277 and/or AUTO 278 and be a member of the ASEP or ASSET program.  
An advanced course allowing students to specialize in one or two of eight specialty areas of automotive technology. This course utilizes individualized instruction methods. Special emphasis will be placed on specialty electronics areas and driveability.

AUTO 264 AIR CONDITIONING  
4 credits. 6 hours. (Laboratory: 4 hours.)  
Theory of operation, diagnosis, and repair of various types of automotive air conditioners, including refrigerant reclaiming equipment.

AUTO 272 AUTOMATIC TRANSMISSIONS  
6 credits. 9 hours. (Laboratory: 6 hours).  
Emphasis on diagnosis, testing, theory of operation, disassembly, and reassembly of current model automatic transmissions.

AUTO 277 SPECIALIZED ELECTRONICS TRAINING  
6 credits. 9 hours. (Laboratory: 6 hours.)  
**Prerequisites:** AUTO 166 and admission to GM ADEP.  
Principles of solid-state electronics with applications to such devices as are used in General Motors products.

AUTO 278 ELECTRONIC ENGINE CONTROL  
6 credits. 9 hours. (Laboratory: 4 hours.)  
**Prerequisites:** AUTO 166 and admission to Ford ASSET Program.  
Solid-state electronic principles and applications on devices as utilized on late model Ford Motor Company’s computer-equipped vehicles. Includes Ford EEC certification.

AUTO 279 AUTOMOTIVE ELECTRONIC SYSTEMS  
6 credits. 8 hours. (Laboratory: 4 hours.)  
**Prerequisite:** AUTO 166.  
Solid-state electronic principles and applications on devices as utilized on late model computer-equipped automobiles.

**BASIC SKILLS**

**Blue River**

Mary Simpson

**NOTE:** Credit in these courses is not applicable to any degree or certificate.

BASK 11 SPELLING I  
1-3 credit. 1-3 hours.  
Development of adult-level spelling skills by explanation and drill in the fundamentals of spelling. Basic patterns of various vowel sounds, families of structurally similar words, addition of affixes.

BASK 12 SPELLING II  
1-3 credit. 1-3 hours.  
Further development of spelling skills by explanation and drill in the fundamentals.

BASK 19 PUNCTUATION  
1 credit. 2 hours. (Laboratory: 2 hours.)  
Rules and use of punctuation. Self-paced instruction.

BASK 24 COLLEGE ENTRANCE SKILLS  
3 credits. 3 hours.  
Introduction to basic study skills, college resources, and college procedures.

BASK 26 SOLVING WORD PROBLEMS  
1 credit. 2 hours. (Laboratory: 2 hours.)  
Interpretation and solution of word problems in basic mathematics.

BASK 28 FUNDAMENTALS OF GRAMMAR AND SENTENCE STRUCTURE I  
1-3 credits. 1-3 hours.  
Review of fundamental writing concepts. Mechanics, grammar, and sentence structure.

BASK 29 FUNDAMENTALS OF GRAMMAR AND SENTENCE STRUCTURE II  
1-3 credits. 1-3 hours.  
**Prerequisite:** BASK 28  
Further review of fundamental writing concepts. Mechanics, grammar, and sentence structure.

BASK 37 BASIC ALGEBRAIC CONCEPTS  
2 credits. 2 hours.  
Algebraic expressions. Use of formulas to solve linear equations. Designed to prepare students for the GED (General Education Development) Test.

BASK 38 BASIC GEOMETRIC CONCEPTS  
2 credits. 2 hours.  
**Prerequisite:** BASK 37.  
Measurement and relationship of lines, angles, plane figures, and solid figures.

BASK 39 SENTENCES TO PARAGRAPHS  
1-3 credits. 1-3 hours.  
Moving from sentence to paragraph writing. Topic sentences, coherence, focus, and organization.

BASK 46 DEVELOPMENTAL COMMUNICATIONS  
3 credits. 3 hours.  
Listening strategies, information speaking, informal writing, and on-the-job communication.

BASK 47 THINKING SKILLS  
3 credits. 3 hours.  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Laboratory</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 100</td>
<td>INTRODUCTION TO CELL BIOLOGY</td>
<td>3</td>
<td>3</td>
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<td><em>Prerequisites:</em> MATH 20 with a minimum grade of C or score on the placement test above the cutoff point for MATH 20.</td>
<td>Fundamental biological concepts preparatory to the study of physiology and microbiology. Subcellular components of living cells. Concepts of molecular biology with emphasis on compounds and reactions structurally and functionally important in the living cell.</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>GENERAL BIOLOGY</td>
<td>5</td>
<td>7</td>
<td>4</td>
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<td>Biological principles applied to selected groups of plants and animals.</td>
</tr>
<tr>
<td>BIOL 104</td>
<td>GENERAL BOTANY</td>
<td>5</td>
<td>7</td>
<td>4</td>
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<td>Biological principles and their application to the plant kingdom. Microscopic and gross examination of anatomy of plants. Life cycles and ecological relationships.</td>
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<tr>
<td>BIOL 106</td>
<td>GENERAL ZOOLOGY</td>
<td>5</td>
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<td>4</td>
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<td>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.</td>
</tr>
<tr>
<td>BIOL 108</td>
<td>INTRODUCTORY ANATOMY AND PHYSIOLOGY</td>
<td>5</td>
<td>7</td>
<td>4</td>
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<td>Gross and microanatomy and physiology of each organ system. Correlation of the organ systems in the functioning of the human body.</td>
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<tr>
<td>BIOL 109</td>
<td>ANATOMY AND PHYSIOLOGY</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td><em>Prerequisite: BIOL 100 or CHEM 105 with a minimum grade of C.</em></td>
<td>Gross anatomy, histology, and physiology of each system of the human body. Homeostatic mechanisms and correlation of structure and function.</td>
</tr>
<tr>
<td>BIOL 110</td>
<td>HUMAN ANATOMY</td>
<td>5</td>
<td>7</td>
<td>4</td>
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<td>Gross and microscopic structure of each system of the human body. Integration of the systems within the entire body.</td>
</tr>
<tr>
<td>BIOL 112</td>
<td>BIOLOGICAL CONCEPTS</td>
<td>2-5</td>
<td>2-7</td>
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<td></td>
<td>Concepts relevant to human systems in health and disease.</td>
</tr>
<tr>
<td>BIOL 117</td>
<td>LIFE AND THE ENVIRONMENT (PACE)</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td></td>
<td>General principles of biology and environmental science. Problems in human ecology such as population growth, resource utilization, and pollution. Field trips.</td>
</tr>
<tr>
<td>BIOL 118</td>
<td>INTRODUCTION TO BIOLOGY (PACE)</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td></td>
<td>Basic structure of life. Cell structure. Plant and animal systems. Relationship of human beings to other living things and the interaction of biological and physical systems. Part of the instruction given by videotape.</td>
</tr>
<tr>
<td>BIOL 120</td>
<td>BIOETHICS</td>
<td>3</td>
<td>3</td>
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<td></td>
<td>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.</td>
</tr>
<tr>
<td>BIOL 121</td>
<td>DIRECTED PROJECT</td>
<td>1</td>
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<td>2</td>
<td><em>Prerequisite: Approval of instructor.</em></td>
<td>Supervised introductory study of a topic in biology.</td>
</tr>
<tr>
<td>BIOL 127</td>
<td>HUMAN INHERITANCE AND REPRODUCTION</td>
<td>3</td>
<td>3</td>
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<td></td>
<td>Modes of inheritance in humans and the anatomy and physiology of human reproduction. Genetics, prenatal development, nutrition, and selected aspects of reproductive technology.</td>
</tr>
<tr>
<td>BIOL 129</td>
<td>TREES AND SHRUBS</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td></td>
<td>Identification of trees and shrubs. Methods of growing them. Their uses as ornamental plants.</td>
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<tr>
<td>BIOL 137</td>
<td>INTRODUCTION TO PATHOLOGY</td>
<td>4</td>
<td>4</td>
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<td><em>Prerequisite: BIOL 108</em></td>
<td>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.</td>
</tr>
<tr>
<td>BIOL 150</td>
<td>MEDICAL TERMINOLOGY</td>
<td>2</td>
<td>2</td>
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<td></td>
<td>Basic vocabulary of medical terms stressing prefixes, suffixes, and roots, with application to each system of the body.</td>
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</tbody>
</table>
BIOL 202  ECOLOGY
5 credits. 7 hours. (Laboratory: 4 hours).
Prerequisite: BIOL 101 or 104, or BIOL 106 with a minimum grade of C.
Forest, aquatic, and grassland ecological systems.
Collection and classification of various specimens from each of the three habitats and discussion of their ecological relationships.

BIOL 204  GENETICS
3 credits. 3 hours.
Prerequisite: BIOL 101 or 104, or BIOL 106 with a minimum grade of C.
Principles of inheritance in plants and animals and the mechanisms of gene action.

BIOL 208  MICROBIOLOGY
5 credits. 7 hours. (Laboratory: 4 hours).
Prerequisites: BIOL 100 or CHEM 105 and 5 hours of biological science at the college level, with a minimum grade of C.
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. (Laboratory: 3 hours).
Prerequisites: BIOL 110 and either BIOL 100 or CHEM 105 with a minimum grade of C.
Functions of the human body as revealed by cells, tissues, organs, and systems in terms of underlying physicochemical processes.

BIOL 211  FIELD BIOLOGY
5 credits. 7 hours. (Laboratory: 4 hours)
Prerequisite: BIOL 101, 104 or 106 with a minimum grade of C and consent of instructor.
Flora and fauna of selected biomes including field observation, identification, classification, and ecological relationships. Students must be prepared to camp out while in the field.

BIOL 220  SPECIAL TOPICS IN BIOLOGY
2-5 credits. 4-10 hours.
Prerequisites: Two courses in biological science and approval of the instructor
Study of a biological topic of special interest under the supervision of a faculty member.

BUSINESS ADMINISTRATION

<table>
<thead>
<tr>
<th>Penn Valley</th>
<th>Longview</th>
<th>Maple Woods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane Enkleman</td>
<td>James Beisel</td>
<td>Lynda Clark</td>
</tr>
<tr>
<td>Sid Kanter</td>
<td>Theodore Dinges</td>
<td>Bruce Culley</td>
</tr>
<tr>
<td>Randy Kidd</td>
<td>Stephanie Masquelier</td>
<td>Linda Spotts</td>
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<tr>
<td></td>
<td>James Weaver</td>
<td>Michael</td>
</tr>
<tr>
<td></td>
<td>Robert Holman</td>
<td>Michael Palmer</td>
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<td></td>
<td>Richard Kimberly</td>
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</tr>
</tbody>
</table>

BSAD 100  INTRODUCTION TO ACCOUNTING
3 credits. 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.
Practice and application of the accounting principles involved in the opening and closing of a complete set of books. Accounting procedures for inventories, depreciation, and payroll.

BSAD 102  ACCOUNTING PRINCIPLES II
3 credits. 3 hours.
Prerequisites: 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 104  PRINCIPLES OF ADVERTISING
3 credits. 3 hours.

BSAD 105  PERSONNEL MANAGEMENT
3 credits. 3 hours.
Survey of personnel administration activities and their impact on the organization. Human resources planning and management, equal employment opportunity and recruiting, training and development, performance appraisal and compensation, and labor relations.
BSAD 106  PRINCIPLES OF SALESMAINSHP
3 credits. 3 hours.
Principles of effective selling. Planning, prospecting, approaching, demonstrating, and dramatizing the sales. Field-tested techniques for handling sales resistance. Closing the sales.

BSAD 109  PRINCIPLES OF SUPERVISION
3 credits. 3 hours.
Basic supervisory responsibilities and practices as applied to hiring, training, and directing a work force. Human relations, performance evaluation, grievance handling, and dealing with employee problems.

BSAD 112  RETAILING PRINCIPLES
3 credits. 3 hours.
Fundamental principles and practices of retail merchandising. Types of retailing outlets, credit policies, store layout, location analysis, store organization, buying and selling functions, profits planning, and operations controls.

BSAD 113  SPECIAL PROBLEMS IN BUSINESS
1-3 credits.
Independent study in business-related areas under the supervision of a faculty member.

BSAD 115  WOMEN IN MANAGEMENT
3 credits. 3 hours.
Social and organizational barriers to success. Successful management techniques. Human relations with superiors, peers, and subordinates. Leadership strategies and decision making.

BSAD 116  ORAL BUSINESS COMMUNICATION
3 credits. 3 hours.
Oral communication in major activities of business and administration. Techniques of interviewing. Teaching. Participation in problem solving, goal setting, meetings, and conferences. Public speaking, persuasion, and group discussion.

BSAD 118  REAL ESTATE
3 credits. 3 hours.
Introduction to the field of real estate, brokerage, marketing, ownership, conveyancing, landlord and tenant relationships, and closing statements. Real estate license laws, state and federal. Missouri rules and regulations. (Nonlicense course).

BSAD 120  HUMAN RELATIONS IN BUSINESS
3 credits. 3 hours.
Students develop individual competencies with an emphasis in business environments. The course investigates the impact that individuals, groups, and organizational structures have on behavior and productivity. The acquired competencies can be applied toward improving individual and organizational effectiveness.

BSAD 123  LABOR LAW
3 credits. 3 hours
Prerequisite: BSAD 150.

BSAD 127  MANAGEMENT INTERNSHIP I
3 credits. 15 hours.
Prerequisite: Approval of the instructor.
On-the-job training in a field directly related to the management program.

BSAD 128  MANAGEMENT INTERNSHIP II
3 credits. 15 hours.
Prerequisites: BSAD 127 and approval of the instructor.
On-the-job training in a field directly related to the management program.

BSAD 129  MANAGEMENT INTERNSHIP III
3 credits. 15 hours.
Prerequisites: BSAD 128 and approval of the instructor.
On-the-job training in a field related to the management program.

BSAD 130  MANAGEMENT INTERNSHIP IV
3 credits. 15 hours.
Prerequisites: BSAD 129 and approval of the instructor.
On-the-job training in a field directly related to the management program.

BSAD 131  INTRODUCTION TO NOT-FOR-PROFIT ACCOUNTING
3 credits. 3 hours.
Prerequisite: BSAD 101.
Conceptual foundation of accounting for not-for-profit agencies. Governmental accounting. Accounting for other agencies.

BSAD 135  SMALL BUSINESS MANAGEMENT
3 credits. 3 hours.

BSAD 136  MANAGING THE SMALL BUSINESS (PACE
2 credits. 2 hours.
How to start or buy a small business, including the business plan, franchises, financing, legal, marketing, staffing, and record keeping. A part of the course is a series of video programs.

BSAD 150  BUSINESS ESSENTIALS
3 credits. 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.
Taxes, insurance, buying a home or automobile, borrowing, saving, social security, and budgeting. The problems of the consumer as a central figure in the American economy.

BSAD 152 FASHION MERCHANDISING
3 credits. 3 hours.
The fashion industry and its relationship to retail merchandising.

BSAD 153 GENERAL LEDGER ACCOUNTING SYSTEMS, PC
3 credits. 3 hours.
Prerequisites: BSAD 101.
Investigation, application, and utilization of accounting software packages in a computerized business accounting system.

BSAD 154 MANAGERIAL ACCOUNTING
3 credits. 3 hours.
Prerequisite: BSAD 101.
Interaction between the fields of accounting and management with emphasis on analysis of accounting records for aiding managerial decision making.

BSAD 155 ACCOUNTING APPLICATIONS USING SPREADSHEETS
3 credits. 3 hours.
Prerequisites: BSAD 101
The emphasis of this course is to teach the solving of accounting problems utilizing spreadsheet programs as a tool.

BSAD 156 INTRODUCTION TO INVESTMENTS
3 credits. 3 hours.
Stocks, bonds, mutual funds, real estate trusts, commodities, and related investments. Functions and operations of the investment market.

BSAD 159 ACCOUNTING FOR PAYROLL AND BENEFITS
3 credits. 3 hours.
Prerequisites: BSAD 100 or 101.
Comprehensive coverage of the payroll accounting cycle and payroll management including Federal Laws and Requirements, the process for running a payroll, reporting and accounting procedures, and payroll systems and policies.

BSAD 169 BUSINESS MACHINES
3 credits. 3 hours.
Use of business machines to solve typical problems such as trade/cash discounts, markup, markdown, payroll, interest, depreciation, distribution, and proration.

BSAD 178 BUSINESS COMMUNICATIONS
3 credits. 3 hours.
Prerequisite: Satisfactory ASSET score or completion of ENGL 30 with a minimum grade of C.
Fundamental principles of written and oral communication. Instruction and practice in preparing and presenting effective letters and reports.

BSAD 185 CUSTOMER SERVICE
3 credits. 3 hours
Prerequisites: Satisfactory math ASSET score or completion of MATH 20 with a grade of C or better; have completed or be simultaneously enrolled in BSAD 178, BSAD 120, CSOF 115, and BSAD 150; have demonstrated keyboarding proficiency of 35 words a minute with 90% accuracy or have taken OFSC 41, OFSC 103 or above.
Fundamental principles of serving customer needs. Instruction and practice in identifying and providing for customer needs, handling situations on the telephone, developing and using telemarketing strategies, and establishing professional work standards.

BSAD 190 OFFICE MANAGEMENT
3 credits. 3 hours.

BSAD 201 COST ACCOUNTING
3 credits. 3 hours.
Prerequisite: BSAD 102.
Basic principles of cost accounting applied to job, process, and standard cost methods. Budget control and analysis of profits.

BSAD 202 INTERMEDIATE ACCOUNTING I
3 credits. 3 hours.
Prerequisite: BSAD 102.
The valuation of assets, liabilities, and capital items as they are related to the measurement of revenue or loss.

BSAD 203 INTERMEDIATE ACCOUNTING II
3 credits. 3 hours.
Prerequisite: BSAD 102.
Stockholders’ equity and financial statements analysis. Comprehensive study of accounting theory.

BSAD 204 BUSINESS MANAGEMENT
3 credits. 3 hours.
Principles and practices of business management developed around the framework of the functions of planning, organizing, and controlling. Communications, decision making, leadership and management styles, budgeting, productivity, and organizational effectiveness.

BSAD 205 MARKETING
3 credits. 3 hours
Principles and methods of product development, distribution, promotion, and pricing strategy. Consumer behavior, market research, and market segmentation.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSAD 206</td>
<td>PROBLEM SOLVING AND DECISION MAKING FOR MANAGERS</td>
<td>3</td>
<td>3</td>
<td>Identifying problems accurately, distinguishing problems from symptoms, expanding ranges of alternatives for dealing with management problems, applying creative thinking techniques to the job, and practicing effective presentation skills.</td>
</tr>
<tr>
<td>BSAD 207</td>
<td>LABOR MANAGEMENT RELATIONS</td>
<td>3</td>
<td>3</td>
<td>Current issues in the industrial and postindustrial society. Contract negotiations, arbitration policies, conflict theories, strategies for conflict resolution, and administering the collective bargaining agreement.</td>
</tr>
<tr>
<td>BSAD 208</td>
<td>MARKETING (PACE)</td>
<td>4</td>
<td>4</td>
<td>Principles and methods of distribution and sales of goods and services as students identify and evaluate various methods used to motivate consumers.</td>
</tr>
<tr>
<td>BSAD 220</td>
<td>BUSINESS LETTERS AND REPORTS</td>
<td>3</td>
<td>3</td>
<td>Principles of written communications as a foundation for composing effective business letters and reports.</td>
</tr>
<tr>
<td>BSAD 225</td>
<td>COLLOQUIA: READINGS IN BUSINESS</td>
<td>1-3</td>
<td>1-3</td>
<td>Directed reading in a field chosen by the student with the advice and direction of the instructor.</td>
</tr>
<tr>
<td>BSAD 235</td>
<td>MERCHANDISING PROBLEMS AND PRACTICES</td>
<td>3</td>
<td>3</td>
<td>Principles and procedures for dealing with problems in retailing. Store location, store layout, store organization, buying, pricing, stock planning, and retail sales promotion.</td>
</tr>
<tr>
<td>BSAD 255</td>
<td>ACCOUNTING INTERNSHIP</td>
<td>3</td>
<td>15</td>
<td>Development of accounting skills through supervised on-the-job experience in the office of a cooperating firm.</td>
</tr>
<tr>
<td>BSAD 258</td>
<td>TAX ACCOUNTING INTERNSHIP</td>
<td>3</td>
<td>(Clinical: 15)</td>
<td>Development of tax accounting skills through supervised on-the-job experience in a tax preparation office.</td>
</tr>
<tr>
<td>BSAD 260</td>
<td>PUBLIC RELATIONS FOR BUSINESS</td>
<td>3</td>
<td>3</td>
<td>Skills and methods of dealing with the two audiences of the public relations department: the employees and the outside community. Conducting tours, open houses, and interviews. Dealing with the news media and issuing releases. Oral and written communications in dealing with both publics.</td>
</tr>
<tr>
<td>BSAD 265</td>
<td>LEGAL ENVIRONMENT OF BUSINESS</td>
<td>3</td>
<td>3</td>
<td>Provides a survey of a number of areas of law that are important to persons as citizens and as participants in economic activity. This course introduces students to law and the legal system; briefly explores a few areas of relevant private law; and briefly studies several areas of relevant public law. Legal environment is included in the core curriculum required for all business majors.</td>
</tr>
</tbody>
</table>
CHEMISTRY

Longview  Maple Woods  Penn Valley
Moira Frey  James Bard  Douglas Martin
Blue River  Donald Miller

CHEM 101  SURVEY OF CHEMISTRY
5 credits. 6 hours. (Laboratory: 2 hours)
Survey of the principles of chemistry. The role and significance of chemistry in the modern world. Atoms and molecules: what they are, what they do to us, and what we can do with them.

CHEM 102  CHEMISTRY OF HAZARDOUS MATERIALS
3 credits. 3 hours.
Elementary inorganic chemistry of hazardous materials with an emphasis on their flammability, reactivity, toxicity, special handling, and water-reactive dangers.

CHEM 105  INTRODUCTORY CHEMISTRY
5 credits. 7 hours. (Laboratory: 3 hours)
The principles of general chemistry with an introduction to organic and biological chemistry for health science students.

CHEM 107  PREPARATORY GENERAL CHEMISTRY
5 credits. 6 hours. (Laboratory: 2 hours)
Prerequisite: One unit of high school algebra or MATH 110 with a minimum grade of C. Introduction to the elementary principles of general chemistry with emphasis on chemical calculations.

CHEM 111  GENERAL COLLEGE CHEMISTRY I
5 credits. 7 hours. (Laboratory: 3 hours)
Prerequisite: MATH 120 or two units of high school algebra and high school chemistry within the last three years with a minimum grade of C or CHEM 107 with a minimum grade of C.
Introduction to the understanding of atoms and molecules. Their qualitative and quantitative reactions and interactions.

CHEM 112  GENERAL COLLEGE CHEMISTRY II
5 credits. 7 hours. (Laboratory: 3 hours)
Prerequisite: CHEM 111 with a minimum grade of C.
Chemical equilibrium, kinetics, electrochemistry, thermodynamics, and the reactions of the elements and their compounds explained in terms of bonding and energy relationships.

CHEM 115  ENGINEERING CHEMISTRY
5 credits. 7 hours. (Laboratory: 3 hours).
Prerequisite: MATH 120 with a minimum grade of C and high school chemistry or CHEM 107.
Introduction to the principles of chemistry as related to engineering including stoichiometry, atomic and molecular structure, solutions, electrochemistry, thermodynamics, kinetics, equilibrium, and organic chemistry.

CHEM 198  SPECIAL TOPICS
1-3 credits. 1-3 hours.
Prerequisite: Approval of Instructor.
A study of a topic of current chemical interest.

CHEM 205  ORGANIC CHEMISTRY
5 credits. 7 hours. (Laboratory: 4 hours)
Prerequisite: CHEM 105 or CHEM 111, or CHEM 115 with a minimum grade of C.
Basic concepts and the practical applications of organic and biochemistry to the living organism. For health science students.

CHEM 207  SAMPLING AND ANALYSIS OF HAZARDOUS MATERIALS
5 credits. 7 hours. (Laboratory: 4 hours)
Prerequisite: CHEM 205.
The methodology of sampling, analyzing and interpreting results of analysis of hazardous materials. The course will cover industrial hygiene monitoring, testing pH and moisture content, selecting analytical laboratories, and an introduction to chemical methods of analysis including spectroscopy and chromatography.

CHEM 210  CHEMICAL TECHNICIAN INTERNSHIP I
3 credits. 15 hours. (Clinical: 15 hours)
Prerequisites: Approval of instructor; minimum of 15 hours in the program with 8 hours in chemistry.
Development of technical skills through supervised on-the-job experience in the laboratory of a cooperating chemical company.

CHEM 211  CHEMICAL TECHNICIAN INTERNSHIP II
3 credits. 15 hours. (Clinical: 15 hours)
Prerequisites: Approval of instructor; CHEM 210 with minimum grade of C.
Enhancement of technical skills and the application of principles learned in a supervised on-the-job experience in the laboratory of a cooperating chemical company.

CHEM 215  INTRODUCTION TO CHROMATOGRAPHY
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CHEM 111 or permission of instructor.
To provide the student with knowledge of chromatographic theory and practice. The student will become familiar with the history and theory of chromatographic separations, instrumentation, and modern qualitative and quantitative practice of chromatography.

CHEM 217  INTRODUCTION TO SPECTROSCOPY
3 credits. 4 hours. (Laboratory: 2 hours).
Prerequisites: CHEM 111 or CHEM 107 and CHEM 205.
An overview of the theory and practice of modern infrared, ultraviolet, NMR, and mass spectroscopy.
<table>
<thead>
<tr>
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<th>Hours</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 221</td>
<td>ORGANIC CHEMISTRY I</td>
<td>5</td>
<td>9</td>
<td>Prerequisite: CHEM 112 with a minimum grade of C. Nomenclature, reactions, and properties of alkanes, alkenes, alkynes, and alkyl halides. Mechanisms and kinetics. Stereochemistry of organic compounds and its relevance to the understanding of reactions. Introduction to infrared spectroscopy and to the chemical literature.</td>
</tr>
<tr>
<td>CHEM 222</td>
<td>ORGANIC CHEMISTRY II</td>
<td>5</td>
<td>9</td>
<td>Prerequisite: CHEM 221 with a minimum grade of C. Nomenclature, reactions, and properties of aromatic compounds, alcohols, ethers, aldehydes, ketones, carboxylic acids, and their derivatives with an introduction to NMR spectroscopy and biomolecules.</td>
</tr>
</tbody>
</table>

**CHILD GROWTH AND DEVELOPMENT**

**Penn Valley**

<table>
<thead>
<tr>
<th>Instructor</th>
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<tbody>
<tr>
<td>Linda Bell</td>
</tr>
<tr>
<td>Mary Svoboda-Challet</td>
</tr>
<tr>
<td>Cordelia Murphy</td>
</tr>
<tr>
<td>Jennifer Walker</td>
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<tr>
<td>Helen Speed</td>
</tr>
<tr>
<td>Licia Watson</td>
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</tbody>
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<tr>
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<th>Hours</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDCG 113</td>
<td>CHILD GROWTH AND DEVELOPMENT I</td>
<td>3</td>
<td>3</td>
<td>Corequisite: CDCG 114. The student will develop an understanding of the principles of development from birth to age 12.</td>
</tr>
<tr>
<td>CDCG 114</td>
<td>CHILD DEVELOPMENT OBSERVATION</td>
<td>1</td>
<td>1</td>
<td>Corequisite: CDCG 113. The student will develop an understanding of methods of observing children from birth to age 12.</td>
</tr>
<tr>
<td>CDCG 115</td>
<td>CHILD GROWTH &amp; DEVELOPMENT II: INFANT/TODDLER</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: CDCG 113 and 114. Students will gain in-depth understanding of the physical, social, emotional, language, and cognitive development of children from birth to 36 months and the importance of caregiver and environment to development.</td>
</tr>
<tr>
<td>CDCG 116</td>
<td>CHILD GROWTH AND DEVELOPMENT II: PRESCHOOL</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: CDCG 113 and 114. The student will gain in-depth understanding of the physical, social, emotional, language, and cognitive development of preschool children and the importance of the environment on development.</td>
</tr>
<tr>
<td>CDCG 117</td>
<td>CHILD GROWTH AND DEVELOPMENT II: SCHOOL-AGE CARE</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: CDCG 113 and 114. The student will receive in-depth instruction in understanding the developmental needs and characteristics of the school-age child 5-12 years in a nonschool setting.</td>
</tr>
<tr>
<td>CDCG 118</td>
<td>FAMILY DEVELOPMENT</td>
<td>3</td>
<td>3</td>
<td>This course, which is designed for “front line” family workers, takes an in-depth look at the strategies, the theories, and the history supporting family development study.</td>
</tr>
<tr>
<td>CDCG 130</td>
<td>CREATIVE EXPERIENCES FOR YOUNG CHILDREN</td>
<td>3</td>
<td>3</td>
<td>Creative learning activities and materials suitable for use with young children. Arts and crafts, mathematics, and science activities.</td>
</tr>
<tr>
<td>CDCG 200</td>
<td>MUSIC FOR CHILDREN</td>
<td>3</td>
<td>3</td>
<td>Introduction to the fundamentals of music. Music interests of the young child and physical activities. Physical development of the young child.</td>
</tr>
<tr>
<td>CDCG 201</td>
<td>LANGUAGE DEVELOPMENT</td>
<td>3</td>
<td>3</td>
<td>Basic use of tools and materials that stimulate imagination, reasoning, and concept formation in language development.</td>
</tr>
<tr>
<td>CDCG 216</td>
<td>CHILD HEALTH AND SAFETY</td>
<td>3</td>
<td>3</td>
<td>Basic factors that affect child health including feeding and clothing habits, health routines, hygiene, childhood diseases, first aid, and safety.</td>
</tr>
<tr>
<td>CDCG 220</td>
<td>DAY CARE MANAGEMENT</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: Approval of the instructor. Survey of child care programs. Planning, developing, and operating a day care center. Licensing, curriculum, and parent involvement.</td>
</tr>
<tr>
<td>CDCG 221</td>
<td>ISSUES AND THEORIES IN CHILD GROWTH AND DEVELOPMENT</td>
<td>3</td>
<td>3</td>
<td>Educational approaches, including behavior modification and positive reinforcement techniques.</td>
</tr>
<tr>
<td>CDCG 230</td>
<td>PROGRAM PLANNING: INFANT/TODDLER</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: CDCG 115 or approval of instructor and CDCG 249. Students will gain knowledge and hands-on experience with activities and methods to use while caring for children from birth through 36 months.</td>
</tr>
</tbody>
</table>
CDCG 231 PROGRAM PLANNING: PRESCHOOL  
3 credits. 3 hours.  
*Prerequisites: CDCG 116 or approval of instructor and CDCG 249.*  
The student will gain skills in program planning for the optimum development of preschoolers.

CDCG 232 PROGRAM PLANNING: SCHOOL-AGE CARE  
3 credits. 3 hours.  
*Prerequisites: CDCG 117 and 249.*  
This course will provide students the skills to design, implement and administer environments and activities that promote the developmentally appropriate practice in school-age care programming.

CDCG 233 PROGRAM PLANNING: SPECIAL NEEDS  
3 credits. 3 hours.  
*Prerequisites: CDCG 116 or approval of instructor, CDCG 249, and CDCG 260.*  
Students will gain knowledge of how to adapt early childhood curriculum and environments to meet the needs of all children, including those with special needs.

CDCG 234 PROGRAM PLANNING: FAMILIES  
3 credits. 3 hours.  
*Prerequisites: CGCD 118 and 250.*  
This course, which is designed for “front line” family workers, offers students an advanced look at strategies having to do with direct service to families.

CDCG 249 CHILD DEVELOPMENT INTERNSHIP I  
3 credits. 7 hours. (Laboratory: 6 hours)  
*Prerequisites: CDCG 113, 114, and 130.*  
In-service training and experience in day care centers.

CDCG 250 CHILD DEVELOPMENT INTERNSHIP II  
3 credits. 7 hours. (Laboratory: 6 hours)  
*Prerequisite: CDCG 249.*  
Advanced in-service teacher training and experience in day care centers.

CDCG 260 EDUCATION OF THE EXCEPTIONAL CHILD  
3 credits. 3 hours.  
Types of exceptional children with emphasis on education and remediation.

CDCG 261 PARENTING  
3 credits. 3 hours.  
Principles of child development and family relationships applied to group and individual work with parents.

CDCG 271-273 SPECIAL PROBLEMS IN CHILD GROWTH AND DEVELOPMENT  
1-3 credits. 1-3 hours.  
Independent study in child growth and development under the supervision of a faculty member.

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**COMPUTER SCIENCE INFORMATION SYSTEMS**

<table>
<thead>
<tr>
<th>Longview</th>
<th>Maple Woods</th>
<th>Penn Valley</th>
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</thead>
<tbody>
<tr>
<td>Cinthia Herbert</td>
<td>Karen Richards</td>
<td>Edward Durant</td>
</tr>
<tr>
<td>Gary Johnson</td>
<td>Carl Koenig</td>
<td>Margaret Easter</td>
</tr>
<tr>
<td>T. S. Pennington</td>
<td>Pamela Matthiesen</td>
<td>J. Ronald Leake</td>
</tr>
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<td></td>
<td>Gary May</td>
<td>Michael Sturgeon</td>
</tr>
<tr>
<td>Blue River</td>
<td>Kwanseup Lim</td>
<td></td>
</tr>
<tr>
<td>Tom Watson III</td>
<td></td>
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</tr>
</tbody>
</table>

CSIS 101 COMPUTERS AND INFORMATION TECHNOLOGY  
3 credits. 4 hours. (Laboratory: 2 hours)  
*Prerequisite: Keyboarding experience is highly recommended.*  
This course introduces the student to computers and information technology. Students will investigate how a microcomputer is applied to today’s changing technological society. Through the use of lecture, demonstration, and hands-on experience, the student will be introduced to computer hardware, operating systems, and software, including word processing, spreadsheet, database, and Internet.

CSIS 111 MICROCOMPUTER HARDWARE CONCEPTS  
3 credits. 4 hours. (Laboratory: 2 hours)  
*Prerequisite: CSIS 101.*  
This course introduces the student to maintenance, upgrading, setup, and expansion of personal computer hardware. Detailed exploration of microcomputer architecture, functions, and components is included in this course. Study and apply methods and procedures for installation, troubleshooting, and modification of computer systems.
CSIS 121 INTRODUCTION TO COMPUTER SCIENCE
3 credits. 3 hours.
A first course for computer science and computer information systems majors. Intended to expose students to a systematic view of the field that will integrate theory and practice for each of the levels of abstraction that is used to describe the discipline. Includes an introduction to computer architecture and its integration with operating systems and software.

CSIS 125 VISUAL BASIC PROGRAMMING
3 credits. 4 hours. (Laboratory: 2 hours)
Recommended: CSIS 101.
Application and use of microcomputers using the Microsoft Visual Basic programming language. Programming and problem solving using typical business applications.

CSIS 128 WEB DEVELOPMENT
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 101 or CSOF 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 131 COMPUTING THEORY I
3 credits. 3 hours.
Prerequisites: MATH 110 and CSIS 121 or passing score on placement test.
An introduction to the basic concepts and theory of computing including algorithmic problem solving and abstraction, structured programming principles, computer architecture, software design principles, computer languages, and computer operating systems. An appropriate high-level language will be taught in order to provide practical application of the theory.

CSIS 135 FORTRAN PROGRAMMING
3 credits. 4 hours. (Laboratory: 2 hours)
Computer programming utilizing FORTRAN 77/90.

CSIS 140 COBOL PROGRAMMING
3 credits. 4 hour. (Laboratory: 2 hours)
Prerequisite: CSIS 101 or suitable work experience.
COBOL language features compatible with most medium to large-scale computers. Structured programming concepts.

CSIS 141 DISCRETE STRUCTURES FOR COMPUTER SCIENCE I
3 credits. 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 areas of computer science.

CSIS 143 RELATIONAL DATABASE DESIGN FOR ORACLE®
3 credits. 4 hours. (Lab: 2 hours)
Prerequisite: CSOF 115 Introduction to Microcomputer Applications or similar experience with microcomputer database software.
Data modeling and relational database design concepts will be discussed. Students will define requirements for business entities, their attributes and relationships. Entity-relationship diagrams will be developed for business applications. Diagrams will be mapped into initial database design.

CSIS 144 INTRODUCTION TO SQL WITH ORACLE®
3 credits. 4 hours. (Lab: 2 hours)
Prerequisite: CSOF 115 Introduction to Microcomputer Applications or similar experience with microcomputer database software.
In-depth, hands-on experience with ORACLE® database management system (DBMS). The student will use SQL to develop skills in retrieving data; inserting, deleting, and updating records; and creating tables, records, and other database objects. Basic relational database design and management concepts will be discussed.

CSIS 145 ORACLE® DATABASE PROGRAMMING
3 credits. 4 hours. (Lab: 2 hours)
Prerequisite: CSOF 144 and CSIS 121, or CSIS 155, or suitable programming background.
In-depth, hands-on experience utilizing the programming language of ORACLE® relational database management software package. Students will write and manage PL/SQL program units, including error handling and database triggers. Object types and manipulation, and large objects will also be studied.

CSIS 146 CREATING ORACLE® APPLICATION FORMS I
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 144 and prior completion of or concurrent enrollment in CSIS 145.
Working in a Graphical User Interface, students will build and test interactive applications. Students will learn to customize forms with user input items such as check boxes, list items, and radio groups. Event-related triggers will be created.

CSIS 147 CREATING ORACLE® REPORTS
3 credits. 4 hours. (Lab: 2 hours)
Prerequisite: CSIS 144 and prior completion of or concurrent enrollment in CSIS 145.
Using the Graphical User Interface, students will create a variety of standard and custom reports. Tabular, matrix, mailing label, and letter reports are among the types of reports created. Creating customized reports and embedding graphs and charts in reports will be investigated.
CSIS 151 MICROCOMPUTER OPERATING SYSTEMS CONCEPTS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: CSIS 101 and either CSOF 115 or CSOF 101 + CSOF 102 + CSOF 103.
This course covers the fundamental concepts and terminology of both command line and graphical user interface operating systems for microcomputers. The student will master management and optimization of files, disks, and memory and be able to install device drivers. The student will be introduced to batch programming. Configuration of both stand-alone and network workstations will be covered.

CSIS 152 JAVA PROGRAMMING
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: A beginning programming course or suitable work experience.
An introduction to the Java programming language with emphasis on the object-oriented paradigm for both conventional and web-site applications.

CSIS 155 C++ PROGRAMMING
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 101 and a knowledge of a programming language.
An introduction to C++ programming with emphasis on the object-oriented paradigm for both business and scientific applications. Comparisons to C will be made.

CSIS 160 INTRODUCTION TO TELECOMMUNICATIONS CAREERS
3 credits. 4 hours. (Laboratory: 2 hours)
This course includes a nontechnical introduction to careers in telecommunications technology, a brief history of telecommunication, and an introduction to the work of telecommunications technicians. This course provides introduction to the terminology and concepts of telecommunications technology. Guest lecturers from industry, field trips, and on-site interviews at telecommunications companies are included.

CSIS 161 TELECOMMUNICATIONS AND NETWORK FUNDAMENTALS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: CSIS 101 and either CSOF 115 or CSOF 101 + CSOF 102 + CSOF 103.
This course covers fundamentals of communications, data transmission hardware, protocols, communications software, and local area networks. It will present students with a foundation in technical terms and vocabulary that will enable them to deal effectively with users and providers of communications services. Hands-on activity will give the student experience using modems and configuring communications software to access other computers, networks, BBSs, information providers, and the Internet.

CSIS 162 INTRODUCTION TO MULTIMEDIA
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Basic familiarity with the keyboard and using a computer.
This course is an overview of multimedia technology on both the PC and the Macintosh computer platforms. The course focuses on four major themes: what is multimedia, its hardware components, its common software applications used to create and deliver multimedia contents, and the actual production of simple programs. Students will be introduced to instructional design concepts, screen design strategies, navigation techniques, producing multimedia components, and actual development of simple multimedia programs.

CSIS 164 BASIC TELECOMMUNICATIONS THEORY
5 credits. 5 hours.
Prerequisite: High school algebra with a minimum grade of C or math placement into MATH 110.
An introduction to the principles of telecommunications technology including study methods and the development of theoretical foundations necessary to understand telecommunications basics. Students will learn applications to DC and AC circuits, parallel and series circuits, reactive and nonreactive circuits, active and passive devices, solid state devices, and digital devices. Also included are preparation methods, customer interfacing, job performance and training expectations, job safety skills, record keeping, and report generation necessary for efficient job performance. Also covered is the mathematics necessary for solutions to formulae used to analyze electrical and electronic circuits, such as: Ohms law, resistance, reactance, phase relationships, etc. This course includes study of Number systems and conversion between number bases.

CSIS 165 TELECOMMUNICATIONS INSTRUMENTATION
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 164.
A study of the instrumentation used in the telecommunications industry. Special emphasis is placed on hand tools, test equipment, installation, repair, and construction procedures used in telephony. Laboratory emphasizes signaling, transmission basics, and the use of basic hand tools and test equipment. Industry standards and color codes are covered.

CSIS 168 TELECOMMUNICATIONS TECHNOLOGY I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 165.
An introduction to the principles of transmission of data, voice, and video. Covers transmission media, networking, and the terminology used in telecommunications. Special emphasis is placed on telephony and in the types of signaling used in telephone systems. Includes a hands-on laboratory that emphasizes troubleshooting and repair of equipment, cabling, line interfacing, and industry standards and safety.

CSIS 171 LAN NOVELL NETWARE
3 credits. 4 hours. (Laboratory: 2 hours)
This course teaches the fundamental skills needed to effectively manage a network including setup of users directories and securities. Network utilities are taught through hands-on training and team projects. Students will create login scripts and menus, and learn how to effectively monitor and maintain a network.
CSIS 172 LAN WINDOWS SERVER
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 161 or approval of instructor.
Fundamental skills needed to effectively manage a network including setup of users, directories, and securities. Individual and team projects involving hands-on use of network utilities. Creation of logon scripts and user profiles. Effectively monitor and maintain a network.

CSIS 174 TECHNOLOGIES USED ON LOCAL AREA NETWORKS
3 credits. 3.5 hours. (Laboratory: 1 hour)
Prerequisite: CSIS 171.
This course teaches the basic concepts of data communications, networking, and connectivity including terminology, topologies, Open Systems Interconnection (OSI) Model, and popular vendor-defined protocol suites.

CSIS 175 SERVICE AND SUPPORT OF LOCAL AREA NETWORKS
3 credits. 3.5 hours. (Laboratory: 1 hour)
Prerequisite: CSIS 171.
This hands-on course teaches experienced network administrators how to install, maintain, and troubleshoot networks. The course covers installation and upgrade procedures for the latest versions of network operating system software.

CSIS 177 DATABASE APPLICATIONS AND DESIGN WITH ACCESS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: One Windows-based course or approval of instructor. Recommend CSIS CSIS 125 as corequisite for those planning to take CSIS 277.
In-depth, hands-on experience with Access relational database management software. The student will develop skills in Table, Query, Form, and Report creation utilizing the graphical user interface provided in Access. Efficient database design and data management strategies along with data Normalization will be emphasized.

CSIS 178 INTERNETWORKING WITH TCP/IP
3 credits. 3 hours.
Prerequisite: CSIS 172 or equivalent background strongly recommended.
This course teaches the fundamental skills needed to effectively set up, configure, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on popular network operating systems.

CSIS 179 WEB SQL PROGRAMMING
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 177; some experience with HTML is helpful.
Fundamentals of designing and implementing a database-driven web site. Topics include web server configuration, ODBC, SQL, and security.

CSIS 180 CURRENT TOPICS
1-4 credits. 1-4 hours.
Prerequisite: Approval of the instructor.
Technical and applicational implications of innovations in hardware and software.

CSIS 181 APPLICATIONS SUPPORT TECHNOLOGIES
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: CSIS 101 and either CSOF 115 or CSOF 101 + CSOF 102 + CSOF 103.
Learn techniques for transitioning to new and upgraded software. Implement advanced features of software applications including sharing data across software and platforms. Hands-on experience with software packages including applications and help desk software to troubleshoot errors.

CSIS 191 COMPUTER SUPPORT PRACTICUM
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisites: Concurrent enrollment or completion of CSIS 111, 151, 161 and 181.
This course provides an environment to apply computer skills to the process of supporting computer hardware, software, and human resources in a business setting. Through actual or simulated on-the-job work experience, the instructor will assist students to integrate the principles and techniques learned in prior coursework.

CSIS 215 ADVANCED MICROCOMPUTER APPLICATIONS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CFOS 115 or experience with following software: word processing, spreadsheet, and database of an integrated package.
Implementation and in-depth use of microcomputer software packages. Specific hands-on work with word processor, spreadsheet, database, and graphics software applications.

CSIS 221 INTRODUCTION TO COMPUTER ARCHITECTURE
3 credits. 3 hours.
Prerequisites: CSIS 131 and MATH 120.
Data representation, number systems, Boolean algebra, sequential logic, inter-register transfer and other micro-operations, computer organization and design, computer software, and input and output organization.

CSIS 225 ADVANCED VISUAL BASIC PROGRAMMING
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 125.
Using the Microsoft Visual Basic programming language, the student will solve advanced business-related problems involving multiple forms, menus, accessing database files, crystal reports, object linking and embedding (OLE), and application program interface (API).
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours (Lab: 2 hours)</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIS 231</td>
<td>COMPUTING THEORY II</td>
<td>3</td>
<td>3</td>
<td>Prerequisites: MATH 120, MATH 150, and CSIS 131.</td>
<td>A continuation of CSIS 131. Topics include programming style and modularity, program correctness, recursion dynamic data structures, indirection, basic algorithms of computing, and software engineering principles.</td>
</tr>
<tr>
<td>CSIS 240</td>
<td>ADVANCED COBOL PROGRAMMING</td>
<td>3</td>
<td>4 (Lab: 2 hours)</td>
<td>Prerequisite: CSIS 140 or suitable work experience.</td>
<td>Problem solving utilizing current disk access methods. Program design. More complex programming skills.</td>
</tr>
<tr>
<td>CSIS 241</td>
<td>DISCRETE STRUCTURES FOR COMPUTER SCIENCE II</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: MATH 120 or MATH 150.</td>
<td>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.</td>
</tr>
<tr>
<td>CSIS 245</td>
<td>CREATING WEB APPLICATIONS WITH ORACLE® PL/SQL</td>
<td>3</td>
<td>4 (Lab: 2 hours)</td>
<td>Prerequisites: CSIS 145, 152, and 128.</td>
<td>An introduction of Oracle Application Server for building dynamic Web applications to access and Oracle database. Using the PL/SQL Web Toolkit to generate HTML. Using scripting features to build web pages that include dynamic content, including other Web pages.</td>
</tr>
<tr>
<td>CSIS 246</td>
<td>CREATING WEB APPLICATIONS WITH ORACLE® PL/SQL</td>
<td>3</td>
<td>4 (Lab: 2 hours)</td>
<td>Prerequisites: CSIS 145 and 146.</td>
<td>A continuation of CSIS 146, this course expands the form-building skills of Oracle Developer. The student will learn to manage application files with Project Builder, create multiple form applications, and learn how to manage multiple transactions across modules. Custom menus, reports, and charts will be developed.</td>
</tr>
<tr>
<td>CSIS 250</td>
<td>ASSEMBLER PROGRAMMING</td>
<td>3</td>
<td>4</td>
<td>Prerequisites: CSIS 101 and a beginning programming course or suitable work experience.</td>
<td>ASSEMBLER language programming with disk files, various data formats, and debugging techniques.</td>
</tr>
<tr>
<td>CSIS 251</td>
<td>ADVANCED MICROCOMPUTER OPERATING SYSTEMS CONCEPTS</td>
<td>3</td>
<td>4 (Lab: 2 hours)</td>
<td>Prerequisite: CSIS 151.</td>
<td>This course covers the advanced concepts and features of a graphical user interface operating system for microcomputers as well as introduction to the Unix and mainframe operating systems environments.</td>
</tr>
<tr>
<td>CSIS 252</td>
<td>ADVANCED JAVA PROGRAMMING</td>
<td>3</td>
<td>4</td>
<td>Prerequisite: CSIS 152.</td>
<td>The student will develop sophisticated Java applications for both Windows and web-site applications. Projects will incorporate multimedia, sequential and random files, and exception handling for both input/output and robust program execution. The student will use abstract base classes, friends, and polymorphism to create complex classes.</td>
</tr>
<tr>
<td>CSIS 255</td>
<td>ADVANCED C++ PROGRAMMING</td>
<td>3</td>
<td>4</td>
<td>Prerequisite: CSIS 155.</td>
<td>Advanced C++ programming language problem solving concepts with emphasis placed on file handling techniques and sophisticated object-oriented analysis and design.</td>
</tr>
<tr>
<td>CSIS 257</td>
<td>IMPLEMENTING A DATABASE IN MICROSOFT SQL SERVER</td>
<td>3</td>
<td>4</td>
<td>Prerequisites: CSIS 172 or Windows Server experience and CSIS 177.</td>
<td>The student will gain knowledge and technical skills required to implement a database solution with Microsoft SQL Server. There will be hands-on experience of the elements using the Transact-SQL language. Students will learn how to create and manage files, databases, tables, indexes and transaction logs. Students will manage locking options and data integrity. Queries, views and stored procedures will be designed and created.</td>
</tr>
<tr>
<td>CSIS 258</td>
<td>SYSTEM ADMINISTRATION FOR MICROSOFT SQL SERVER</td>
<td>3</td>
<td>4</td>
<td>Prerequisites: CSIS 172 or Windows Server experience and CSIS 177.</td>
<td>The student will gain knowledge and technical skills required to install, configure, administer, and troubleshoot Microsoft SQL Server. Managing files and databases for SQL Server will be discussed. Students will learn how to administer SQL Server security and performance as well as automate administrative tasks.</td>
</tr>
<tr>
<td>CSIS 261</td>
<td>TELECOMMUNICATIONS AND NETWORKS II</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: Satisfactory completion of CSIS 161 and MATH 120 and 130, or equivalent.</td>
<td>This course is a continuation of CSIS 161 Telecommunications and Network Fundamentals. It covers general data compression; video, image and sound data transmission; error coding and encryption; TCP/IP and the Internet theory and principles; network operating systems theory; LANs/WANs theory; and cables and connectors.</td>
</tr>
</tbody>
</table>
| CSIS 262    | MULTIMEDIA DESIGN AND DEVELOPMENT                                             | 3       | 4                    | 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 a CD-ROM based multimedia application, and discuss the most current issues facing multimedia developers.

CSIS 263 DIGITAL VIDEO PRODUCTION FOR MULTIMEDIA
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 162 or consent of the instructor.
This course expands upon the theories and concepts covered in Introduction to Multimedia (CSIS 162), focusing on the creation of digital video. The student will use modern video lighting, recording, digitizing, and editing equipment to create video productions suitable for distribution via multimedia CD-ROM, and discuss the issues facing the digital video developer.

CSIS 264 OPTICAL AND BROADBAND TRANSMISSION SYSTEMS
3 credits. 3 hours.
Prerequisites: Enrollment in or completion of MATH 120 and 130 and CSIS 168 and 261.
This course covers optical and broadband transmission systems. It examines analog and digital modulation techniques, frequency and time division multiplexing techniques, digital transmission principles, cables, fiber optic communications, satellite technology, and satellite communications characteristics.

CSIS 265 WINDOWS PROGRAMMING USING C AND C++
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 255.
This course is designed for the accomplished C and C++ programmer desiring to write programs for Windows Operating Systems. Topics include graphical user interface concepts, message-driven architecture, multitasking and threads, dynamic linking, and the API interface library. In addition, use of foundation classes and object programming interfaces will be discussed.

CSIS 266 SWITCHING TECHNIQUES
3 credits. 3 hours.
Prerequisites: Enrollment in or completion of CSIS 168 and ELTE 130.
This course is a study of analog and digital switching techniques with an emphasis on switch architecture and modern digital equipment. The principles of switching from early analog to modern digital switches are covered. Applications such as PBXs, Centrex systems, voice processing, electronic data interchange, and terminal equipment are covered.

CSIS 267 FCC COMMERCIAL LICENSE PREPARATION
3 credits. 3 hours.
Prerequisites: Approval of program coordinator, Previous training, experience, and/or study outside of class is required for entrance to this course.

This is an intense course of study in preparation for the FCC commercial licenses. Passing of a commercial FCC license is required for completion of this course. Wireless theory, practice, implementation, operations, and regulations are covered. Morse Code training is offered for those seeking the commercial radiotelegraph license.

CSIS 268 TELECOMMUNICATIONS TECHNOLOGY II
3 credits. 3 hours.
Prerequisites: Enrollment in or completion of CSIS 168 and completion of MATH 120 and 130, or equivalent.
This course is a continuation of CSIS 168 Telecommunications Technology I. It includes various modern telecommunications systems and the theory and technology used. Also covered are basic telephone, wireless, satellite, IP, and other communications networks. Disaster management and recovery and other topics necessary for successful telecommunications systems analysis and implementation are covered.

CSIS 270 OBJECT-ORIENTED ANALYSIS AND DESIGN
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: CSIS 101 and completion of an object-oriented language course.
The student will develop an understanding of object models as a tool that can be applied to computer-based problems encountered in business and industry. This will be accomplished by identifying classes and their behaviors from a problem statement, constructing graphical representations of the relationships between the classes, using such concepts as inheritance and polymorphism in the design, and checking the process for correct domain and cohesion.

CSIS 271 DATA STRUCTURES AND ALGORITHM ANALYSIS
3 credits. 3 hours.
Prerequisites: MATH 141 and CSIS 231.
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 277 DATABASE PROGRAMMING WITH ACCESS AND ADVANCED ACCESS FEATURES
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: CSIS 125 and 177.
In-depth, hands-on experience utilizing the programming language of Access (Visual Basic for Access), a relational database management software package. This “object-oriented” language assists developers to use the full power of the database management package. Students will also learn to utilize several advanced features (of the constantly growing number of features) of the Access Database Management System.
CSIS 279 WEB DATABASE PROGRAMMING
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 128; an introductory database course (CSIS 143 or CSIS 177); and a beginning and advanced programing sequence (CSIS 125 and 225 or CSIS 152 and 252). Check with CSIS faculty for campus-specific requirements.
This course will teach web site developers who perform architectural planning, technology selection, or web site programming tasks how to create web sites that use current web database technology components on both the client workstation and the web server. The course will show students how to create a multi-tiered web site that accesses a database using current web database programming tools.

CSIS 280 DATABASE ADMINISTRATION WITH ORACLE®
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 144 and 145.
Fundamental knowledge and skills necessary to successfully set up, maintain, and troubleshoot and ORACLE® client/server database environment.

CSIS 283 DATABASE BACKUP AND RECOVERY WITH ORACLE®
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 280 or approval of instructor.
Plan for and implement backup and recovery strategies in an ORACLE® client/server environment. Examination of backup, failure, restore, and recovery methodologies that are based upon mission-critical, industry requirements. Utilization of multiple strategies in forming a backup and recovery plan. Hands-on exercises using typical client/server database tools to implement the plan.

CSIS 284 DATABASE PERFORMANCE TUNING WITH ORACLE®
3 credits. 4 hours. (Lab: 2 hours)
Prerequisites: CSIS 283 or approval of instructor.
Fundamental knowledge and skills necessary to recognize, troubleshoot, and resolve common performance-related problems in an ORACLE® client/server database environment. Combination of lectures, demonstrations, and challenging lab exercises.

CSIS 290 COMPUTER SCIENCE/INFORMATION SYSTEMS FIELD PROJECT
3-5 credits. 6-10 hours. (Clinical/Intern: 6-10 hours)
Prerequisites: Approval of instructor.
Actual or simulated on-the-job work experience in the area of degree emphasis.

CSIS 293 COMPUTER SCIENCE/INFORMATION SYSTEMS MAJOR FIELD PROJECT
6 credits. 12 hours. (Clinical/Intern: 12 hours)
Prerequisites: Approval of instructor.
Actual or simulated on-the-job work experience in the area of degree emphasis.

CSIS 295 TELECOMMUNICATIONS INTERNSHIP
3 credits. 240 clinical/intern hours.
Prerequisites: Enrollment in or completion of CSIS 261, 264, and 268 and consent of program coordinator.
This course provides on-the-job experiences in the field of telecommunications technology. The student is required to work at least 80 contact hours with an approved and cooperating industry for each semester hour of credit received. The internships are completed during or following the last semester of the Telecommunications II certificate or the A.A.S. degree program.

CSOF 80 BEGINNING KEYBOARDING
1 credit. 2 hours. (Laboratory: 2 hours)
Introduction to the keyboard. Keying by touch. Credit for this course is not applicable to any degree or certificate.

CSOF 100 INTRODUCTION TO PERSONAL COMPUTING
1 credit. 1.5 hours. (Laboratory: 1 hour)
Prerequisites: Keyboarding skills equivalent to or enrollment in CSOF 80.
This course provides a basic introduction to the personal computer. Through the use of lecture, demonstration and hands-on experience, the student will be introduced to microcomputer hardware, operating systems, and several applications, including word processing, spreadsheet and database.

CSOF 101 INTRODUCTION TO WORD PROCESSING
1 credit. 1.5 hours. (Laboratory: 1 hour)
Prerequisite: Keyboarding proficiency minimum of 35 wpm.
An introduction to word processing.

CSOF 102 INTRODUCTION TO SPREADSHEET APPLICATIONS
1 credit. 1.5 hours. (Laboratory: 1 hour)
An introduction to spreadsheet applications.

CSOF 103 INTRODUCTION TO DATABASE
1 credit. 1.5 hours. (Laboratory: 1 hour)
Introduction to database.

CSOF 104 INTRODUCTION TO MICROCOMPUTER OPERATING SYSTEMS
1 credit. 1.5 hours. (Laboratory: 1 hour)
An introduction to microcomputer operating systems.

CSOF 105 COMPUTER SURVIVAL
3 credits. 4 hours. (Laboratory: 2 hours)
Introduction to use of microcomputer software packages for personal or home-based use. Hands-on experience using computers with an integrated software package that includes word processing, spreadsheet, database, and DOS/WINDOWS.
CSOF 106  INTRODUCTION TO PRESENTATION SOFTWARE
1 credit. 1.5 hours. (Laboratory: 1 hour)
Prerequisite: CSOF 100.
This course is a hands-on introduction to presentation software. Learn how to design and create computerized presentations using popular presentation software packages.

CSOF 108  INTRODUCTION TO INTERNET
1 credit. 1.5 hours. (Laboratory: 1 hour)
This course is a hands-on introduction to the Internet. The student will learn how to gain access to the Internet and use it to send and receive mail, access forums on topics of interest and access other computer systems.

CSOF 112  SPREADSHEET APPLICATIONS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: CSIS 101.
Hands-on work with spreadsheet construction and functional design, modification, what-if analysis, functions, macros, charts, and data import and export.

CSOF 115  INTRODUCTION TO MICROCOMPUTER APPLICATIONS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Keyboarding experience highly recommended.
Introduction to operation of microcomputer software packages. Hands-on application work with software packages for word processing, presentation, spreadsheet, and database software.

CONSTRUCTION MANAGEMENT

Offered at the Business & Technology Center through Maple Woods
Bill Franken

CSMG 110  PROBLEM SOLVING/DECISION MAKING
1 credit. 1 hour.
To help the supervisor understand that the ability to make effective decisions is a vitally important management skill, and to assist the supervisor in developing a background in and a system for performing the decision making function in an effective manner.

CSMG 120  OSHA AND SITE SECURITY
1 credit. 1 hour.
Students will learn about the occupational safety and health act and its interpretation. Learn to recognize and avoid dangerous conditions. Learn theft prevention techniques.

CSMG 130  COST AWARENESS/PRODUCTION CONTROL
1 credit. 1 hour.
Participants will understand the conditions which must be met if production is to be under control. Also, participants will be able to use the short interval production schedule (SIPS) and will recognize factors that affect both the productivity of their crews and the worker.

CSMG 140  BEGINNING PRINT READING
2 credits. 2 hours.
Print reading for construction. Students will learn how to use symbols, working drawings, survey plats, electrical plans, and all other drawings related to construction. How specification related to drawings.

CSMG 205  INTERMEDIATE PRINT READING
2 credits. 2 hours.
Prerequisite: CSMG 140.
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.
Participants will learn to think actively about safety in their daily activities and will have a good knowledge of the risks involved in construction projects. They will also understand that there are many economic as well as humanistic consequences of unsafe operations.

CSMG 220  CONSTRUCTION PLANNING AND SCHEDULING
2 credits. 2 hours.
Participants will understand the techniques used to plan and organize jobs for which they are responsible and accountable. They will also understand the importance of timely and accurate reporting.

CSMG 230  PRODUCTIVITY IMPROVEMENT
2 credits. 2 hours.
Study of productivity improvement. External factors, internal factors, and necessary functions for productive projects.

CSMG 250  CONSTRUCTION ESTIMATING
2 credits. 2 hours.
How to bid on construction projects. Includes all styles of the bid process as well as follow-up and management techniques.

CSMG 260  CONTRACT DOCUMENTS
2 credits. 2 hours.
Recognize the existence of a series of documents, called the contract documents, which constitute the contract for a construction project, and know the names, definitions, and basic function of application of each of these documents.

CSMG 270  ADVANCED PRINT READING
2 credits. 2 hours.
Prerequisites: CSMG 140 and 240.
Print reading for commercial buildings. All building features. Drafting techniques. Computer aided drafting. All types of concrete construction.
CRIMINAL JUSTICE

Longview Maple Woods Penn Valley
Richard Guymon Karen Curls

NOTE: Credit for courses number below 100 is not applicable to any degree or certificate.

CRJU 80 FUNDAMENTALS OF LAW ENFORCEMENT I
2 credits. 2 hours.
On-the-job training in the field of criminal justice at a recognized academy or through professional seminars.

CRJU 81 FUNDAMENTALS OF LAW ENFORCEMENT II
3 credits. 3 hours.
On-the-job training in the field of criminal justice at a recognized academy or through professional seminars.

CRJU 82 FUNDAMENTALS OF LAW ENFORCEMENT III
2 credits. 2 hours.
On-the-job training in the field of criminal justice at a recognized academy or through professional seminars.

CRJU 101 INTRODUCTION TO CRIMINAL JUSTICE
3 credits. 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 PRINCIPLES OF CORRECTIONS
3 credits. 3 hours.
Fundamentals of the correctional worker’s job and responsibilities. Inmate characteristics, elements of supervision in a correctional institution, security procedures, and contraband control.

CRJU 111 POLICE OPERATIONAL PROCEDURES
3 credits. 3 hours.
Responsibilities, techniques, and methods of foot and cruiser patrol. Elements of property protection, routine inquiry, and laws of arrest, search and seizure.

CRJU 112 TRAFFIC CONTROL AND INVESTIGATION
3 credits. 3 hours.
Regulation, control, and enforcement of traffic laws and municipal ordinances. Fundamentals of traffic accident investigation, traffic courts, driver education, safety, and public information.

CRJU 118 LEGAL ASPECTS OF CORRECTIONS
3 credits. 3 hours.
Legal aspects of corrections from conviction to release. Laws and procedures dealing with the organization of state prisons, execution of sentences, terms of parole, imprisonment, escapes, and prison records. Court decisions applied to correctional programs and institutional operations.

CRJU 122 PROCEDURAL LAW
3 credits. 3 hours.
Laws of criminal procedure regulating law enforcement and criminal law process. Fundamental concepts of constitutional and criminal law. Elements of local, state, and federal jurisdiction, venue, and procedure as they apply to law enforcement. Law of arrest, search, and seizure.

CRJU 126 CORRECTIONS IN THE COMMUNITY
3 credits. 3 hours.

CRJU 132 COMMUNITY RELATIONS
3 credits. 3 hours.
Psychological and sociological aspects of police-community relations, police and minority groups, changing elements of social classes, crime prevention as related to poverty, and unequal justice under the law. Problems of communication and cooperation in the administration of criminal justice.

CRJU 141 VICE CONTROL
3 credits. 3 hours.
Vice problems in regulating prostitution, perversion, obscenity, bookmaking, gambling, liquor, narcotics, and dangerous drugs. Problems resulting from economic, moral, and other social attitudes. Techniques of discovery and investigation of vice offenders. Prevention techniques and cooperation with federal agencies.

CRJU 152 COMMERCIAL AND INSTITUTIONAL SECURITY I
3 credits. 3 hours.
History and role of private police. Retail security and inventory shrinkage, legal aspects, protection of trade secrets, proprietary systems, riot, and protection of premises.

CRJU 153 COMMERCIAL AND INSTITUTIONAL SECURITY II
3 credits. 3 hours.
Prerequisite: CRJU 152.

CRJU 162 CORRECTIONAL PSYCHOLOGY
3 credits. 3 hours.
Prerequisite: CRJU 105 or PSYC 140.
Psychological theories of crime and delinquency.

CRJU 165 CRIMINOLOGY
3 credits. 3 hours.

CRJU 166 MANAGEMENT TECHNIQUES FOR CHILDREN AND YOUTHS
3 credits. 3 hours.
Prerequisite: CRJU 160 or PSYC 140.
Methods of teaching and guiding children and youths in residential care centers of community programs. Discussion and application of techniques of dealing with problem behavior. Techniques of communication with and listening to young people with problems.

CRJU 167 SPECIAL ISSUES IN CRIMINAL JUSTICE
1-3 credits. 1-3 hours.
Various topics in administration of justice and corrections.

CRJU 168 JUVENILE DELINQUENCY
3 credits. 3 hours.

CRJU 169 FAMILY VIOLENCE AND SEXUAL ABUSE
3 credits. 3 hours.
Scope, nature, and control of family violence and sexual abuse. Psychological aspects and intervention tactics.

CRJU 196-198 SEMINAR IN LAW ENFORCEMENT PROBLEMS
1-3 credits. 1-3 hours.
Current problems in law enforcement.

CRJU 200 INTERNSHIP IN CRIMINAL JUSTICE
3-6 credits. 15 hours.
Prerequisite: Completion of 15 hours of CRJU courses or approval of the instructor.
On-the-job training in criminal justice.

CRJU 201 CRIMINAL JUSTICE PRACTICUM I
3 credits. 3 hours.
Prerequisite: Approval of instructor.
Work and/or observation in a correctional agency or institution. Periodic reports and written assessment of specific areas of interest or concern.

CRJU 202 CRIMINAL JUSTICE PRACTICUM II
3 credits. 3 hours.
Prerequisite: Approval of instructor.
Work in a correctional institution or social agency. Exploration of an area of special interest or need. Exploration of a special problem and development of a written proposal for its solution.

CRJU 203 CRIMINAL INVESTIGATION I
3 credits. 3 hours.
Introduction to criminal law investigation procedures. Theory of investigation, conduct at crime scenes, collection and preservation of physical evidence, sources of information, questioning of witnesses and suspects, preliminary and follow-up investigation, case preparation, and problems in criminal investigation.

CRJU 204 CRIMINAL INVESTIGATION II
3 credits. 3 hours.
Prerequisite: CRJU 203.
Investigation of specific crimes such as homicide, assault, theft, robbery, burglary, rape, and vice. Legal significance of evidence. Laboratory services and how they function.

CRJU 215 JUVENILE LAW
3 credits. 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.
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.
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.
Historical development of probation and parole from early correctional procedures through modern approaches. Presentence investigation, conditions of probation, and suspended sentences. Prerelease programs, parole conditions, role of probation, and parole personnel.

CRJU 230 CRIMINAL LAW II
3 credits. 3 hours.
Missouri and Federal Criminal codes in homicide, sex offenses, property offenses, and criminal responsibility, and the defense of mental impairment.
CRJU 233  PRINCIPLES OF MANAGEMENT IN CRIMINAL JUSTICE SYSTEMS
3 credits. 3 hours.
Problems of police administration, functional organization, fundamentals of staff and field operation, planning, budget analysis, recruitment, training assignment, and disciplinary methods. Cooperation with other agencies.

CRJU 236  CORRECTIONAL ADMINISTRATION
3 credits. 3 hours
Current administrative and management patterns and functions in correctional agencies and institutions. Concepts of staffing classification, training, budgeting, record keeping, and public relations.

CRJU 244  GROUP AND INDIVIDUAL COUNSELING IN CORRECTIONS
3 credits. 3 hours.
Principles of human behavior and some techniques for changing attitudes and behavior. Individuals in counseling settings.

CRJU 248  CONSTITUTIONAL LAW
3 credits. 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.
Exploration of the field of alcohol and drug use. Biological, physical, psychological, and social causation theories. Classification of various drugs of abuse and their effects on individuals, families, employment, crimes, and socialization patterns. Dynamics of addiction related to stimulants, depressants, narcotics, and hallucinogens.

CRJU 280  ADDICTION COUNSELING WITH SPECIAL POPULATIONS
3 credits. 3 hours.
Cultural, racial, age, and sex differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.

CRJU 285  ADDICTION CLIENT MANAGEMENT
3 credits. 3 hours.
Case management procedures utilized with addicted clients. Assessment, planning, evaluation, and record keeping employed in addiction treatment. Case presentation techniques. Case management and recovery.

DANCE

Blue River

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 121  BALLET I
2 credits. 4 hours. (Laboratory: 4 hours)
Prerequisite: DANC 100 or previous ballet training; KCMO Middle/High arts experience qualifies.
A studio course for beginning students covering basic principles of contemporary ballet. Students will learn about the history and variety of this classical dance form.

DANC 123  BALLET III
2 credits. 4 hours. (Laboratory: 4 hours)
Prerequisite: DANC 121 and 122 or audition with instructor.
A studio course for advanced students covering advanced principles of contemporary ballet. Students will also learn about the history and variety of this classical dance form.

DENTAL ASSISTING

Penn Valley
Sherin W. Moussa-Tooks

DENA 100  DEVELOPMENTAL DENTISTRY
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Admission to the Dental Assisting Program or approval from program coordinator.
Study of oral embryology; oral histology; developmental disturbances of the face, oral cavity and related structures; head and neck anatomy; and dental morphology and occlusion.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>(Laboratory: hours)</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENA 105</td>
<td>DENTAL LABORATORY PROCEDURES</td>
<td>2</td>
<td>3</td>
<td>(Laboratory: 2)</td>
<td>Admission to the Dental Assisting Program. Basic physics and chemistry. Actions, reactions and physical properties of dental materials. Emphasis on waxes, temporary crowns, custom trays, alginate materials, and diagnostic models.</td>
</tr>
<tr>
<td>DENA 106</td>
<td>BASIC DENTAL TECHNIQUES</td>
<td>1.5</td>
<td>2</td>
<td>(Laboratory: 1)</td>
<td>6 months employment as a chairside dental assistant. Sterilization and disinfection procedures. Basic tooth morphology and terminology. Basic instrument grasps and finger rests and general principles of instrument use.</td>
</tr>
<tr>
<td>DENA 110</td>
<td>CHAIRSIDE ASSISTING I</td>
<td>5</td>
<td>9</td>
<td>(Laboratory: 6)</td>
<td>Admission to the Dental Assisting Program. Dental terminology and responsibilities of the dental assistant in the dental operatory. Patient preparation, instrument identification, charting, sterilization techniques, basic operative chairside skills, ethics, and jurisprudence.</td>
</tr>
<tr>
<td>DENA 115</td>
<td>DENTAL RADIOLOGY I</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 3)</td>
<td>Admission to the Dental Assisting Program. 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.</td>
</tr>
<tr>
<td>DENA 125</td>
<td>CLINICAL PRACTICE I</td>
<td>2</td>
<td>6</td>
<td>(Clinical: 6)</td>
<td>Admission to the Dental Assisting Program. Clinical experience in radiography, front office, laboratory, operative procedures, and dental specialty areas in the clinic at the University of Missouri-Kansas City School of Dentistry.</td>
</tr>
<tr>
<td>DENA 126</td>
<td>DENTAL ASSISTANT SEMINAR I</td>
<td>1</td>
<td>1</td>
<td>(Laboratory: 1)</td>
<td>Concurrent enrollment in DENA 125. Evaluation of experiences in Clinical Practice I.</td>
</tr>
<tr>
<td>DENA 200</td>
<td>BODY STRUCTURE AND FUNCTION</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Admission to the Dental Assisting Program. Basic anatomy and physiology of human body, oral pathology, principles of disease processes, and microbiology.</td>
</tr>
<tr>
<td>DENA 205</td>
<td>DENTAL BIOMATERIALS</td>
<td>2</td>
<td>3</td>
<td>(Laboratory: 2)</td>
<td>Admission to the Dental Assisting Program. Manipulation of dental cements, amalgam, esthetic restoratives, alginate and gypsum products, and sealants.</td>
</tr>
<tr>
<td>DENA 210</td>
<td>CHAIRSIDE ASSISTING II</td>
<td>2</td>
<td>4</td>
<td>(Laboratory: 3)</td>
<td>Admission to the Dental Assisting Program. Dental specialties emphasized. Theory of orthodontics, periodontics, prosthodontics, oral surgery, endodontics, and pedodontics. Application of the concepts of chairside assisting to these specialties.</td>
</tr>
<tr>
<td>DENA 215</td>
<td>DENTAL RADIOLOGY II</td>
<td>1</td>
<td>2</td>
<td>(Laboratory: 2)</td>
<td>Admission to the Dental Assisting Program. Radiographic techniques, procedures, and hygiene emphasized. Practical experience in exposing, processing, and mounting radiographs taken on patients and radiographic manikins.</td>
</tr>
<tr>
<td>DENA 250</td>
<td>CLINICAL PRACTICE II</td>
<td>4</td>
<td>16</td>
<td>(Clinical: 16)</td>
<td>Admission to the Dental Assisting Program. Advanced clinical experience in front office, at chairside, and in radiographic and laboratory assisting techniques in general and specialty dental offices and clinics.</td>
</tr>
<tr>
<td>DENA 260</td>
<td>DENTAL ASSISTANT SEMINAR</td>
<td>1</td>
<td>1</td>
<td>(Laboratory: 1)</td>
<td>Concurrent enrollment in DENA 250. Preparation for the Dental Assisting National Board Examination and for successful employment. Evaluation of experiences while participating in Clinical Practice II.</td>
</tr>
<tr>
<td>DENA 270</td>
<td>EXPANDED FUNCTIONS IN RESTORATIVE DENTISTRY</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Admission to the Dental Assisting Program. Dental restorative materials with emphasis on placing and carving amalgam and composite restorations and palliative care of dental emergencies.</td>
</tr>
</tbody>
</table>
DENA 271  EXPANDED FUNCTIONS IN ORTHODONTICS  
.5 credit. 1 hour. (Laboratory: 1 hour)  
Prerequisite: Student must meet one of the following prerequisites:  
1) certified dental or orthodontic assistant through the Dental Assisting National Board, Inc.;  
2) graduate of an ADA-accredited dental assisting or dental hygiene program; or  
3) completion of DENA 106 and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.  
Orthodontic procedures with emphasis on impressions, bending archwires, placement and removal of orthodontic bands and brackets, and palliative care of orthodontic emergencies.

DENA 272  EXPANDED FUNCTIONS IN PERIODONTICS  
.5 credit. 1 hour. (Laboratory: 1 hour)  
Prerequisite: Student must meet one of the following prerequisites:  
1) certified dental or orthodontic assistant through the Dental Assisting National Board, Inc.;  
2) graduate of an ADA-accredited dental assisting or dental hygiene program; or  
3) completion of DENA 106 and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.  
Periodontal procedures with emphasis on air-abrasive coronal polishing and placement of periodontal dressings.

DENA 273  EXPANDED FUNCTIONS IN PROSTHETIC DENTISTRY  
1 credit. 2 hour. (Laboratory: 2 hour)  
Prerequisite: Student must meet one of the following prerequisites:  
1) certified dental or orthodontic assistant through the Dental Assisting National Board, Inc.;  
2) graduate of an ADA-accredited dental assisting or dental hygiene program; or  
3) completion of DENA 106 and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.  
Prosthodontic procedures with emphasis on prosthodontic impression techniques, cementation of dental appliances, extra-oral adjustment of fixed and removable prostheses, placement of soft-tissue liners.

DRAFTING

Offered at the Business & Technology Center through Longview  
William Allyn

DRAF 105  BLUEPRINT READING AND MANUFACTURING  
2 credits. 3 hours. (Laboratory: 2 hours)  
Blueprints and their relationships to manufacturing and machine trades. For students in manufacturing industrial technology.

DRAF 106  BLUEPRINT READING AND CONSTRUCTION TECHNOLOGY  
3 credits. 4 hours. (Laboratory: 2 hours)  
Blueprint reading for management students interested in construction technology.

DRAF 107  COMPUTER AIDED DRAFTING FOR INDUSTRIAL TECHNOLOGIES  
3 credits. 4.5 hours. (Laboratory: 3 hours)  
The course is designed to present the fundamentals of drafting using computer aided drafting techniques. Appropriate drafting fundamentals and industrial applications will accompany each drafting activity. The student will learn the family of commands and activities that comprise the core of drafting using CAD. Commands include draw, line, circle, arc, polyline snap functions, drawing layout, and an introduction to 3D.

DRAF 108  ADVANCED BLUEPRINT READING FOR THE METAL TRADES  
2 credits. 3 hours. (Laboratory: 2 hours)  
Advanced blueprint reading involving study of industrial metal work drawings as they apply to planning and laying out of jigs and fixtures.

DRAF 109  BLUEPRINT READING, ELECTRICAL  
3 credits. 4 hours. (Laboratory: 2 hours)  
The student will learn 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.

DRAF 152  ENGINEERING GRAPHICS AND CADD I  
5 credits. 7 hours. (Laboratory: 4 hours)  
Introduction to engineering communications and basic computer aided drafting/design (CADD). Emphasis on sketching, projection, drawing layout, drafting standards and conventions, dimensioning, sectioning, and basic design principles. Foundation for computer aided drafting/design including file management, basic drawing commands, basic editing commands, layering conventions, blocks, dimensioning, polylines, sectioning, and drawing layout and plotting.

DRAF 155  ARCHITECTURAL DRAFTING  
3 credits. 3 hours. (Laboratory: 2 hours)  
Prerequisite: DRAF 152  
Basic problems of house design. Problems of drainage, loads, FHA standard estimating costs, writing specifications. Drawing according to architectural standards.

DRAF 153  DESCRIPTIVE GEOMETRY  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: DRAF 152  
Descriptive geometry. The graphic solution of spatial and perspective relationships between points, lines, angles, planes and solids.

DRAF 155  ARCHITECTURAL DRAFTING  
3 credits. 3 hours. (Laboratory: 2 hours)  
Prerequisite: DRAF 152  
Basic problems of house design. Problems of drainage, loads, FHA standard estimating costs, writing specifications. Drawing according to architectural standards.

DRAF 169  COMPUTER AIDED DESIGN  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: DRAF 152 or approval of instructor  
Basic computer aided drafting and design (CADD). Includes two-dimensional drawing, basic shapes, text, arrays, layers, dimensioning, and plotting.
DRAF 175 SPECIAL PROBLEMS IN DRAFTING
3 credits. 6 hours. (Laboratory: 4 hours)
Prerequisite: Approval of the instructor.
Special topics in drafting and design chosen by the student with the advice of the instructor.

DRAF 183 MEGACADD (DESIGN BOARD PROFESSIONAL)
1 credit. 2 hours
Prerequisite: Knowledge of drafting principles.
A short course in the use of Design Board Professional software to enable designers to create a rendering and put a sketch into three dimensions.

DRAF 191 TECHNICAL DRAFTING INTERNSHIP
3 credits. 15 hours
Prerequisite: Approval of instructor.
On-the-job-training.

DRAF 192 TECHNICAL DRAFTING INTERNSHIP
5 credits. 30 hours
Prerequisite: Approval of instructor.
On-the-job-training.

DRAF 199 SPECIAL TOPICS
3 credits. 3 hours
Prerequisites: DRAF 152 and DRAF 169.
Independent study and work on projects in areas of special interest.

DRAF 258 PRINCIPLES OF DESIGN
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: DRAF 152.
Mechanical design as a creative activity with an emphasis on manufacturing processes. Design will stress the study and implementation of mechanical advantage through gears, cams, linkages, and other components. Product design will involve individual and group projects, using manual and computer aided drafting and design (CADD) methodology. Basic electrical and electronics drawing as well as basic pipe drafting will be included.

DRAF 262 TECHNICAL ILLUSTRATION
3 credits. 3 hours.
Prerequisite: DRAF 152.
Methods of pictorial representation including isometric, diametric, trimetric, and perspective. Drawing an exploded view of an assembly using shading techniques.

DRAF 268 STRUCTURAL DESIGN
3 credits. (Laboratory: 3 hours)
Prerequisite: DRAF 152.
Shop fabrication drawings, connection details, framing plans, and bills of materials incorporating steel and concrete construction for drawing and design.

DRAF 269 CADD II
4 credits. 6 hours. (Laboratory: 4 hours)
Prerequisite: DRAF 152 or 169.
Advanced computer aided drafting and design (CADD). Advanced dimensioning and tolerancing techniques and attributes. Includes three-dimensional wireframes, surface models, and solid models. Effective use of paper space, model space, and viewports. Use and application of basic rendering techniques.

DRAF 270 CADD APPLICATIONS
2 credits. 2 hours.
Prerequisite: DRAF 152 or 169.
An introduction to the customization of a computer aided drafting and design (CADD) software package. Will also include integrating other office software packages, script files, and an introduction to a CADD programming language.

ECONOMICS

ECON 110 INTRODUCTION TO ECONOMICS
3 credits. 3 hours.

ECON 210 PRINCIPLES OF ECONOMICS I—MACRO-ECONOMICS
3 credits. 3 hours.
ECON 211 PRINCIPLES OF ECONOMICS II—MICROECONOMICS
3 credits. 3 hours.
Prerequisite: ECON 210 or consent of instructor.
Wages, interest, rent, and profits. Income distribution, consumption, monopolies, agriculture, economics of the firm, and international trade. Preparation for advanced work in economics.

EDUCATION

Longview Maple Woods Penn Valley
Barbara Eubank Frank Dean Cone Nancy Thomson

EDUC 101 PARTICIPATION IN EDUCATION I
1 credit. 36 observational hours.
Supervised internship in a public school or other educational or community agency. Weekly seminar.

EDUC 102 PARTICIPATION IN EDUCATION II
1 credit. 36 observational hours.
Supervised internship in a public school or other educational or community agency. Weekly seminar.

EDUC 190 ART FOR ELEMENTARY TEACHERS
3 credits. 6 hours. (Studio: 4 hours)

EDUC 200 BECOMING A TEACHER
3 credits. 3 hours.
This is a mid-preparation professional course designed to focus on an overview of teaching and schooling. Teacher certification, assessment techniques, classroom culture, school missions/purposes, professional development, ethics, legal issues, school governance, and collegiality will be introduced and elaborated on to ideally facilitate professional decision making. The maintenance of a professional portfolio will be expected in order that a collection of artifacts can provide evidence of professional competency.
(This course replaces and is equivalent to EDUC 100 Introduction to Education.)
EDUC 205  PHYSICAL EDUCATION FOR ELEMENTARY TEACHERS
2 credits. 2 hours.
Theory and practice of physical education activities for elementary school children. Strategies and techniques for integrating physical activities throughout the elementary curriculum. Micro-teaching opportunities.

EDUC 210  MUSIC FOR ELEMENTARY TEACHERS
2 credit. 2 hours.
Basic music education skills for elementary teachers, grades kindergarten through eight. Strategies and techniques for integrating music throughout the elementary curriculum. Micro-teaching opportunities.

EDUC 215  CHILDREN'S LITERATURE FOR ELEMENTARY TEACHERS
3 credit. 3 hours.

EDUC 270  THE STUDENT LEARNER
3 credits. 3 hours.
Prerequisite: EDUC 200 or taken concurrently.
This is a mid-preparation professional course designed to focus on school children’s (K-12) physical, cognitive, social-emotional, moral, and aesthetic development. Emphasis will be on the physical and socio-emotional development of the learner and on how students of different ages, cultural/ethnic backgrounds, and abilities learn subject matter.

EDUC 280  TECHNOLOGY IN TEACHING
2 credits. 3 hours. (Laboratory: 2 hours)
Prerequisite: Basic knowledge of the computer and its functions. EDUC 200 or taken concurrently.
This course will prepare the pre-education student in the use of technology both professionally and personally. Students will use productivity tools for lesson design. Social, ethical, and human issues of technology will be integrated throughout. Portfolio work will be emphasized.

ELEC 115  INSIDE WIRING I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or concurrent enrollment in INTE 110.
This is the first course in a five-course sequence. The course covers introductory topics that include electrical and construction safety, tools, conductors and insulators, basic conduits and conduit bending, overcurrent protection and GFCI, sketching basic electrical circuits, and basic electrical installations.

ELEC 116  INSIDE WIRING II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELEC 115.
This is the second course in a series of five and is designed for a typical second-year electrical apprentice. The course covers applications of the National Electric Code to the proper selection of conductors and devices boxes. The course covers single and 3-phase transformer systems, conduit bending with the ratchet type bender, segment and concentric bending, conductor calculations, and branch circuits.

ELEC 117  INSIDE WIRING III
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELEC 116.
This is the third course in a series of five and is designed for a typical third-year electrical apprentice. The course covers solid state motor controls, grounding procedures, single and 3-phase transformers and motors, 3-phase calculations, and overcurrent protection. Single and multifamily dwelling power calculations are covered.

ELEC 118  INSIDE WIRING IV
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELEC 117.
This is the fourth course in a series of five and is designed for a typical fourth-year electrical apprentice. The course covers commercial lightning protection systems, ac and dc motor theory, motor installations, special motors and applications, fiber optic cable installation, and hazardous locations.

ELEC 119  INSIDE WIRING V
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELEC 215.
This is the fifth course in a series of five and is designed for a typical fifth-year electrical apprentice. The course covers alarm systems, instrumentation, telephone system wiring, working with high voltage, cable fault tracing and conduit, raceway and box fill calculations.
ELTE 110 BASIC ELECTRONICS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or concurrent enrollment in MATH 103 or 106.
An introductory course in the principles of electronics. Ohms and Watts laws, behavior of electricity and electronics, electrical and electronic devices, an introduction to semiconductor devices, amplification, power supply operation, and basic digital logic gates. Heavy emphasis on the operation of commonly used electronic testing devices such as multimeters, digital meters and oscilloscopes.

ELTE 114 DC CIRCUIT ANALYSIS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: MATH 103 or concurrent enrollment in MATH 103 or 106.
The course covers Ohm’s laws for series, parallel and series parallel circuits, voltage divider circuits, meter circuits, network theorems, Nortons, Thevenins, Millmans, current sources, wye to delta and delta to wye conversions. Conductors and insulators, batteries, magnetism. Laboratory activities will be used to reinforce each topic.

ELTE 118 AC CIRCUIT ANALYSIS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: ELTE 114.
The course covers alternating voltage and current, power generation and distribution, inductance, inductive reactance, capacitance and capacitive reactance, inductive and capacitive series and parallel circuits, RC and RL transient response, complex number analysis of ac circuits, resonance and filters. Laboratory activities will be used to reinforce each topic.

ELTE 120 ANALOG DEVICES I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or concurrent enrollment in ELTE 113.
The course covers semiconductor devices and their applications. Diodes, power supplies, limiters, clampsers, amplifiers, multistage amplifiers, small and large signal amplifiers, device characteristics and applications, and system troubleshooting will be studied. Laboratory activities will be used to reinforce each topic.

ELTE 130 DIGITAL ELECTRONICS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELTE 110 or CSIS 164.
The course covers basic digital gates, logical circuits and systems, counters, shift registers, flip flops, encoders and decoders, analog to digital and digital to analog conversions, memory devices and circuits, and introduction to the architecture of the microprocessor. Testing equipment will be used to make digital measurements. Circuit construction and trouble shooting is covered. Laboratory activities will be used to reinforce each topic.

ELTE 150 OPERATIONAL AMPLIFIERS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELTE 120.
This course is designed to present an in-depth study of the circuits and systems that are operated by or supported by the operational amplifier. Instrument amplifiers, active filters, voltage and current conditioners and converters, signal processing circuits, timers, wave shaping circuits and oscillators are covered.

ELTE 220 ANALOG DEVICES II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or concurrent enrollment in ELTE 120.
Field effect family of semiconductor devices; small, medium and large signal amplifiers; amplifier design considerations and troubleshooting; solid state amplifiers; switching devices; SR, TRIAC and unijunction devices and switching device circuits and applications, switching circuit troubleshooting.

ELTE 230 MICROCOMPUTER ARCHITECTURE
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELTE 130.
This course covers the operation and architecture of the microprocessor, input and output communications ports, interface and communications with read/write magnetic disk drives and cd’s. Video development, keyboard and mouse communications, RAM, ROM, BIOS, and an introduction to machine language programming is covered. Appropriate laboratory activities are performed for each unit.

ELTE 240 DESIGN PROJECT
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: This is a capstone course. Student should be in the final semester of the program.
The student will work with the instructor to select a project and go through the design, prototyping and the development of a working model. Student will design the layout using CAD and autorouter software, develop and make the printed circuit and verify correct operation of the product.

ELTE 260 COMMUNICATIONS ELECTRONICS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or concurrent enrollment in ELTE 220.
This is a comprehensive communications electronics course. AM, FM, SSB, communications protocol, rf amplifiers, transmitter and receiver theory antenna design, microwave technology, RADAR, digital communications are taught as a part of the course. FCC rules and regulations are introduced. Laboratory activities relating to each topic are performed.
ELTE 270  INDUSTRIAL ELECTRONICS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELTE 230.
This course covers linear integrated circuits that relate to industrial applications, industrial solid state devices including SCR, TRIAC, zero crossover, unijunction, programmable UJT, power control circuits, variable speed controls, variable frequency drives, stepper motors and controls, and optical electronics are course units. Introduction to instrumentation transducers and process controls. Robotics are introduced as an application.

ELTE 277  INSTRUMENTATION AND PROCESS CONTROL
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ELTE 270.
This course is designed to present the major instrumentation and process control components and the systems commonly found in industry. Topics will include measurement and control of flow, level, pressure, and temperature. Fundamentals of control will include final control elements, control methods, and control loops.

EMERGENCY MEDICAL TECHNICIAN—PARAMEDIC

Penn Valley
Arthur Brady, Jr  Harold Kenyon
Albert Dimmitt, Jr.  Michael Peters

EMTP 102  BASIC EMERGENCY PATIENT CARE
1 credit. 1 hour.
Current cardiopulmonary resuscitation skills, including adult, child, and infant resuscitation according to American Heart Association standards. Medical and environmental emergencies review. (Successful completion of the course qualifies the student for Basic Life Support Course C Certification.)

EMTP 110  FIRST RESPONDER
3 credits. 3 hours (or 48 clock hours).
Introduction to the significant didactic and practical material essential for the first responder at the scene of an emergency.

EMTP 150  EMERGENCY MEDICAL TECHNICIAN—BASIC
8 credits. 8 hours. (Laboratory: 4 hours. Clinical: 2 hours)
Prerequisite: The student must be 18 years old by the end of the course.
Basic life support and emergency care. Signs, symptoms, and procedures of field management for emergency medical situations. Clinical observations. Successful completion makes student eligible to take the National Registry examination for EMT-B.

EMTP 240  INTRODUCTION TO PARAMEDIC CARE
4 credits. 4 hours.
Prerequisite: Admission to the EMT-Paramedic program.
This course introduces the student to the roles and responsibilities of the EMT-Paramedic, as well as the legal and ethical issues encountered. It also includes an orientation to the basic anatomy and physiology related to advanced prehospital care.

EMTP 241  PREHOSPITAL ASSESSMENT TECHNIQUES
4 credits. 4.5 hours. (Laboratory: 1 hour.)
Prerequisites: Admission to the EMT-Paramedic program and EMTP 240 with a grade of C or better (or concurrent enrollment).
This course is designed to enable the student to perform assessments and respiratory system interventions on patients suffering from medical and traumatic emergencies. Skills include physical examination, electrocardiographic monitoring, electrical therapy, and advanced airway management procedures.

EMTP 242  MEDICAL EMERGENCIES
3 credits. 3 hours.
Prerequisites: Admission to the EMT-Paramedic program and EMTP 240 and 241 each with a grade of C or better (or concurrent enrollment).
This course will introduce the student to paramedic assessment and intervention in cases involving nontraumatic medical emergencies. Emergency assessment and care of patients with respiratory, endocrine, renal, CNS, vascular, infectious, toxicologic and behavioral conditions will be addressed.

EMTP 243  PARAMEDIC PHARMACOLOGY
4.5 credits. 5 hours. (Laboratory: 1 hour)
Prerequisites: EMTP 240, 241, and 242, each with a grade of C or better.
This course introduces the student to the medications used in the prehospital management of medical and traumatic emergencies, as well as the methods and techniques of administration.

EMTP 244  OBSTETRICS, PEDIATRICS, AND ACLS
2.5 credits. 3 hours. (Laboratory: 1 hour)
Prerequisites: EMTP 240, 241 and 242 each with a minimum grade of C; EMTP 243 with a minimum grade of C or concurrent enrollment.
This course prepares the student to deal with obstetric and gynecological emergencies, neonatal care and resuscitation, as well as pediatric emergencies. It includes the American Heart Association Advanced Cardiac Life Support (ACLS) affirmation courses.

EMTP 245  TRAUMA MANAGEMENT
2.5 credits. 3.5 hours. (Laboratory: 2 hours)
Prerequisites: EMTP 240, 241, and 242 with a grade of C or better.
This course orients the student to the prehospital management of trauma victims. It focuses on chest, abdominal, spinal, neurological, burn, and soft tissue injury.
EMTP 246 PREHOSPITAL CARE INTEGRATION
2 credits. 3 hours. (Laboratory: 2 hours.)
Prerequisite: EMTP 243 with a grade of C or better.
This course integrates the didactic, laboratory and clinical experiences that have preceded in other EMT-Paramedic course work.

EMTP 247 PARAMEDIC HOSPITAL CLINICAL
9 credits. (Clinical/Intern: 28 hours)
Prerequisite: EMTP 244.
This course provides the paramedic student the opportunity to practice skills in a supervised clinical environment and to observe patient care procedures.

EMTP 248 FIELD INTERNSHIP
5.5 credits. (Clinical/Intern: 26 hours)
Prerequisite: EMTP 245.
This course provides the paramedic student the opportunity to function in actual field situations under the supervision of a paramedic preceptor.

EMTP 249 PEDIATRIC ADVANCED LIFE SUPPORT (PALS) PROVIDER
1 credit. 1 hour.
Prerequisites: EMTP 240, 241 and 242 each with a minimum grade of C; EMTP 243 and 244 with a minimum grade of C or concurrent enrollment.
This course prepares the student to assess and treat pediatric patients suffering from medical emergencies. It follows the curriculum established by the American Heart Association and the American Academy of Pediatrics, and leads to affirmation as a PALS Provider.

ENGINEERING

ENGR 101 INTRODUCTION TO THE PROFESSION
1 credit. 1 hour.
Information relative to fields of engineering, necessary preparations, and working conditions.

ENGR 103 APPLICATIONS OF MICROCOMPUTERS TO ENGINEERING
3 credits. 4 hours. (Laboratory: 2 hours)
Applications of the microcomputer to engineering problems.

ENGR 104 FORTRAN PROGRAMMING FOR ENGINEERS AND SCIENTISTS
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: MATH 120 with a minimum grade of C and MATH 130 with a minimum grade of C, or MATH 150 with a minimum grade of C.
Computers and the FORTRAN language in solving engineering problems and presenting data graphically.

ENGR 113 CAD AND MICROCOMPUTER APPLICATIONS
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: MATH 110.
Use of CAD software in basic two-dimensional and three-dimensional drawing. Introduction to use of microcomputer applications including word processing, spreadsheet analysis, and symbolic algebra software.

ENGR 128 MACHINE TOOL LABORATORY I
3 credits. 6 hours. (Laboratory: 4 hours)
Introduction to a job shop machine tool operation. Use of related layout, measuring, and bench equipment. Shop setups for simple projects.

ENGR 129 MACHINE TOOL LABORATORY II
3 credits. 6 hours. (Laboratory: 4 hours)
Prerequisite: ENGR 128

ENGR 130 MACHINE TOOL LABORATORY III
3 credits. 6 hours. (Laboratory: 4 hours)
Prerequisite: ENGR 129
Live group production. Selection, procurement, and handling of materials. Part plans and production. Assembly and finishing. Time and cost estimates. Special tooling requirements.

ENGR 222 THERMODYNAMICS
3 credits. 3 hours.
Prerequisites: MATH 190 and PHYS 220.
Properties of pure substance, work and heat, the first law of thermodynamics, the second law of thermodynamics, entropy, irreversibility, availability, and some power and refrigeration cycles.

ENGR 223 THERMODYNAMICS AND HEAT TRANSFER
4 credits. 4 hours.
Prerequisites: MATH 190 and PHYS 220.
Properties of pure substance, work and heat, the first law of thermodynamics, the second law of thermodynamics, entropy, irreversibility, availability, and some power and refrigeration cycles. Introduction to heat transfer, thermal conduction, convective heat transfer, and thermal radiation.

ENGR 227 PRINCIPLES OF MECHANISMS
3 credits. 4 hours.
Prerequisites: DRAF 152 and PHYS 220.
Kinematics of machines. Cams, gearing, gear trains, and link mechanisms. Instant centers, velocity and acceleration, and diagrams.

ENGR 229 STATICS
3 credits. 3 hours.
Prerequisites: MATH 190 and PHYS 220.
Resultants of force systems, including couples in two and three dimensions, centroids, equilibrium of force systems, friction, and vector methods.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ENGR 230</td>
<td>DYNAMICS</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: ENGR 229. Principles of kinematics, kinetics, and moments of inertia. Engineering applications and vector methods.</td>
<td></td>
</tr>
<tr>
<td>ENGR 233</td>
<td>CIRCUIT ANALYSIS I</td>
<td>4</td>
<td>4</td>
<td>Prerequisite: PHYS 221 with a minimum grade of C or concurrent enrollment in PHYS 221. Fields, circuit elements, and analysis of simple circuit combinations.</td>
<td></td>
</tr>
<tr>
<td>ENGR 240</td>
<td>MECHANICS OF MATERIALS</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: ENGR 229. Introduction to the techniques of determining stresses and strains in mechanical and structural components.</td>
<td></td>
</tr>
<tr>
<td>ESL 04</td>
<td>BASIC WRITING</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: Students must be recommended and approved by the ALI for this class. This course is designed to bring students to a level of ESL writing that allows them to function in regular ESL classes.</td>
<td></td>
</tr>
<tr>
<td>ESL 05</td>
<td>BASIC GRAMMAR</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: Students must be recommended and approved by the ALI for this class. This course is designed to bring ESL students to a level of ESL grammar knowledge that allows them to function in regular ESL classes.</td>
<td></td>
</tr>
<tr>
<td>ESL 06</td>
<td>BASIC READING</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: Students must be recommended and approved by the ALI for this class. This course is designed to bring ESL students to a level of ESL reading that allows them to function in regular ESL classes.</td>
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</tr>
<tr>
<td>ESL 07</td>
<td>BASIC SPEAKING/LISTENING</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: Students must be recommended and approved by the ALI for this class. This course is designed to bring ESL students to a level of ESL listening and speaking that allows them to function in regular ESL classes.</td>
<td></td>
</tr>
<tr>
<td>ESL 10</td>
<td>ESL COMPOSITION I</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisites: Placement by oral interview, written composition, and scores on CELSA (Combined English Language Skills Assessment). Students are introduced to basic sentence structure, filling out forms, completing addresses, and writing postcards. The vocabulary and subject matter center on survival English such as numbers, time, food, clothing, family, and biographical description.</td>
<td></td>
</tr>
<tr>
<td>ESL 11</td>
<td>GRAMMAR I</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisites: Placement by oral interview. This course introduces basic sentence structure and word parts. Students learn to use and understand simple sentences, questions, directions, and descriptions in the present and past tenses.</td>
<td></td>
</tr>
<tr>
<td>ESL 12</td>
<td>ESL SPEAKING AND LISTENING I</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: Placement by oral interview. Students will learn to speak and listen for basic survival English vocabulary such as clothing, food, numbers, time, directions, and weather. They will practice basic descriptions, talking in the present tense and small talk functions, and focus on individual sound production.</td>
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</tr>
<tr>
<td>ESL 13</td>
<td>ESL READING AND VOCABULARY I</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisites: Placement by oral interview. Students will learn basic survival English vocabulary and associated word families as well as introduction to affixes. They will learn how to identify the topic of a short reading and be able to answer questions. They will practice alphabetical order and basic dictionary skills using a bilingual dictionary.</td>
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<tr>
<td>ESL 14</td>
<td>CONVERSATION I</td>
<td>1</td>
<td>1</td>
<td>Prerequisite: Appropriate scores on ALI placement test. Focus on improvement of conversational English.</td>
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</tr>
<tr>
<td>ESL 15</td>
<td>ENGLISH FOR LIVING IN THE UNITED STATES</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: Appropriate scores on ALI placement test. This is an ESL and study skills course in which speaking and listening, reading, and writing are integrated so that students are able to improve all areas of ESL in one course. Basic study skills are introduced throughout the course.</td>
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<tr>
<td>ESL 20</td>
<td>ESL COMPOSITION II</td>
<td>3</td>
<td>5</td>
<td>(Laboratory: 4 hours) Prerequisite: ESL 10 with a minimum grade of C or appropriate scores on ALI placement test. Students will learn basic form and content of single paragraphs using chronological and spatial organization. Students will improve basic sentence skills including mechanics, punctuation, and word form. Computer and keyboarding skills will be introduced at this level.</td>
<td></td>
</tr>
</tbody>
</table>
ESL 21 GRAMMAR II
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 11 with a minimum grade of C or appropriate scores on ALI placement test.
Students will expand vocabulary to use comparatives, wh-questions, and compound nouns and verbs. They also will add the future tense and irregular past and continue with the present and past tense of verbs.

ESL 22 ESL SPEAKING AND LISTENING II
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 12 with a minimum grade of C or appropriate scores on ALI placement test.
Students will learn small talk topics and speech for social functions such as movies, hobbies, work, compliments, getting and giving dates, offering, accepting, talking about preferences, and making comparisons. They will increase their ability to distinguish sounds and to produce them correctly in the context of a sentence and to listen for specific information.

ESL 23 READING AND VOCABULARY II
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 13 with a minimum grade of C or appropriate scores on ALI placement test.
Students will read narrative and expository texts, ads, labels, and forms. They will increase their vocabulary by using context clues and studying word families, affixes, and roots. They will practice and work toward mastery of skills such as skimming, scanning, prediction, inference, identifying the topic, and finding the main idea.

ESL 25 ENGLISH FOR LIVING IN THE UNITED STATES II
1 credit. 1 hour.
Prerequisite: Appropriate scores on ALI placement test.
Language skills necessary for living and communicating in the United States. Banking, housing, health and medicine, transportation, employment, and consumer issues.

ESL 30 ESL COMPOSITION III
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 20 with a minimum grade of C or appropriate scores on ALI placement test.
Students will learn how to write multiparagraph essays using comparison/contrast, point of view, and process. They will practice prewriting and editing skills and use all verb tenses and forms of punctuation.

ESL 31 GRAMMAR III
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 21 with a minimum grade of C or appropriate scores on ALI placement test.
Students will review past, present, and future tenses. They will add perfect and perfect progressive tenses, passive voice, gerunds, infinitives, and modals. Verbs of perception and causative verbs are introduced, as well as conditionals and articles.

ESL 32 ESL SPEAKING AND LISTENING III
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 22 with a minimum grade of C or appropriate scores on ALI placement test.
Students will practice listening for and producing the past, present, and future tenses. They will learn to hear and express cause/effect, comparison/contrast, emotions, and abstract ideas. They will practice notetaking and listening for sequence of events and specific information. They will also learn to work in groups, practice turn-taking, agree/disagree, and express opinions.

ESL 33 ESL READING AND VOCABULARY III
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 23 with a minimum grade of C or appropriate scores on ALI placement test.
Students will read longer passages of various rhetorical styles, practice finding facts from charts and diagrams, and practice map reading/directions. They will make more sophisticated inferences and be able to answer comprehension questions while increasing their vocabulary and reading speed.

ESL 36 IDIOMS
2 credits. 2 hours.
Prerequisite: ESL 23 or appropriate scores on ALI placement test.
Recognition and use of common idioms in spoken and written English.

ESL 37 VOCABULARY AND PRONUNCIATION LAB
4 credits. 6 hours. (Laboratory: 4 hours)
Prerequisite: ESL 23 or appropriate scores on ALI placement test.
Designed to improve the recognition and pronunciation of academic, vocational and conversational vocabulary, as well as provide practice in basic grammatical structures used in conversational English.

ESL 40 ESL COMPOSITION IV
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 30 with a minimum grade of C or appropriate scores on ALI placement test.
Students will learn how to write multiparagraph essays using cause/effect, classification, comparison/contrast, and persuasion. They will practice prewriting and editing skills and use all verb tenses and forms of punctuation. They will also learn summary and paraphrase writing.

ESL 41 ESL GRAMMAR IV
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 31 with a minimum grade of C or appropriate scores on ALI placement test.
Students will improve overall mastery of all verb tenses and concentrate on the relationship between ideas and sentences. Students will practice dependent clauses, participial phrases, reported speech, articles, prepositions with verbs, and placement of adverbs.
## ESL 42 ESL SPEAKING AND LISTENING IV
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisites: ESL 32 with a minimum grade of C or appropriate scores on ALI placement test.
Students will practice improving speech by producing difficult phonemes in context and learning reduction of sounds. They will listen to lectures, video, and TV; take notes; and participate in discussions based on this information. Students will practice expressing abstract ideas such as doubt, opinion, preferences, giving advice, and making wishes.

## ESL 43 ESL READING AND VOCABULARY IV
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: ESL 33 with a minimum grade of C or appropriate scores on ALI placement test.
Students will practice reading academic-level texts, newspapers, longer essays, and a novel. They will practice skimming, scanning, inference, and prediction. They will increase their knowledge of vocabulary, increase their reading speed, and begin to interpret literature and analyze information.

## ESL 50 ESL MULTISKILLS I
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisites: Students must demonstrate basic skills in ESL (all skill areas) and must be approved by the ALI for this course.
Students will learn how to do library research. From this research, they will improve their reading skills and learn to paraphrase, summarize, and synthesize in order to write lengthy research papers. In addition, they will practice notetaking from lectures and TV, and they will present their research in oral presentations and group discussions.

## ESL 60 ESL MULTISKILLS II
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisites: Successful completion of Multiskills I and/or recommendation and approval by ALI.
An advanced integrated skills ESL course in which all areas of English as a Second Language learning (speaking and listening, reading, structure, and writing) are combined.

## ESL 97 ENGLISH AS A SECOND LANGUAGE I
3 credits. 3 hours.
English for students with little or no experience with the language. Basic English structure, pronunciation, and conversation. Introduction to reading and writing.

## ESL 98 ENGLISH AS A SECOND LANGUAGE II
3 credits. 3 hours.
Prerequisite: ESL 97.
English for students with some knowledge of the language. English structure, pronunciation, conversation, vocabulary, reading, and writing.

## ESL 99 ENGLISH AS A SECOND LANGUAGE III
3 credits. 3 hours.
Prerequisite: ESL 98.
English for students who have mastered the basics of the language. English structure, pronunciation, conversation, vocabulary, reading, and writing.

## ENGLISH LANGUAGE AND LITERATURE

<table>
<thead>
<tr>
<th>Longview</th>
<th>Maple Woods</th>
<th>Penn Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kurt Canow</td>
<td>James Karasiwicz</td>
<td>Craig Bartholomaeus</td>
</tr>
<tr>
<td>Joyce Dvorak</td>
<td>Michelle Potts</td>
<td>William Hodgkinson</td>
</tr>
<tr>
<td>Sylvia Edwards</td>
<td>David Sharp</td>
<td>Catherine Sheele</td>
</tr>
<tr>
<td>Diana Granh</td>
<td>Michael Warren</td>
<td>Blue River</td>
</tr>
<tr>
<td>Thomas Hillebrand</td>
<td>Stephanie Zerkel</td>
<td>Cheryl Grosser</td>
</tr>
<tr>
<td>Russell Kevey</td>
<td>Mark Lidman</td>
<td>Theresa Hannon</td>
</tr>
<tr>
<td>Mary Ann Lee</td>
<td>J. Michael Raynor</td>
<td>Richard Higgason</td>
</tr>
<tr>
<td>Terri Lowry</td>
<td>Dawnielle Robinson-Walker</td>
<td>Robin Preston-McGee</td>
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<tr>
<td>J. Michael Raynor</td>
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<tr>
<td>Pat McKeown Sparks</td>
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## PREPARATORY

<table>
<thead>
<tr>
<th>ENGL 30 BASIC WRITING SKILLS</th>
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<tbody>
<tr>
<td>3 credits. 3 hours.</td>
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<tr>
<td>Writing clear, correct, and effective sentences and paragraphs.</td>
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</tbody>
</table>

**NOTE:** Credit for the above course is not applicable to any degree or certificate.

## COMPOSITION

<table>
<thead>
<tr>
<th>ENGL 101 COMPOSITION AND READING I</th>
</tr>
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<tbody>
<tr>
<td>3 credits. 3 hours.</td>
</tr>
<tr>
<td>Prerequisite: ENGL 30 with a minimum grade of C or a satisfactory score on the English placement test.</td>
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<tr>
<td>Methods of rhetorical organization, sentence and paragraph development, and diction. Writing essays of various types.</td>
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<thead>
<tr>
<th>ENGL 101 COMPOSITION AND READING I—REENTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 credits. 4 hours.</td>
</tr>
<tr>
<td>Prerequisite: ENGL 30 with a minimum grade of C or a satisfactory score on the English placement test.</td>
</tr>
<tr>
<td>Methods of rhetorical organization, sentence and paragraph development, and diction. Writing essays of various types. Basic study skills: note taking and test taking. Personal adjustment skills: time-scheduling and reduction of test anxiety. Designed especially for the adult student who has been out of school for several years.</td>
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<thead>
<tr>
<th>ENGL 101 COMPOSITION AND READING I (PACE)</th>
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<tbody>
<tr>
<td>4 credits. 4 hours.</td>
</tr>
<tr>
<td>Prerequisite: ENGL 30 with a minimum grade of C or a satisfactory score on the English Placement test.</td>
</tr>
<tr>
<td>Reading and writing as process. Methods of rhetorical organization, sentence and paragraph development, and diction. Reading and writing essays of various types concerning the American experience.</td>
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<tr>
<th>ENGL 102 COMPOSITION AND READING II</th>
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<tbody>
<tr>
<td>3 credits. 3 hours.</td>
</tr>
<tr>
<td>Prerequisite: ENGL 101 with a minimum grade of C.</td>
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<tr>
<td>Semantics, logic, and critical thinking. Writing essays of various types, including a research paper.</td>
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</table>
ENGL 102  COMPOSITION AND READING II (PACE)
4 credits. 4 hours.
Prerequisite: ENGL 101 with a minimum grade of C.
Language and its effect on thought and behavior. Argument and persuasion, logical thinking, logical fallacies, and nonverbal communication. Writing a variety of different types of essays as well as a research paper.

ENGL 104  NEWSWRITING AND REPORTING I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ENGL 101 or approval of the instructor.
Practice in reading the news, study of headlines, makeup, and practical work writing and editing copy for the college newspaper. Soliciting and writing advertising. Language and style, organization, and structure.

ENGL 105  NEWSWRITING AND REPORTING II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ENGL 104.

ENGL 106  NEWSWRITING AND REPORTING III
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ENGL 105.
Advanced experience in the production of a college newspaper. Continued work in writing and editing copy. Study of headlines and makeup. Advanced experience in the writing of advertising copy.

ENGL 107  NEWSWRITING AND REPORTING IV
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: ENGL 106.
Further experience in the production of a college newspaper. Continued work in writing and editing copy. Emphasis on graphic art and in-depth investigation. Ethical and legal issues concerning the modern press.

ENGL 109  INTRODUCTION TO THE ELECTRONIC LIBRARY
1 credit. 1.5 hours. (Laboratory: 1 hour)
A hands-on exploration of electronic technology that teaches students information-seeking strategies, critical thinking abilities, and lifelong learning skills needed in an information society.

ENGL 110  WRITING LABORATORY
1 credit. 2 hours. (Laboratory: 2 hours).
Punctuation, spelling, grammar, and writing mechanics.

ENGL 119  INTRODUCTION TO REPORT WRITING
3 credits. 3 hours.
Survey of the basic problems in technical communication including how to describe mechanisms and their operations. Preparation of formal and informal reports, proposals, and recommendations. Basic grammar, punctuation, and spelling.

ENGL 175  TECHNICAL WRITING
3 credits. 3 hours.
Prerequisite: ENGL 101.
Study and practice of the elements and techniques of writing done by scientists, engineers, and technicians.

ENGL 201  INTERMEDIATE COMPOSITION
3 credits. 3 hours.
Prerequisite: ENGL 102.
Experimentation with narrative and expository methods in critical and process papers.

ENGL 202  EXPOSITION: ADVANCED NONFICTION WRITING
3 credits. 3 hours.
Prerequisite: ENGL 102 with a minimum grade of C.
Advanced expository writing. Theoretical discussion, illustration, criticism, and practice. Analysis of current writing in magazines, newspapers, journals, and nonfiction books.

ENGL 203  CREATIVE WRITING I
3 credits. 3 hours.
Prerequisite: ENGL 102 with a minimum grade of B or recommendation of a member of the English department.
Various types of imaginative writing, such as narration, short story, poetry, and exposition.

ENGL 204  CREATIVE WRITING II
3 credits. 3 hours.
Prerequisite: ENGL 102 with a minimum grade of B or recommendation of a member of the English department.
May be taken without ENGL 203. Various types of imaginative writing, such as narration, short story, poetry, and exposition.

LITERATURE

ENGL 120  INTRODUCTION TO FICTION
3 credits. 3 hours.
Reading, discussion, and analysis of short stories and novels. Interpretation, evaluation, and enjoyment of works within the two literary forms.

ENGL 120  INTRODUCTION TO LITERATURE: FICTION (PACE)
4 credits. 4 hours.
Reading, discussion, and analysis of short stories and novels. Emphasis on interpretation, evaluation, and enjoyment of works in the two literary forms.

ENGL 121  INTRODUCTION TO DRAMA AND POETRY
3 credits. 3 hours.
Reading, discussion, and analysis of plays and poems. Interpretation, evaluation, and enjoyment of works within these literary forms.

ENGL 122  FILM AS LITERATURE
3 credits. 3 hours.
Viewing, discussion, and analysis of films. Interpretation, evaluation, and enjoyment of works within this literary form.
ENGL 124 INTRODUCTION TO LITERATURE  
3 credits. 3 hours.  
Reading, discussion, and analysis of short stories, plays,  
and poems. Interpretation, evaluation, and enjoyment of  
these forms.

ENGL 125 MASTERPIECES OF AMERICAN FICTION  
3 credits. 3 hours.  
Reading, discussion, and analysis of selected American  
novels and short stories, including contemporary works.  
Understanding and appreciation of the American  
tradition and the major periods in the subject matter,  
philosophy, and technique of American fiction.

ENGL 127 CLASSICAL MYTHOLOGY  
3 credits. 3 hours.  
Basic theory of myth. Myths of the Greeks and Romans.  
Mythological characters and stories. Their uses and  
survival in Western art, culture, and literature.

ENGL 128 THE BIBLE AS LITERATURE  
3 credits. 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 129 DIRECTED READING  
1-3 credits. 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 130 SHAKESPEARE  
3 credits. 3 hours.  
Reading and discussion of selected plays. Consideration  
of the significance of the plays in the Elizabethan era  
and to the 20th century reader.

ENGL 132 COLLOQUIA  
1-3 credits. 1-3 hours.  
Selected topics of current interest. Available to  
individual students or to small groups through arrange-  
ment with an instructor.

ENGL 140 SCIENCE FICTION  
3 credits. 3 hours.  
Introduction to science fiction. Its current position as an  
independent genre making a unique contribution to the  
social comment of the 20th century.

ENGL 141 DETECTIVE FICTION  
3 credits. 3 hours.  
Representative works of detective fiction from Poe to  
the present.

ENGL 142 WOMEN IN LITERATURE  
3 credits. 3 hours.  
Writings by and about women: short stories, poems, and  
autobiographical essays.

ENGL 150 WORLD LITERATURE I  
3 credits. 3 hours.  
Representative works of the Ancient World, the Middle  
Ages, and the Renaissance. Their significance to the  
20th century reader.

ENGL 151 WORLD LITERATURE II  
3 credits. 3 hours.  
May be taken without ENGL 150. Representative works  
of the later Renaissance, the Neoclassical period, the  
Romantic period, Realism, Naturalism, and the  
contemporary period and their significance to the 20th  
century reader.

ENGL 155 AFRICAN-AMERICAN LITERATURE  
3 credits. 3 hours.  
Artistic writing of blacks in America, with emphasis on  
fiction, poetry, and essays. Relationship of literature to  
social development.

ENGL 158 BIBLE AS LITERATURE–NEW TESTA-  
MENT  
3 credits. 3 hours.  
The different genres of literature, including poetry,  
narrative and sayings, will be read, analyzed and  
discussed.

ENGL 165 AMERICAN MASTERPIECES  
3 credits. 3 hours.  
Masterpieces of literature, art, and music as representa-  
tive artifacts of American culture from the beginning to  
the present day.

ENGL 165 MASTERPIECES OF AMERICAN LITERA-  
TURE (PACE)  
4 credits. 4 hours.  
Masterpieces of literature, as representative of Ameri-  
can culture and themes from the beginning to the  
present day.

ENGL 167 WESTERN WORLD MASTERPIECES  
3 credits. 3 hours.  
European masterpieces of prose, drama, and poetry  
(with parallel examples from art and music) as  
embodiments of views of the human condition and of  
the relationship of humanity to the universe.

ENGL 210 CREATIVE WRITING; WRITING  
CHILDREN’S LITERATURE  
3 credits. 3 hours.  
Prerequisite: ENGL 102 with a minimum grade of B or  
recommendation of a member of the English depart-  
ment.  
This class is devoted to writing various kinds of stories  
for children from preschool through junior high.

ENGL 220 ENGLISH LITERATURE I  
3 credits. 3 hours.  
Survey of British prose and poetry from the early  
Middle Ages to the middle of the 18th century.
### ENGL 221  ENGLISH LITERATURE II
3 credits. 3 hours.
Survey of British prose and poetry from the middle of the 18th century to the present.

### ENGL 222  AMERICAN LITERATURE I
3 credits. 3 hours.
Survey of major works in American literature from the beginnings to the Civil War.

### ENGL 223  AMERICAN LITERATURE II
3 credits. 3 hours.
May be taken without ENGL 222. Survey of major works in American literature from the Civil War to the present.

### LANGUAGE

#### ENGL 108  ENGLISH GRAMMAR AND USAGE FROM NATIVE SPEAKERS OF ENGLISH
1-2 credits. 1-2 hours.
Nature and structure of the English language with particular emphasis on vocabulary and grammar.

#### ENGL 111  VOCABULARY
1-3 credits. 1-3 hours.
Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

### ENVIRONMENTAL HEALTH AND SAFETY

**Offered at the Business and Technology Center through Maple Woods**
Sybil Chandler

#### EHSS 100  INTRODUCTION TO ENVIRONMENTAL HEALTH AND SAFETY
3 credits. 3 hours.
This course for non-EHS students is a review of environmental and health and safety regulations published by the EPA, DOT, OSHA, and the states’ regulatory agencies. The topics will include clean air, clean water, hazardous waste, hazard communication, fall protection, recordkeeping, confined space, respiratory protection, and chemical protective clothing.

#### EHSS 101  HAZARDOUS MATERIAL MANAGEMENT AND EMERGENCY RESPONSE OPERATIONS
3 credits. 3 hours.
This course provides a review of hazardous waste operations, handling, and regulations for facilities and hazardous waste sites. In addition, medical monitoring programs, engineering controls, respiratory protection, personal protective equipment, sampling, air monitoring equipment, hazardous waste documentation, and incident command system (ICS) will be covered.

#### EHSS 106  CHEMICAL SPILL RESPONSE TRAINING
3 credits. 4 hours. (Laboratory: 2 hours)
**Prerequisites: EHSS 100 and CHEM 205**
A comprehensive presentation for technicians who must respond to uncontrolled chemical releases of hazardous materials. Overview of regulatory impact, required procedure, and organizational obligation.

#### EHSS 110  PROPERTIES AND HAZARDS OF HAZARDOUS MATERIALS
3 credits. 3 hours.
This course covers the recognition and communication of the physical hazards (flammability, corrosivity, reactivity, toxicity) of hazardous materials based on the nine DOT hazard classes and EPA’s definition of characteristic hazardous waste.

#### EHSS 121-123  CURRENT TOPICS IN ENVIRONMENTAL HEALTH AND SAFETY
1-3 credits. 1-3 hours.
**Prerequisite: EHSS 100.**
Designed for students to study a topic of current interest in the area of environmental health and safety.

#### EHSS 200  SAFETY AND HEALTH REGULATIONS AND STANDARDS
3 credits. 3 hours.
A comprehensive overview of OSHA and other health and safety regulations and guidelines. Subject areas include OSHA history, specific regulations regarding respiratory protection, protective clothing, medical monitoring, fall protection, confined space, lock out/tag out, recordkeeping, and compliance techniques.

#### EHSS 202  TRANSPORTATION AND STORAGE OF HAZARDOUS MATERIALS
3 credits. 3 hours.
Prerequisites: EHSS 203 or consent of faculty
A presentation of detailed information required for the handling, transportation, and storage of hazardous materials. Methods are given for the preparation of hazardous materials prior to shipment. The distinction and regulatory differences between hazardous waste and hazardous material handling and shipment are presented in relation to different types of transportation.

#### EHSS 203  ENVIRONMENTAL REGULATIONS
3 credits. 3 hours.
This course provides a comprehensive overview of EPA and other environmental regulations and guidelines. Subject areas included in this course are EPA history, specific regulations regarding surface water, air, drinking water, pollution prevention, hazardous waste, Superfund, and Community Right-to-Know.

#### EHSS 204  EMERGENCY PREPAREDNESS AND PLANNING
3 credits. 3 hours.
Prerequisites: EHSS 200 and 203.
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. Incident prevention and life and cost saving are emphasized. Subject materials are presented for students working in industry as well as the public sector of emergency planning and incident response. Environmental health and safety liabilities are addressed in terms of incident prevention and proper management.
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHSS 205</td>
<td><strong>PRINCIPLES OF INDUSTRIAL HYGIENE</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 200 and either CHEM 102, 105, or 111.</td>
</tr>
<tr>
<td></td>
<td>This course is presented to provide the fundamentals of hazard control and</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 200 and either CHEM 102, 105, or 111.</td>
</tr>
<tr>
<td></td>
<td>industrial hygiene to environmental health and safety management students.</td>
<td></td>
<td></td>
<td>Information is given in key areas that cover hazard recognition, hazard</td>
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<td></td>
<td>Information is given in key areas that cover hazard recognition, hazard</td>
<td></td>
<td></td>
<td>evaluation, hazard control, industrial hygiene, governmental regulations,</td>
</tr>
<tr>
<td></td>
<td>evaluation, hazard control, industrial hygiene, governmental regulations,</td>
<td></td>
<td></td>
<td>and employee training.</td>
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<tr>
<td></td>
<td>and employee training.</td>
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<tr>
<td>EHSS 208</td>
<td><strong>HAZARDOUS MATERIALS HEALTH EFFECTS</strong></td>
<td>4</td>
<td>5</td>
<td>CHEM 205, BIOL 109.</td>
</tr>
<tr>
<td></td>
<td>A study of the systematic health effects of exposures to chemicals.</td>
<td></td>
<td></td>
<td>Determination of risk factors, routes of entry, control measures, and acute</td>
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<tr>
<td></td>
<td>Determination of risk factors, routes of entry, control measures, and acute</td>
<td></td>
<td></td>
<td>and chronic effects are discussed.</td>
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<tr>
<td></td>
<td>and chronic effects are discussed.</td>
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<tr>
<td>EHSS 209</td>
<td><strong>INSTRUCTIONAL METHODOLOGY FOR ENVIRONMENTAL HEALTH AND SAFETY</strong></td>
<td>3</td>
<td>3</td>
<td>6 credit hours in EHSS.</td>
</tr>
<tr>
<td></td>
<td>The principles of instructional technology, course development, and</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> 6 credit hours in EHSS.</td>
</tr>
<tr>
<td></td>
<td>information delivery are presented from the perspectives of safety and</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
</tr>
<tr>
<td></td>
<td>environmental professionals. Students learn how to apply key elements</td>
<td></td>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
</tr>
<tr>
<td></td>
<td>required for preparing and providing environmental and safety training in</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
</tr>
<tr>
<td></td>
<td>the work place. The prime objective of this course is to provide</td>
<td></td>
<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
</tr>
<tr>
<td></td>
<td>instructional tools to persons that will be challenged with the responsibility</td>
<td></td>
<td></td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
</tr>
<tr>
<td></td>
<td>of developing, delivering, evaluating, and managing safety and</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
</tr>
<tr>
<td></td>
<td>and environmental training that is mandated by governmental regulations.</td>
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<tr>
<td>EHSS 210</td>
<td><strong>INCIDENT AND ACCIDENT INVESTIGATION</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 200.</td>
</tr>
<tr>
<td></td>
<td>Fundamentals and techniques of investigating accidents and incidents.</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 200.</td>
</tr>
<tr>
<td>EHSS 211</td>
<td><strong>WORKERS COMPENSATION LEGISLATION FOR EHS</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 200.</td>
</tr>
<tr>
<td></td>
<td>This course is designed to provide EHS students a comprehensive study of</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 200.</td>
</tr>
<tr>
<td></td>
<td>legislation and standards designed to protect the worker.</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
</tr>
<tr>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
<td></td>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
</tr>
<tr>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
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<tr>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
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<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
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<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
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<td></td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
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<td></td>
<td>developing, delivering, evaluating, and managing safety and environmental</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
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<td></td>
<td>training that is mandated by governmental regulations.</td>
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<tr>
<td>EHSS 213</td>
<td><strong>EHS PROGRAM DEVELOPMENT AND MANAGEMENT</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 200 and 203.</td>
</tr>
<tr>
<td></td>
<td>This course is designed to merge all the former EHS courses into a cohesive</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 200 and 203.</td>
</tr>
<tr>
<td></td>
<td>and comprehensive unit. This course outlines the principles of program</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
</tr>
<tr>
<td></td>
<td>development and implementation for all EHS type programs including</td>
<td></td>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
</tr>
<tr>
<td></td>
<td>training, emergency preparedness, waste minimization, workers compensation,</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
</tr>
<tr>
<td></td>
<td>air and water quality, and compliance. This course will cover the</td>
<td></td>
<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
</tr>
<tr>
<td></td>
<td>development of materials, techniques, and procedures in the</td>
<td></td>
<td></td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
</tr>
<tr>
<td></td>
<td>implementation of EHS programs and their application in a variety</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
</tr>
<tr>
<td></td>
<td>of EHS programs and their application in a variety of occupational</td>
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<tr>
<td></td>
<td>occupational settings.</td>
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<tr>
<td>EHSS 217</td>
<td><strong>CONCEPTS OF WASTE MINIMIZATION, RECYCLING AND POLLUTION PREVENTION</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 203.</td>
</tr>
<tr>
<td></td>
<td>This course is presented to familiarize EHS students with options available</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 203.</td>
</tr>
<tr>
<td></td>
<td>to properly minimize, recycle, or dispose of wastes. Information is</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
</tr>
<tr>
<td></td>
<td>presented from the perspective of reducing waste by better materials</td>
<td></td>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
</tr>
<tr>
<td></td>
<td>management. Comparisons between management of hazardous wastes and</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
</tr>
<tr>
<td></td>
<td>nonhazardous wastes and methods of disposal are covered. Emphasis is placed</td>
<td></td>
<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
</tr>
<tr>
<td></td>
<td>upon economical considerations for recovery and recycling of materials used</td>
<td></td>
<td></td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
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<tr>
<td></td>
<td>in industry and methods to reduce materials placed in landfills. Key topics</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
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<td>are given to show methods of making money from materials that cost to be</td>
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<td></td>
<td>destroyed.</td>
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<tr>
<td>EHSS 218</td>
<td><strong>INDUSTRIAL PROCESSES AND HAZARD CONTROL</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 200.</td>
</tr>
<tr>
<td></td>
<td>This course is presented to provide an overview of health and safety</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 200.</td>
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<tr>
<td></td>
<td>variables involved in common processes used in industry today. The</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
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<tr>
<td></td>
<td>EHS student is provided with information from the perspective of controlling</td>
<td></td>
<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
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<tr>
<td></td>
<td>and managing mechanical, electrical, and chemical hazards associated with</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
</tr>
<tr>
<td></td>
<td>processes and the by-products from those processes. Students will work</td>
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<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
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<td>together to address common problems in process control and become aware of</td>
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<td></td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
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<td></td>
<td>potential liabilities that employers endure in today’s industrial climate.</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
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<tr>
<td>EHSS 220</td>
<td><strong>AIR QUALITY MANAGEMENT</strong></td>
<td>3</td>
<td>3</td>
<td>EHSS 203.</td>
</tr>
<tr>
<td></td>
<td>This course serves as an introduction to all aspects of air pollution</td>
<td></td>
<td></td>
<td><strong>Prerequisites:</strong> EHSS 203.</td>
</tr>
<tr>
<td></td>
<td>and maintaining air quality. Major areas of study will include nature and</td>
<td></td>
<td></td>
<td>Students learn how to apply key elements required for preparing and</td>
</tr>
<tr>
<td></td>
<td>origin of air pollution, air pollution control methods and strategies,</td>
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<td></td>
<td>providing environmental and safety training in the work place. The prime</td>
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<tr>
<td></td>
<td>dispersion modeling, assessing/monitoring air quality, and air quality</td>
<td></td>
<td></td>
<td>objective of this course is to provide instructional tools to persons</td>
</tr>
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<td></td>
<td>programs and requirements.</td>
<td></td>
<td></td>
<td>that will be challenged with the responsibility of developing, delivering,</td>
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<tr>
<td>EHSS 225</td>
<td><strong>WATER QUALITY MANAGEMENT</strong></td>
<td>3</td>
<td>3</td>
<td>evaluating, and managing safety and environmental training that is mandated</td>
</tr>
<tr>
<td></td>
<td>This course provides an overview of regulatory programs and requirements of</td>
<td></td>
<td></td>
<td>by governmental regulations.</td>
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<td></td>
<td>the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA); typical</td>
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<td></td>
<td>treatment processes for drinking water, municipal and industrial wastewater</td>
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<td>and hazardous wastes; and basic permits for stormwater and effluent. The</td>
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<td>The course will provide an overview of the spill prevention control and</td>
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<td></td>
<td>spill prevention control and countermeasure (SPCC) plans. Students will</td>
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<td>Students will develop a practical understanding of advantages and</td>
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<td></td>
<td>disadvantages of established and new treatment processes, conduct case</td>
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<td></td>
<td>studies, and evaluate treatment options.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Hours</td>
<td>Description</td>
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<tr>
<td>FASH 110</td>
<td>FASHION PRODUCTS</td>
<td>3</td>
<td>3</td>
<td>Fashion products, industry trends, production, and merchandising.</td>
</tr>
<tr>
<td>FASH 111</td>
<td>FASHION AND CLOTHING SELECTION</td>
<td>3</td>
<td>3</td>
<td>Factors that influence wardrobe planning and design. Application of art principles to clothing selection.</td>
</tr>
<tr>
<td>FASH 112</td>
<td>CLOTHING CONSTRUCTION</td>
<td>3</td>
<td>5</td>
<td>Selection and use of equipment and commercial patterns. Construction of clothing for the individual.</td>
</tr>
<tr>
<td>FASH 118</td>
<td>COSTUME HISTORY</td>
<td>3</td>
<td>3</td>
<td>Introduction to clothing styles of the past and their relationship to the fashion styles of today’s world.</td>
</tr>
<tr>
<td>FASH 119</td>
<td>FASHION PROMOTION</td>
<td>3</td>
<td>3</td>
<td>Duties of the fashion coordinator. Skills in the presentation of fashion.</td>
</tr>
<tr>
<td>FASH 211</td>
<td>FLAT PATTERN DESIGN</td>
<td>3</td>
<td>5</td>
<td>Principles of designing by flat pattern methods and construction of original designs.</td>
</tr>
<tr>
<td>FASH 212</td>
<td>FASHION AND HOUSEHOLD FABRICS</td>
<td>3</td>
<td>3</td>
<td>Fibers, yarns, fabric construction, finishes, and design as applied to the selection of clothing and household fabrics.</td>
</tr>
<tr>
<td>FASH 213</td>
<td>ADVANCED CLOTHING CONSTRUCTION</td>
<td>3</td>
<td>5</td>
<td>The construction of a tailored garment. Identification and treatment of figure difficulties and fitting techniques.</td>
</tr>
<tr>
<td>FASH 214</td>
<td>FASHION DESIGN PORTFOLIO</td>
<td>3</td>
<td>5</td>
<td>Completion of design portfolios including student designs.</td>
</tr>
<tr>
<td>FASH 218</td>
<td>FASHION FIELD EXPERIENCE I</td>
<td>3</td>
<td>15</td>
<td>On-the-job training in fashion merchandising.</td>
</tr>
<tr>
<td>FASH 219</td>
<td>FASHION FIELD EXPERIENCE II</td>
<td>3</td>
<td>15</td>
<td>Advanced on-the-job training in fashion merchandising.</td>
</tr>
<tr>
<td>FSTE 161</td>
<td>FIRE INVESTIGATION</td>
<td>3</td>
<td>3</td>
<td>Introduction to fire cause determination. Laws of arson, fire causes, natural and accidental. Techniques for preservation of evidence, photography, diagrams, and notes. Interviewing and detention of witnesses, records, reports, briefs, and court procedures.</td>
</tr>
<tr>
<td>FSTE 164</td>
<td>FIRE DETECTION, SUPPRESSION AND ALARM SYSTEMS</td>
<td>3</td>
<td>3</td>
<td>The types of detection systems used today will be surveyed in conjunction with the function and operation of suppression and alarm systems.</td>
</tr>
<tr>
<td>FSTE 171</td>
<td>FIRE SERVICE HYDRAULICS</td>
<td>3</td>
<td>3</td>
<td>The use of pumps in the fire service will be detailed. Students will learn the basic operations of pumps including hydraulics and friction loss.</td>
</tr>
<tr>
<td>FSTE 172</td>
<td>FIREFIGHTING TACTICS AND STRATEGY</td>
<td>3</td>
<td>3</td>
<td>Fire chemistry, equipment, and manpower, basic firefighting tactics, strategy, methods of attack, and preplanning fire problems.</td>
</tr>
<tr>
<td>FSTE 174</td>
<td>WATER AND SPRINKLER SYSTEM ANALYSIS</td>
<td>3</td>
<td>3</td>
<td>The course details waterflow, its measurements, availability quantity for fire service use. It also discusses sprinkler system design, installation, and operation.</td>
</tr>
</tbody>
</table>
FSTE 180  FIRE ADMINISTRATION I
3 credits. 3 hours.
Instruction on fire department and fire company organization, personnel administration, duties and responsibilities of company officers, leadership, supervision, and control. Development of communication, records, and reports.

FSTE 181  FIRE ADMINISTRATION II
3 credits. 3 hours.
Fire department training, drill, discipline, promotion, rating, classification policies, and administrative activities. Budgets, record keeping, and management of apparatus and equipment.

FSTE 182  FIRE SERVICE INSTRUCTIONAL METHODOLOGY
3 credits. 3 hours.
“How to” and “what to” teach in the fire service from the company level to the department level.

FSTE 183  EMERGENCY MANAGEMENT AND THE FIRE SERVICE
3 credits. 3 hours.
This course details how the fire service functions within an emergency management program. It describes how the local fire administrator is chosen to be the emergency manager and why.

FOREIGN LANGUAGE AND LITERATURE

<table>
<thead>
<tr>
<th>FOREIGN LANGUAGE</th>
<th>LOCATION</th>
<th>INSTRUCTOR</th>
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</thead>
<tbody>
<tr>
<td>FREN 101  ELEMENTARY FRENCH</td>
<td>Longview</td>
<td>Carol Kuznacic</td>
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<tr>
<td></td>
<td>Maple Woods</td>
<td>Mary Ann Blitt</td>
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<tr>
<td></td>
<td>Penn Valley</td>
<td>Carole Gilmore</td>
</tr>
<tr>
<td></td>
<td>Blue River</td>
<td>Jennifer Rogers</td>
</tr>
<tr>
<td>FREN 204  CONTEMPORARY FRENCH LITERATURE</td>
<td>Longview</td>
<td>Carol Kuznacic</td>
</tr>
<tr>
<td></td>
<td>Maple Woods</td>
<td>Mary Ann Blitt</td>
</tr>
<tr>
<td></td>
<td>Penn Valley</td>
<td>Carole Gilmore</td>
</tr>
<tr>
<td></td>
<td>Blue River</td>
<td>Jennifer Rogers</td>
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</tbody>
</table>

GERM 101  ELEMENTARY GERMAN
5 credits. 5 hours.
Introduction to speaking, reading, and writing German.

GERM 102  GERMAN II
5 credits. 5 hours.
Prerequisite: GERM 101.
Grammar essentials. Introduction to German culture and history.

GERM 203  INTERMEDIATE GERMAN
3 credits. 3 hours.
Prerequisite: GERM 102.
Reading selections from contemporary German writers.

GERM 228  DIRECTED READING
3 credits. 3 hours.
Prerequisite: Approval of the instructor.
Reading and discussion of works chosen with advice and direction of the instructor.

RUSS 101  ELEMENTARY RUSSIAN
5 credits. 5 hours.
Introduction to elementary grammar, speaking, reading, and writing Russian.

SPAN 101  Elementary Spanish
5 credits. 5 hours.
Introduction to speaking, reading, and writing of Spanish. Informal study of Hispanic culture and history.

SPAN 102  SPANISH II
5 credits. 5 hours.
Prerequisite: SPAN 101.
Grammar essentials. Conversation and composition. Informal study of Hispanic culture and history.

SPAN 129  DIRECTED READING
1 credit. 1 hour.
Prerequisite: Approval of the instructor.
Reading of specific works chosen with advice and direction of the instructor.
SPAN 203  INTERMEDIATE SPANISH
3 credits. 3 hours.
Prerequisite: SPAN 102 or two or more years of high school Spanish.
Reading selected modern works in Spanish. Conversation and composition. Grammar review.

SPAN 204  INTERMEDIATE SPANISH II
3 credits. 3 hours.
Prerequisites: Thirteen credits of college Spanish or three or more years of high school Spanish.
Continuation of SPAN 203. Emphasis on developing communication and reading comprehension skills.

SPAN 212  SPANISH IMMERSION I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: SPAN 101 or one year of high school Spanish.
Students will broaden their language skills while at the same time experience a new culture though a total immersion program in a Spanish speaking country. Special emphasis will be placed on spoken communication while expanding listening, reading, and writing skills. Students will be tested and placed into the appropriate level of instruction. All classes are conducted in Spanish by native Spanish speakers.

SPAN 214  SPANISH IMMERSION II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisites: SPAN 212.
Students will broaden their language skills while at the same time experience a new culture though a total immersion program in a Spanish speaking country. Special emphasis will be placed on spoken communication while expanding listening, reading, and writing skills. Students will be tested and placed into the appropriate level of instruction. All classes are conducted in Spanish by native Spanish speakers.

GEOGRAPHY

GEORGETOWN UNIVERSITY

Blue River  Longview  Maple Woods
Christopher Johnson  Carl Priesendorf  Virginia Ragan

GEOG 104  PRINCIPLES OF PHYSICAL GEOGRAPHY
4 credits. 5 hours. (Laboratory: 2 hours)
Survey of the characteristics and distribution of the elements of the earth’s natural environment using earth-space relationships, meteorology, climatology, vegetation resources, map studies, and geological areas such as geomorphology and their relationship to human life and activity. Optional field trips.

GEOG 105  WORLD GEOGRAPHY
3 credits. 3 hours.
Survey of geographic conditions in the major world regions: Europe, Russia, the Middle East, the Orient, Africa, Latin America, Anglo-America, and the Pacific World, with emphasis on physical, cultural, and economic characteristics.

GEOG 110  METEOROLOGY
4 credits. 5 hours. (Laboratory: 2 hours).
Structure, composition, and interaction of the atmosphere with emphasis on atmospheric processes and related phenomena as they affect human activity and as determinants of climate. Weather instruments, maps, and field trips.

GEOG 111  GEOGRAPHY OF THE NORTHERN REGIONS
3 credits. 3 hours.
Comparison and contrast of major areas of the countries of the northern regions. Political, economic, agricultural, historical, and cultural aspects.

GEOG 112  GEOGRAPHY OF THE SOUTHERN REGIONS
3 credits. 3 hours.
Comparison and contrast of major areas and countries of the southern regions. Political, economic, agricultural, historical, and cultural aspects.

GEOG 113  CULTURAL GEOGRAPHY
3 credits. 3 hours.
Cultural Geography is an introductory course in geography. It covers topics such as an introduction to geography, population growth, cultural and ethnic development, urbanization, and the effects of humans on the environment. The issues are discussed from the perspective of the physical setting of the earth, topology (shape of the land), availability of water, and location on the earth.

GEOG 114  INTRODUCTION TO GEOGRAPHY
3 credits. 3 hours.
Introduction to Geography presents a dynamic view of the breadth of the discipline. It describes physical nature and interrelationship of the earth and atmosphere and its influence on populations and lifestyles. The course explores the scientific method of gathering and analyzing information and modern tools for these functions. There is a focus on applied geography in both local and worldwide settings in areas such as marketing, urban planning, political negotiations, and natural resource assessment.

GEOG 207  GEOGRAPHY OF THE UNITED STATES AND CANADA
3 credits. 3 hours.
A comprehensive study of the land, climate, and weather of the United States and Canada, early settlement patterns, and recent population trends. There is a focus on industry, agriculture, cities, transportation, communication, and recreational resources, as well as culture regions of the United States and Canada and the distinctions between the two countries.
GEOLOGY

Blue River Longview Maple Woods
Christopher Johnson Carl Priesendorf Virginia Ragan

GEOL 101 GENERAL GEOLOGY
5 credits. 6 hours. (Laboratory: 2 hours)
Origin of the earth, radioactivity, volcanoes, earthquakes, mineral resources, and the geologic processes that affect the surface and the interior of the earth with laboratory analysis of rock, minerals, and maps. Optional field trips to nearby areas.

GEOL 102 HISTORICAL GEOLOGY
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: GEOL 101 or approval of the instructor.
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 billion years of geologic time. Laboratory analysis of fossils.

GEOL 103 ENVIRONMENTAL GEOLOGY
3 credits. 3 hours.
Discusses fundamental concepts of the environment, natural hazards, and human interaction with the environment. Offers tools to minimize the threat of environmental hazards in your life.

GEOL 199 SPECIAL TOPICS
3 credits. 3 hours.
A study of a topic of geological interest approved by the instructor.

GEOL 212 GEOLOGY FIELD STUDY
3 credits. 3 hours.
Recommended background course: GEOL 101.
Survey of selected geological sites in Arkansas, Kansas, Missouri, and Oklahoma with visits to mines, quarries, museums, caves, and industries employing geological information and rock and mineral collecting during a 9 to 10 day field trip.

GEOL 214 SELECTED GEOLOGY FIELD STUDY
1 credit. 1 hour.
Recommended background course: GEOL 101 or approval of instructor.
Study of selected locations in the Midwest during a field trip. Physical features. Collection of geologic materials.

GEOL 215 GEOLOGY FIELD STUDY
3 credits. 3 hours.
Prerequisite: GEOL 101 or approval of the instructor.
Survey of several geological sites in New Mexico and Colorado with visits to mines, quarries, museums, caves, state and national parks, and geologically related industries. Rock and mineral collection and identification.

GUIDED STUDIES

GUID 100 PERSONAL SKILLS I
2 credits. 3 hours. (Laboratory: 2 hours)
Lifestyle planning and goal setting through a laboratory approach to the assessment of personal strengths and weaknesses.

GUID 108 ACADEMIC SUCCESS
3 credits. 3 hours.
Basic aids and skills needed for academic survival. Reading textbooks, taking tests, taking notes, training the memory, and using the library.

GUID 109 CAREER EXPLORATION SEMINAR
1 credit. 1 hour.

GUID 112 EFFECTIVE STUDY SKILLS
1 credit. 1 hour.
Discussion of the theory of multiple intelligence to assess and develop personal learning preferences.

GUID 113 ORIENTATION
1 credit. 1 hour.
A comprehensive orientation to college. Emphasis on understanding of self and the college environment.

GUID 114 EDUCATIONAL OPTIONS
1 credit. 1 hour.
Identification of learning styles and compensatory mechanisms. Setting educational goals, implementing plans, developing self-advocacy, and evaluating outcomes.

GUID 115 STRESS, STRENGTH, AND SATISFACTION
2 credits. 2 hours.
Stress and the development of skills to cope with it.

GUID 116 STRESS MANAGEMENT FOR THE WORKER
1 credit. 1 hour.
Stress and the development of skills to cope with it.

GUID 150 HUMAN VALUES IN CAREER PLANNING
3 credits. 3 hours.
Evaluation of personal experience, strengths, needs, and goals. Relation of personal information to major areas of study and career possibilities.

GUID 152 EMPLOYMENT STRATEGIES
1 credit. 1 hour.
Attitudes and skills necessary to acquire or maintain employment.
HEALTH INFORMATION TECHNOLOGY

Penn Valley
Tracy Rockwell Jennifer Scott

HITE 101 INTRODUCTION TO THE MEDICAL RECORDS PROFESSION
2 credits. 2 hours.
Orientation to the medical records profession and the supporting professional organization. History and evolution of health care delivery, facilities, and practitioners. Supervisory functions of the medical record department.

HITE 102 HEALTH RECORDS SYSTEMS, ANALYSIS AND CONTROL
3.5 credits. 4.5 hours. (Laboratory: 2 hours)
Content, storage, retrieval, control, and retention of medical records, especially hospital records. Forms design and control, microfilming, and computer applications for medical record departments.

HITE 103 MEDICAL TERMINOLOGY FOR MEDICAL RECORDS I
3 credits. 3 hours.
Professional language of medicine. Analysis of medical terms by roots and combining forms. Disease processes, diagnostic and operative procedures for each system of the body. Selected medical specialities.

HITE 106 HEALTH CARE STATISTICS
3 credits. 3.5 hours. (Laboratory: 1 hour)
Prerequisite: HITE 102 or approval of the instructor.
Vital health statistics, their uses and values. Abstracting and analysis of data from medical records, collection of data from other sources, and methods of presenting the information.

HITE 107 INTRODUCTION TO MEDICAL TRANSCRIPTION
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: BIOL 108; HITE 101, 102, and 103; and typing at 40 wpm.
Introduction to the transcription of medical record reports using correct terminology, punctuation, and format.

HITE 108 LEGAL ASPECTS OF MEDICAL RECORDS
2 credits. 2 hours.
Prerequisite: HITE 102 or approval of the instructor.
Legal principles applied to the health care professions. Confidentiality of the medical record, informed consent, the medical record as a legal document, release of clinical information, response to subpoena, and testimony.

HITE 109 DIRECTED PRACTICE I
2.5 credits. 3 hours. (Laboratory: 5 hours)
Prerequisites: BIOL 108 and HITE 102.
Supervised on-the-job training in a medical records department. Supervised discussion of clinical experiences.

HITE 110 PHARMACOLOGY
1.5 credits. 2 hours. (Laboratory: 1 hour)
Prerequisites: BIOL 108 and HITE 103.
Introduction to basic pharmacology with a body systems approach to disease.

HITE 111 INTRODUCTION TO MEDICAL INSURANCE AND OFFICE PROCEDURES
1.5 credits. 2 hours. (Laboratory: 1 hour)
Prerequisite: HITE 103.
An overview of medical office systems and administrative procedures, with emphasis on insurance billing, compliance with regulatory agencies, and technology tools, including medical transcription.

HITE 200 INTRODUCTION TO CLASSIFICATION SYSTEMS
1 credit. 1 hour.
Classification systems used to organize clinical data in health care. ICD-9-CM classification system will be introduced.

HITE 201 QUALITY MANAGEMENT
3 credits. 3.5 hours. (Laboratory: 1 hour)
Prerequisite: HITE 108 or approval of the instructor.
Methods of assessing and improving quality in a health care setting. Concept of continuous quality improvement. Compliance with guidelines of regulatory and accrediting agencies.

HITE 202 CLASSIFICATION SYSTEMS, NOMENCLATURES, INDEXES, AND REGISTERS I
4 credits. 5.5 hours. (Laboratory: 3 hours)
Prerequisite: HITE 200.
Nomenclatures and classification systems for coding and indexing diagnoses and procedures with special emphasis on ICD-9-CM.

HITE 203 DIRECTED PRACTICE II
2 credits. (Laboratory: 1 hour, clinical: 3 hours)
Prerequisite: HITE 202 with a grade of C or better or concurrent enrollment in HITE 202.
Supervised learning experience in a medical records department under the direction of a credentialed professional involving a variety of procedures including coding and abstracting health information, medical transcription, and release of information. Supervised discussion of clinical experiences.

HITE 206 SPECIALIZED HEALTH RECORDS SYSTEMS
2 credits. 2 hours.
Specialized health care systems. Record maintenance. Requirements of accrediting and regulating agencies. Specialized health information registers.

HITE 207 CLASSIFICATION SYSTEMS, NOMENCLATURES, INDEXES, AND REGISTERS II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: BIOL 108 and HITE 202, each with a grade a C or better.
Nomenclatures and classification systems for coding and indexing diagnoses and procedures with emphasis on specialized health care record systems. Impact of DRGs on the coding function.
HITE 208  DIRECTED PRACTICE III  
2 credits. 4 hours. (Laboratory: 4 hours)  
Prerequisite: HITE 203.  
Supervised on-the-job instruction about health record systems in specialized health care facilities. Supervised discussion of directed practice experiences.

HITE 210  CLASSIFICATION SYSTEMS AND NOMENCLATURES FOR AMBULATORY CARE  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisites: HITE 200; BIOL 108 with a grade of C or better, or concurrent enrollment in BIOL 108.  
Outpatient coding, classification and payment systems. Assignment of CPT-4 codes to procedures and services. Common outpatient procedures. Role of health information technologist in ambulatory coding and billing.

HITE 211  ORGANIZATION AND ADMINISTRATION IN HEALTH INFORMATION  
3 credits. 3.5 hours. (Laboratory: 1 hour)  
Prerequisites: HITE 201, 202, and 203.  
General principles of management and organization as applied to health information settings. Budget development and control, personnel recruitment and retention, performance appraisal, and progressive discipline. Office design, productivity monitoring, work simplification, job analysis and job descriptions, and quality management.

HEATING, VENTILATION, AND AIR CONDITIONING  
Offered at the Business & Technology Center through Maple Woods  
Paul Harding

HVAC 103  BASIC CIRCUIT ANALYSIS  
3 credits. 3 hours.  
Basic AC and DC theory; series and parallel circuits; resistive, inductive, and capacitive circuit analysis; wiring diagrams.

HVAC 109  ELECTRICITY FOR HVAC/R TECHNICIANS  
4 credits. 6 hours. (Laboratory: 4 hours)  
Prerequisite: HVAC 103.  
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.  
Introduction to the basic elements of heating, ventilation, and air conditioning systems. Heat laws, psychrometrics, heating and cooling load estimating, design, and distribution.

HVAC 120  FUNDAMENTALS OF REFRIGERATION  
4 credits. 6 hours. (Laboratory: 4 hours)  
Basic principles of refrigeration and their application in domestic refrigeration. Development of manipulative skills required for the installation, maintenance, and servicing of domestic equipment.

HVAC 135  RESIDENTIAL HEATING AND AIR CONDITIONING I  
4 credits. 5.5 hours. (Laboratory: 3 hours)  
Prerequisites: HVAC 109 (or take concurrently), HVAC 111, 120, 230 (or take concurrently).  
Installation of residential systems; tools, equipment, uniform mechanical code. Troubleshooting and servicing standard efficiency units.

HVAC 136  RESIDENTIAL HEATING AND AIR CONDITIONING II  
4 credits. 5 hours. (Laboratory: 2 hours)  
Prerequisite: HVAC 135.  

HVAC 201  STATIONARY ENGINEERING  
3 credits. 3 hours.  
Prerequisites: 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 205  ADVANCED ENERGY SYSTEMS MANAGEMENT  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisites: HVAC 221 and MATH 103 and 104 or MATH 106.  
An overview of modern building climate management. Building operation and maintenance. Demands of equipment and weather conditions. Record keeping and performance monitoring. Increased efficiency and energy cost reduction.

HVAC 211  DESIGN AND ESTIMATING  
3 credits. 3 hours.  
Prerequisites: 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. (Laboratory: 4 hours)  
Prerequisite: HVAC 120 and 109.  
The refrigeration cycle applied to commercial uses. Sizing, selection, installation, and servicing of commercial and industrial refrigeration equipment.

HVAC 230  DESIGN AND DISTRIBUTION  
4 credits. 6 hours. (Laboratory: 4 hours)  
Prerequisite: HVAC 111.  
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 240  ALTERNATE ENERGY SOURCES  
4 credits. 5 hours. (Laboratory: 2 hours)  
Prerequisite: HVAC 111.  
Alternate methods of energy production. Use of wind energy, photovoltaic cells, alternate fuel vehicles, nuclear energy, hydroelectricity, space base power, solar energy, and co-generation.

HVAC 250  CO-OP WORKSTUDY  
3 credits. 7 hours. (Laboratory: 6 hours)  
Prerequisites: Must be approved by program coordinator. Must have a minimum of 15 credit hours in HVAC courses.  
Advanced student gets on-the-job experience supervised by area employers. Objectives are directed by classroom sessions and job activities.

HVAC 291-293  SPECIAL TOPICS  
1-3 credits. 1-3 hours.  
Prerequisite: Approval of the program coordinator.  
Problem solving related to climate control technology with emphasis on research and/or laboratory projects.

HIST 120  AMERICAN HISTORY I  
3 credits. 3 hours.  
Survey of American history and institutions through the Civil War era. Economic, social, cultural, and political development. Federal and Missouri constitutions.

HIST 121  AMERICAN HISTORY II  
3 credits. 3 hours.  
May be taken without HIST 120. Survey of American history and institutions from the Civil War era to the present. Economic, social, cultural, and political developments. Federal and Missouri constitutions.

HIST 125  HISPANIC STUDIES  
3 credits. 3 hours.  
Survey of the cultural development of the U.S. Hispanics from the pre-Columbian period to the present.

HIST 133  WESTERN CIVILIZATION I  
3 credits. 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 feelings of people of the premodern period about themselves, their place in the universe, and the human condition.

HIST 134  WESTERN CIVILIZATION II  
3 credits. 3 hours.  
May be taken without HIST 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 condition.

HIST 135  WESTERN CIVILIZATION II (PACE)  
4 credits. 4 hours.  
May be taken without HIST 133. A study in European civilization from the Renaissance to the present. The theme of the course is the nature and essence of individualism within the historical contexts of, for example, nationalism, capitalism, Christianity, and the antitheses that each of these concepts produced.

HIST 140  AFRICAN AMERICAN HISTORY  
3 credits. 3 hours.  
Economic, social, political, and religious aspects of the development of black American culture.

HIST 142  ETHNIC MINORITY HISTORY  
3 credits. 3 hours.  
Comparative study of a variety of ethnic minority groups in the United States, their experiences, and their relationship to the general development of American history. Emphasis on the history of black Americans and of American Indians.

HIST 145  SURVEY OF ENGLISH HISTORY  
3 credits. 3 hours.  
Survey of the evolution of England from barbarism to world power. Political, economic, religious, and literary development.

HIST 202  HISTORY AND MATERIAL CULTURE  
3 credits. 3 hours.  
Prerequisite: HIST 120 or 121 or instructor consent.  
Contributions of material culture to our understanding of history, including insights into the lives of those who did not leave extensive written records. Consideration of aspects of material culture, drawing largely on examples from American history: architecture, domestic utensils and furnishings, clothing, tools, and agricultural practices; the process of handcraft technology and products; the impact of modernization upon both process and product.

HIST 210  MISSOURI HISTORY  
3 credits. 3 hours.  
A study of Missouri history from the pre-territorial period to the present. It studies the indigenous people of Missouri, the exploration of Missouri, and its colonial experience. The evolution of Missouri’s social, economic, and political systems from the territorial period to the present is studied.
HIST 215  WORK, LABOR, AND SOCIETY  
4 credits. 4 hours.  
History and nature of work in various places and societies from primitive man to the 20th century. Work in contemporary America, commercial capitalism, industrial capitalism, and the history of the American labor movement. Part of the instruction given by videotape.

HIST 221  SURVEY OF RUSSIAN HISTORY  
3 credits. 3 hours.  
Cultural, social, and political development of Russia. Introduction to ancient and medieval Russia, Imperial and Soviet periods.

HIST 226  AMERICAN FRONTIERS  
3 credits. 3 hours.  

HOSPITALITY MANAGEMENT  
Offered at Johnson County Community College  
Coordinated throughout MCC

HMGT 120  FOOD SERVICE SANITATION  
1 credit. 1 hour.  
Upon successful completion of this course, the student should be able to understand and describe the basic principles of providing and serving safe food. The student should also understand all safe food-handling procedures necessary to manage a sanitary and safe food service operation.

HMGT 121  HOSPITALITY MANAGEMENT FUNDAMENTALS  
3 credits. 3 hours.  
Prerequisite: Admission to the Hospitality Management program.  
This is an overview of the organization of the food service and public lodging industries and departmental functions, the positions of the industries in the American economic system, and the functions and limitations of these types of establishments.

HMGT 123  BASIC FOOD PREPARATION  
3 credits. 3 hours.  
Upon successful completion of this course, the student should be able to demonstrate skills in grilling, frying, broiling, sautéing, recipe conversion, salad preparation and the production of the five basic sauces. Also, the student should be able to operate the food service equipment used in commercial kitchens.

HMGT 126  FOOD MANAGEMENT  
4 credits. 7 hours.  
Prerequisites: HMGT 123, 145, 230, and 277 and admission to the Hospitality Management Program.  
Upon successful completion of this course, the student should be able to explain the components of menu planning and the styles of food service used for various occasions—buffet service and French, Russian and American service. The student will take part in the operation of the campus restaurant and will be involved in food preparation, services, sales promotion, purchasing, and costing.

HMGT 128  SUPERVISORY MANAGEMENT  
3 credits. 3 hours.  
Upon successful completion of this course, the student should be able to analyze and explain basic supervisory management skills, management styles, motivation with emphasis on human relations, delegation, training, evaluation, and communication. In addition, the hiring and firing functions within FLSA guidelines will be covered.

HMGT 130  HOSPITALITY LAW  
3 credits. 3 hours.  
This course offers an overview of product and dram shop liability as well as of the various areas of federal and state legislation that regulate the hospitality industry. Emphasis will be on familiarizing the hospitality manager with ways to avoid costly and time-consuming lawsuits. A manager’s or owner’s legal rights and responsibilities will also be discussed. Upon successful completion of this course, the student should be able to recognize potential legal problems.

HMGT 132  SEMINAR IN HOUSEKEEPING OPERATIONS  
3 credits. 3 hours.  
This course presents a systematic approach to managing housekeeping operations in the hospitality industry. The course will also include related health department regulations. While enrolled in this class, a student must work a minimum of 15 hours a week in a lodging operation. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 145  FOOD PRODUCTION SPECIALTIES  
3 credits. 3.5 hours. (Laboratory: 2 hours)  
Prerequisite: HMGT 123.  
This course covers the fundamentals of convenience baking, hors d’oeuvre and cold kitchen preparation. It provides a knowledge and basic skills in the pastry kitchen where the student can handle convenience products from the frozen or dried state and produce finished pies, cakes and dessert items. It provides a further knowledge and skill in the garde manger kitchen of making salads, cocktail hors d’oeuvres, cocktail sandwiches and making economic purchases for gourmet foot items. In addition, the student will learn how to make intermezzo ices, identify different cheeses, design and carve ice blocks for display, and learn how to make a general plan for a buffet.
HMGT 203  HOTEL SALES AND MARKETING
3 credits. 3 hours.
Prerequisites: HMGT 121 and admission to the Hospitality Management program.
Upon successful completion of this course, the student should be able to understand and describe the hotel sales and marketing functions. The course will focus on practical sales techniques for targeting markets.

HMGT 221  DESIGN TECHNIQUES
3 credits. 3 hours.
Prerequisites: HMGT 123 and 271.
This course includes detailed information about food service design that covers layout, design, and equipment specifications. Upon successful completion of this course, the student should be able to understand and develop a food service design concept, including the menu, the location, and the type of clientele expected.

HMGT 223  FUNDAMENTALS OF BAKING
3 credits. 3 hours.
Prerequisite: HMGT 145.
Upon successful completion of this course, the student should be able to demonstrate an understanding of bake shop production as it relates to the basic principles of ingredients, measurements, mixing, proofing, baking, and final presentation. In addition, the student will be able to identify the various types of baking equipment used in the preparation of bake shop products. The class includes lecture and participation.

HMGT 226  GARDE-MANGER
3 credits. 3.5 hours. (Laboratory: 2.5 hours)
Prerequisite: HMGT 123 and 145.
This course is designed for the student to learn cold food production and charcuterie. The course will allow the student to develop fundamental principles of the cold kitchen and modernize traditional methods of salad preparation.

HMGT 228  ADVANCED HOSPITALITY MANAGEMENT
3 credits. 3 hours.
Prerequisite: Hospitality Management program approval.
Upon successful completion of this course, the student should be able to explain the various components of menu planning, food service, supervision, design, and beverage control. In addition, the student should be able to demonstrate an understanding of the external factors affecting the hotel-restaurant industry. The student should also be able to describe the skills necessary to secure a position in management within the hospitality industry.

HMGT 230  INTERMEDIATE FOOD PREPARATION
3 credits. 3.5 hours. (Laboratory: 2.5 hours)
Prerequisite: HMGT 123.
This course is designed to help the student’s transition from basic to intermediate food skills. Upon successful completion of this course, the student should be able to demonstrate the skills necessary to prepare standard menu items as well as a range of American regional cuisines. This course consists of lecture, demonstration and participation in food preparation.

HMGT 231  ADVANCED FOOD PREPARATION
4 credits. 4 hours lecture/lab.
Prerequisites: HMGT 145 and 220.
Upon successful completion of this course, the student should be able to demonstrate an understanding of the advanced skills necessary for preparing international cuisine.

HMGT 240  ADVANCED BAKING
4 credits. 4 hours lecture/lab.
Prerequisites: HMGT 123 and 223.
Upon successful completion of this course, the student should be able to demonstrate a working knowledge of the preparation of specialty bakery products. This course will focus on lecture-demonstrations and student participation in advanced baking procedures. Student lab projects will cover specialty yeast and rich dough products as well as baked and chilled desserts.

HMGT 248  CONFECTIONARY ARTS
3 credits. 4.5 hours lecture/lab.
Upon successful completion of this course, the student should be able to demonstrate skills in preparing molten sugar in a safe and economical manner. Also, the student should be able to cast, blow, and pull sugar, developing decorative pieces. Pastillage, as well as casting and painting with chocolate, is also covered.

HMGT 250  INTRODUCTION TO CATERING
3 credits. 3 hours.
Upon successful completion of this course, the student should be able to explain the different types of catered events within the hospitality industry. The student should also be able to explain the importance of marketing, contract writing, food production, room arrangements, and required personnel relative to specific catered events.

HMGT 265  FRONT OFFICE MANAGEMENT
3 credits. 3 hours.
Upon successful completion of this course, the student should be able to understand the flow of business through a hotel, beginning with the reservation process and ending with check-out and settlement. The student should be able to understand the various elements of effective front office management and procedures and the role of the front office in the overall operation of a hotel.

HMGT 268  HOTEL ACCOUNTING
3 credits. 3 hours.
Prerequisites: MATH 120, HMGT 121, and HMGT 273.
Upon successful completion of this course, the student should be able to describe hotel accounting concepts, procedures, processing of data, and the flow of financial information within the various hotel departments. Students also will discuss, prepare and evaluate an income statement and balance sheet and read and interpret a statement of cash flow.
HMGT 271  SEMINAR IN HOSPITALITY MANAGEMENT: PURCHASING
3 credits. 2 hours class, 15 hours minimum on-the-job training/week.
Upon successful completion of this course, the student should be able to define purchasing techniques and specification writing for items used in the industry. In addition, the student should be able to demonstrate decision making skills in the areas of quality, quantity, specifications and general value analysis. Two hours in class and a minimum of 15 hours a week are required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 273  SEMINAR IN HOSPITALITY MANAGEMENT: ACCOUNTING
3 credits. 2 hours class, 15 hours minimum on-the-job training/week.
Prerequisites: MATH 120 or higher and HMGT 121.
Upon successful completion of this course, the student should be able to prepare operation statements for food service operators, inventories, and control systems. Areas of concentration will be food cost and controls, labor costs controls, and profit production. While enrolled in this class, a student must work a minimum of 15 hours a week in the hospitality industry. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 275  SEMINAR IN HOSPITALITY MANAGEMENT INTERNSHIP
3 credits.
Prerequisite: Admission to the Hospitality Management Program.
Upon successful completion of this course, the student should be able to demonstrate an understanding of an actual operation and identify and explain operational problems. In addition, the student should be able to construct and contrast solutions to these problems. While enrolled in this course, a student must work a minimum of 320 hours in an approved position in the hospitality industry. By arrangement.

HMGT 277  SEMINAR IN MENU PLANNING AND SALES PROMOTION
3 credits. 2 hours class, a minimum of 15 hours on-the-job training by arrangement/week.
Prerequisite: HMGT 123.
Upon successful completion of this course, the student should be able to explain the components of menu planning for every type of service and facility. In addition, the student should be able to demonstrate an understanding of menu layout, selection and development, price structure, and the theory of menu design. A minimum of 15 hours a week is required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 279  BEVERAGE CONTROL
3 credits. 3 hours.
Upon successful completion of this course, the student should be able to demonstrate an understanding of beverage control and how it is used in all types of operations. This course covers the history of wines and their use and storage procedures. The student will take part in an in-depth study of spirits, internal control systems, and local and state alcoholic beverage control laws.

HMGT 281  CULINARY ARTS PRACTICUM I
2 credits
Prerequisites: Acceptance into the American Culinary Federation Chef Apprenticeship Training Program and Hospitality Management program approval.
A qualified American Culinary Federation chef will supervise this on-the-job training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation.

HMGT 282  CULINARY ARTS PRACTICUM II
2 credits
Prerequisite: HMGT 281.
This is a continuation of Culinary Arts Practicum I.

HMGT 285  CULINARY ARTS PRACTICUM III
2 credits
Prerequisite: HMGT 282.
This is a continuation of Culinary Arts Practicum II.

HMGT 286  CULINARY ARTS PRACTICUM IV
2 credits
Prerequisite: HMGT 285.
This is a continuation of Culinary Arts Practicum III.

HMGT 287  CULINARY ARTS PRACTICUM V
2 credits
Prerequisite: HMGT 286.
This is a continuation of Culinary Arts Practicum IV.

HMGT 288  CULINARY ARTS PRACTICUM VI
2 credits
Prerequisite: HMGT 287 and Hospitality Management program approval.
A qualified chef who is a member of the American Culinary Federation will supervise this on-the-job apprentice training. Upon successful completion of this course, the student should be able to apply food preparation and presentation techniques and gain experience in all phases of food service operation. This is a continuation of Culinary Arts Practicum V.
HUMAN SCIENCES

Penn Valley
Sarah Bivins  Rebecca Owens

HUSC 100 CAREERS IN HUMAN SCIENCES
1 credit. 1 hour.
Exploration of the field of human sciences and possible career choices.

HUSC 101 FOOD SELECTION AND PREPARATION
3 credits. 4 hours. (Laboratory: 2 hours)
Examination of the principles underlying the selection, purchase, and preparation of food.

HUSC 102 CREATIVE MEAL MANAGEMENT
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: HUSC 101 or approval of the instructor.
Imaginative planning and serving of meals. Management of time, energy, and money.

HUSC 105 CHILD NUTRITION
3 credits.
Prerequisite: HUSC 108.
Normal nutritional needs and growth patterns for infants and preschool children. Child feeding problems. Effective management of a preschool lunch program.

HUSC 108 NUTRITION
3 credits. 3 hours.
Food nutrients and their relationship to a healthy body. Food sources and diet selection.

HUSC 115 CONSUMER PROBLEMS
1-3 credits. 1-3 hours.
Problems and potentials of family spending and consumption with attention to consumer protection and marketing practices.

HUSC 120 CDA: COMPETENCY DOCUMENTATION
2 credits. 2 hours.
Student must have evidence of completing the 120-clock hour formal training required to receive the Child Development Associate (CDA) credential.
Methods of documenting competencies in the eight content areas as required by the National CDA Office for the Child Development Associate (CDA) credential.

HUSC 133 INTERIOR DECORATION
3 credits. 3 hours.
Design and decoration principles as applied to contemporary living.

HUSC 162 MARRIAGE AND FAMILY LIVING
3 credits. 3 hours.
Problems in personal and family living. Attitudes and practices for effective participation in marriage and family life.

HUMAN SERVICES

Longview
Debra Brown

HUMS 100 INTRODUCTION TO HUMAN SERVICES
3 credits. 3 hours.
Survey of human problem areas and services, public and private, developed to address social needs of the individual and society. Knowledge, skills, and values common to the field. (Transferrable as the first social work course to most colleges in the area.)

HUMS 105 PRINCIPLES OF CORRECTIONS
3 credits. 3 hours.

HUMS 126 CORRECTIONS IN THE COMMUNITY
3 credits. 3 hours.
Community correctional problems. Diversion, halfway programs, prerelease centers, group homes, probation and parole. Community treatment needed to support these programs. Evaluation of an agency.

HUMS 160 PRINCIPLES OF YOUTH WORK
3 credits. 3 hours.
Prepare students to function as youth workers using a youth development approach in community-based, residential, group home and other youth work environments. Students will explore these concepts: developing a professional awareness of youth work, identifying and distinguishing between asset building models and deficit based models of adolescent development and developing a capacity to design programs consistent with the needs of youth in relation to available resources.

HUMS 163 THERAPEUTIC ACTIVITIES AND RECREATION
3 credits. 3 hours.
Nature and use of therapeutic activities and settings. Organization, content, and applications of activity programming. Methods and skills for implementing activities and recreation such as the use of games, crafts, music, dance, and drama.
HUMS 166  BEHAVIOR MANAGEMENT TECHNIQUES FOR CHILDREN AND YOUTHS
3 credits. 3 hours.
Prerequisite: HUMS 160 or PSYC 140.
Method of teaching and guiding children and youth in residential care centers or community programs. Theory and application of behavior modification dealing with juvenile problems. Techniques of communicating effectively with youth.

HUMS 167  SPECIAL ISSUES IN HUMAN SERVICES
1-3 credits. 1-3 hours.
Topics related to the field of social services that explore areas of concern related to agency needs or student preparation needs.

HUMS 168  INTRODUCTION TO PRACTICUM
1 credit. 1 hour.
Prerequisite: HUMS 100.
This course is designed to prepare students for their practicum HUMS 201. It is structured to assist students to explore their interests and aptitude for various human service delivery systems and to examine their social settings and understanding of self, which is crucial to becoming an effective practitioner.

HUMS 171  CRISIS INTERVENTION
1 credit. 1 hour.
Prerequisite: HUMS 100 or PSYC 140.
Crisis intervention involves the short term use of specific skills and strategies to help people in crisis cope with turmoil resulting from specific emergency situations or events. Crisis intervention is an approach to helping relationships that is distinctive from other counseling models. This course is designed to familiarize students to basic crisis theory with the application of helping strategies in basic crisis intervention.

HUMS 172  AGING, ALCOHOLISM AND MEDICATIONS
1 credit. 1 hour.
Examines the use and abuse of alcohol and drugs among older people and the changing demographics. Special considerations in diagnosis and treatment and the proper use of prescription drugs. Designed for students and in-service professionals working in the field of aging or the mental health/substance abuse field.

HUMS 173  HUMANISTIC PERSPECTIVE ON AGING
1 credit. 1 hour.
Examines the ways in which a humanistic approach has been and is being applied to the field of aging. The contributions from the disciplines of literature, film, philosophy, art, music, religion and anthropology. Course participants will be looking for responses to the broad question, “What, for our society and the individual in it, are the many ways of successful aging?”

HUMS 174  COUNSELING ISSUES WITH TODAY’S FAMILIES
1 credit. 1 hour.
Exploring the changing family structure and changing relationship implications within the family. Examining the family as a social system and discussing treatment implications for the human services worker.

HUMS 175  SPIRITUALITY IN ADDICTION RECOVERY
1 credit. 1 hour.
Defines the process by which persons in early recovery begin to accept their need for spiritual components in their life. Incorporate spirituality concepts into the treatment process. Demonstrates the importance of spirituality to support recovery for multiple addictions and as a toll for relapse prevention.

HUMS 176  ADDICTION MANAGEMENT
1 credit. 1 hour.

HUMS 177  POSITIVE DEPENDENCY
1 credit. 1 hour.
Positive aspects of dependency. The challenge model is a therapeutic approach of viewing survivors of troubled families developed by Drs. Steven and Sybil Wolin. This model contrasts with traditional models that emphasize damage and pathology. This course emphasizes strengths found in many children from dysfunctional families that are protective in nature and a positive approach toward healthier choices.

HUMS 178  WOMEN’S ISSUES IN ADDICTION
1 credit. 1 hour.
This class will examine the special issues for women who are addicted to chemical substances and/or behaviors. We will discuss factors which may predispose women to addictions, recognition of addiction in women, and the special needs for counseling women who are addicted.

HUMS 180  GAMBLING ADDICTIONS
1 credits. 1 hour.
Basic information about gambling addiction in our society and the interventions and treatment for the client and family. Extensive overview of types of gambling found in our society as well as demographic factors that contribute.

HUMS 190  COMMUNITY MENTAL HEALTH
3 credits. 3 hours.
Analysis of community mental health from a sociological and clinical social work perspective. It is designed to give students an overview of various dimensions of mental illness which include assessment, intervention strategies with diverse groups, types of treatment facilities, and special issues.
HUMS 191  YOUTH DEVELOPMENT SEMINAR
1 credit. 1 hour.
This course is designed to familiarize students with the theory and practice of youth development. Students will explore conceptual definitions of youth development, identify fundamental components of youth development, and discuss the implications of integrating youth development theory into practice.

HUMS 199  HUMAN SERVICES SEMINAR
1-3 credits. 1-3 hours.
Current problems in human services.

HUMS 201  HUMAN SERVICES  PRACTICUM I
3 credits. 1 hour. (Laboratory: 10 hours)
Prerequisites: HUMS 100 and 168 and approval of the coordinator.
Initial field experience in a social service, mental health, juvenile treatment, or other community service agency.

HUMS 202  HUMAN SERVICES  PRACTICUM II
3 credits. 1 hour. (Laboratory: 10 hours)
Prerequisites: HUMS 201 and approval of the coordinator.
Continued field experience in a social service, mental health, educational, or other community service agency. Evaluation of the effectiveness of the agency.

HUMS 203  COLLOQUIA I
1 credit. 1 hour.
Corequisite: HUMS 201
Analysis of the practicum learning experience. Discussion of strategies useful in learning to work with different client populations. Development of interpersonal skills essential to establishing necessary relationships.

HUMS 204  COLLOQUIA II
1 credit. 1 hour.
Analysis of the practicum learning experience. Continued development of interpersonal skills. Discussion of community resources, problem solving, agency effectiveness, and counseling skills.

HUMS 210  INTERVIEWING AND INTERPERSONAL COMMUNICATIONS
3 credits. 3 hours.
Prerequisite: PSYC 162.
Development of interpersonal skills necessary for effective performance in the helping professions. Analyzing differences in individual values and social backgrounds. Demonstration interviewing and counseling techniques.

HUMS 215  DEVELOPMENTAL DISABILITIES
4 credits. 4 hours.
Prerequisite: HUMS 100
Prepares individuals to function as workers in the field of developmental disabilities. Survey of types of developmental disabilities, planning and evaluation of clients, professional issues for workers, values, assistive technologies, and issues related to working with people with a developmental disability.

HUMS 220  SOCIAL WELFARE
3 credits. 3 hours.
Prerequisite: HUMS 100.
Historical perspectives of social welfare policies from prehistoric to present. Analysis of agency structures, administrative policies, and agency politics as they affect delivery systems. Administrative and supervisory styles related to agency function. (Transferrable as the second social work course at most area colleges and universities.)

HUMS 236  CORRECTIONAL ADMINISTRATION
3 credits. 3 hours.
Survey of current administrative and management patterns and functions in correctional agencies and institutions. Concepts of staffing, classification, training, supervision styles, budgeting, record keeping, and public relations.

HUMS 270  THE SOCIAL PSYCHOLOGY OF AGING
3 credits. 3 hours.
Social and psychological problems of older persons in contemporary American society. Personality change and the aging process.

HUMS 271  HUMAN SERVICES FOR THE OLDER ADULT
3 credits. 3 hours.
Techniques and strategies for assisting the elderly in their daily living. Community resources for independent living. Prevention of mental and physical health problems for the aged. Long-term care facilities. Appropriate placement and management.

HUMS 275  ALCOHOL AND DRUG ADDICTION
3 credits. 3 hours.
Exploration of the field of alcohol and drug use. Biological, physical, psychological, and social causation theories. Classification of various drugs of abuse and their effects on individuals, families, employment, crimes, and socialization patterns. Dynamics of addiction related to stimulants, depressants, narcotics, and hallucinogens.

HUMS 280  ADDICTION COUNSELING WITH SPECIAL POPULATIONS
3 credits. 3 hours.
Prerequisite: HUMS 275 or CRJU 275.
Cultural, racial, age, and sex differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.
HUMS 285  ADDICTION CLIENT MANAGEMENT
3 credits. 3 hours.
Prerequisite: HUMS 280 or CRJU 280.
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.

HUMANITIES

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<tr>
<th>Blue River</th>
<th>Longview</th>
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<tr>
<td>Sharon Bagg</td>
<td>David Miller</td>
<td>Clifford Naysmith</td>
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<td>Joseph Walwik</td>
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HUMN 133  WESTERN CIVILIZATION I
3 credits. 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  WESTERN CIVILIZATION II
3 credits. 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 condition.

HUMN 140  HUMANITIES FOR TODAY
3 credits. 3 hours.
World art, literature, music, history, and philosophy as they clarify the nature and quality of life in the 20th century.

HUMN 140  HUMANITIES FOR TODAY THROUGH THE ARTS (PACE)
4 credits. 4 hours.
World art, literature, music, history, and philosophy as they clarify the nature and quality of life in the 20th century. Part of the instruction given by videotape.

HUMN 145  COMPARATIVE HUMANITIES: MYTH THROUGH TIME (PACE)
4 credits. 4 hours.
Traces the transformations of myth from its primitive origins through the Middle Ages. Focuses on the Faust myth from 16th through 20th centuries as symbol for Western man in art, music, drama and poetry. Understanding mythology’s role in human history. Part of instruction given by video tape.

HUMN 160  AMERICAN HUMANITIES
3 credits. 3 hours.
Prerequisite: ENGL 101.
Nontechnical approach to selected works in American literature, art, and music. Consideration of the ways in which artists, writers, and musicians have reacted to certain events in American life.

HUMN 160  AMERICAN HUMANITIES: CULTURAL IDENTITIES AND VISIONS OF AMERICA (PACE)
4 credits. 4 hours.
Selected works of American art, literature, and music reflecting the lives of people in given historical settings.

HUMN 165  AMERICAN HUMANITIES: DIVERSITY IN THE AMERICAN EXPERIENCE
3 credits. 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 200-208 HONORS SEMINAR I-VIII
1 credit. 1 hour.
Prerequisites: Enrollment in the Honors Program.
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 change every semester. An interdisciplinary approach is used.
INDUSTRIAL TECHNOLOGY

Offered at the Business & Technology Center through Maple Woods
William Franken

INTE 101 INTRDUCTION TO INDUSTRIAL TECHNOLOGIES
1 credit. 1.5 hours. (Laboratory: 1 hour)
An industrial technology career seminar. Students will explore the work environment, requirements, and career opportunities of major technologies. Students will interact with industry by way of tours and hands-on experience.

INTE 110 INDUSTRIAL ELECTRICAL PRINCIPLES
3 credits. 4 hours. (Laboratory: 2 hours)
The course is an introductory course for the individual who is moving into industrial maintenance or related activity. Behavior of electricity, sources of electricity, Ohms and Watts laws, electrical power distribution, transformers, electrical safety, electrical measurements, and basic components are covered.

INTE 122 LAYOUT AND FABRICATION
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Satisfactory score on mathematics placement test.
Layout procedures for metal fabrication, cutting, drilling, and selection of taps and dies. Fasteners, measurement and preparation of structural steels, welding setup, leveling fabrications, aligning, grouting, precision fitting of couplings, gears, and drives. Sheet metal layout and fabrication.

INTE 140 FUNDAMENTALS OF INDUSTRIAL MAINTENANCE
3 credits. 4 hours. (Laboratory: 2 hours)
The course is designed to present the fundamentals of the care and maintenance on a wide range of industrial equipment, including chain and gear drives, couplings, and fluid power equipment. Lubricants and lubrication will be covered. The replacement of seals and bearings will be covered. Correct application and selection of tools.

INTE 142 NATIONAL ELECTRIC CODE (NEC)
3 credits. 3 hours.
Prerequisite: Completion of INTE 110.
The course is designed to present the requirements of the National Electric Code. Topics include regulatory requirements, codes, wiring requirements, conduit, hazardous locations, overcurrent protection, motor protection, installations, and safety.

INTE 150 INTRODUCTION TO FLUID POWER
3 credits. 4 hours. (Laboratory: 2 hours)
An introduction to fluid power. Topics include the physics of fluid power, safety, hydraulic and pneumatic pumps, actuators, pressure and flow regulation, basic maintenance, coolers and lubricants, and system operation.

INTE 151 INDUSTRIAL RIGGING
3 credits. 4 hours. (Laboratory: 2 hours)
The course is designed to present the safe and correct ways to rig and hoist equipment. Topics include fiber and wire rope, rope fundamentals, wire rope maintenance, cranes, braking, grounding, center of gravity, nets, clings, hooks, and ladders.

INTE 166 INTRODUCTION TO WELDING TECHNOLOGY
2 credits. 3 hours. (Laboratory: 2 hours)
This course is designed to present welding techniques and standards approved by the American Welding Society. V-groove joints are taught. Various electrodes are presented and used. Metal cutting using Oxy fuel will be presented.

INTE 167 WELDING I SMAW
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: A general understanding of the properties of metals and general safety.
The course is designed to cover SMAW techniques commonly used in the welding industry. Various types of V groove joints are taught. Different kinds of electrodes are taught and used. The course has an introduction to the technique for pipe welding using the SMAW process.

INTE 168 WELDING II SMAW
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: INTE 167.
The course is designed to cover advanced SMAW techniques commonly used in the welding industry. Various types of V groove joints are taught. Different kinds of electrodes are taught and used. The course has an introduction to the technique for pipe welding using the SMAW process.

INTE 175 ELECTRIC MOTOR CONTROLS I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: INTE 110.
The course is designed to present the fundamentals of
electrical 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 253  AIR LOGIC CONTROLS**
3 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisite: INTE 175.*
The course presents the fundamentals of the family of control components and circuits that are air actuated. Topics include logical components, air lines, air sources, line losses, filtering, circuits, and system diagnosis.

**INTE 260  PIPE FITTING FUNDAMENTALS**
3 credits. 4 hours. (Laboratory: 2 hours)

**INTE 271  PROGRAMMABLE LOGIC CONTROLLERS**
3 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisites: INTE 110 and 175.*
The course is designed to provide the individual with an ability to understand the various input-output methods, programming and troubleshooting techniques using the programmable controller (PLC). I-O methods for DC-AC and analog, ladder programming and analysis, logical functions, timers and counters, forcing, and troubleshooting techniques are among the specific topics covered.

**INTE 273  VARIABLE SPEED MOTOR DRIVES AND CONTROLLERS**
3 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisites: INTE 175 and 271.*
The course will cover the theory and application of the theory, elements, and operation of the methods used to control the speed of AC and DC electric motors using solid state devices. Thyristor and transistor controller circuits, variable phase circuit, three-phase triggered circuits, and frequency synthesis circuits are covered.

**INTE 275  ELECTRIC MOTOR CONTROLS II**
3 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisite: INTE 175.*
This is the second course in electric motor controls. Topics include timers, proximity sensors, reversing controls, reduced voltage starters, deceleration methods, torque speed relationships and power distribution, and preventative maintenance.

**INTE 276  ELECTRICAL TROUBLESHOOTING**
3 credits. 6 hours. (Laboratory: 4 hours)
*Prerequisite: INTE 275 or equivalent.*
The course is designed to present the systematic approaches to electrical troubleshooting. An emphasis is placed on electrical and electromechanical controls. Discussions of trouble analysis will be followed by the student’s analyzing various introduced troubles into control systems. Replacement of components are covered.

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**INTERIOR DESIGN**

*Offered at Johnson County Community College Coordinated throughout MCC*

**ITMD 121  INTERIOR DESIGN I**
3 credits. 3 hours.
This course provides basic introductory knowledge about interior design. Upon successful completion of this course, the student should be able to understand the significance of interior design, complete projects using the elements and principles of design and color theory in interior spaces, use space planning skills to arrange furniture on a floor plan, and present the floor plan and its decorative scheme.

**ITMD 122  INTERIOR DESIGN II**
3 credits. 3 hours.
*Prerequisites: ITMD 121 and DRAF 261.*
This is an advanced course focusing on residential design. Upon successful completion of this course, the student should be able to demonstrate an advanced level of furniture arrangement on a floor plan; develop color schemes that will solve specific assigned decorating problems; demonstrate the ability to coordinate fabrics, colors, texture, patterns and finishes in a complete floor plan for a residential unit; and produce floor plans enhanced by color and shadow.

**ITMD 125  INTERIOR TEXTILES**
3 credits. 4 hours. (Laboratory: 2 hours)
This course is a comprehensive study of textiles used in interior design. Upon successful completion of this course, the student should be able to differentiate fibers and textiles according to their specific characteristics and to select fibers and interior textiles for specific applications. Specific course content includes properties and characteristics of natural and man-made fibers, construction methods, and various finishing processes such as weaving, knitting, felting, printing, and dyeing. The course will concentrate on textiles designed for interior applications.

**ITMD 127  ELEMENTS OF FLORAL DESIGN**
1 credit. 1.5 hours integrated lecture/lab
This course provides in-depth knowledge and hands-on application of floral design. Upon successful completion of this course, the student should be able to use the principles of floral design, develop proficiency in the techniques of line and mass arrangements, obtain an enhanced appreciation for flowers and other plant material, use the mechanics and design considerations involved in working with silk and dried materials, and design and create silk and dried floral arrangements.
ITMD 132  INTERIOR PRODUCTS
3 credits. 3 hours.
This course provides in-depth knowledge about products used in interior spaces. Upon successful completion of this course, the student should be able to evaluate the quality of interior products; demonstrate the ability to use catalogs and other product information resources; identify manufacturing and/or construction techniques used in products; use correct terminology to describe the various types of interior products; and compare design, use, durability and cost of products.

ITMD 133  FURNITURE AND ORNAMENTATION/ANTIQUITY TO RENAISSANCE
3 credits. 3 hours.
This course provides in-depth knowledge in the study of Western furniture and ornament. Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs, and textiles of historical periods from antiquity to the Renaissance. Additionally, the student should be able to define the religious, political and social influences on the ornamentation and furnishing of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each historical period and to correctly use vocabulary related to each era.

ITMD 140  DRAPERIES, TREATMENTS AND CONSTRUCTION
1 credit. 1 hour.
**Prerequisites:** ITMD 121 and 125. **Corequisite:** ITMD 275.
This course provides comprehensive knowledge about draperies, treatments and construction. Upon successful completion of this course, the student should be able to demonstrate the use of correct vocabulary relating to drapery and window treatments, explain the use of equipment used in the drapery industry, distinguish appropriate textiles and hardware for specific window treatments, measure for window treatments, and describe and select the proper suspension system for specific window treatments. The student will measure, select and present the proper style, fabric and suspension system for a specific window treatment.

ITMD 145  UPHOLSTERY CONSTRUCTION
1 credit. 1 hour.
**Prerequisites:** ITMD 121 and 125. **Corequisite:** ITMD 275.
This course provides comprehensive knowledge about upholstery construction. Upon successful completion of this course, the student should be able to demonstrate the use of correct vocabulary relating to upholstery construction, explain the equipment used in the upholstery industry, identify appropriate textiles and materials for upholstery use, and describe the various suspension systems used in bench-constructed and mass-produced furniture.

ITMD 147  LIGHTING DESIGN AND PLANNING
1 credit. 1 hour.
**Prerequisites:** ITMD 121.
This course provides in-depth knowledge about lighting design and planning. Upon successful completion of this course, the student should be able to define and use vocabulary relating to lighting design and planning. The student should be able to recognize and explain lighting application and technology used in the lighting industry. Additionally, the student should be able to identify and describe proper fixtures and equipment for lighting applications and demonstrate skills in selecting proper lighting designs for specific applications.

ITMD 148  FURNITURE AND ORNAMENTATION/ORIENTAL
3 credits. 3 hours.
Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles from the Renaissance to the 20th century. Additionally, the student should be able to define social, religious and political influences on the ornamentation of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each period and use correct vocabulary related to each era.

ITMD 223  CONTRACT DESIGN
3 credits. 4 hours. (Laboratory: 3 hours)
**Prerequisites:** ITMD 122 and DRAF 264.
Upon successful completion of this course, the student should be able to explain the differences between residential and contract design; demonstrate the use of interior design skills to convert, redesign and create contract design space; explain the concept of open office planners; and compare and analyze the costs and benefits of open planning vs. closed planning.

ITMD 231  FURNITURE AND ORNAMENTATION/RENAISSANCE TO 20TH CENTURY
3 credits. 3 hours.
Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles from the Renaissance to the 20th century. Additionally, the student should be able to define social, religious and political influences on the ornamentation of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each period and use correct vocabulary related to each era.

ITMD 234  KITCHEN AND BATH: PLANNING AND DESIGN
3 credits. 2 hours. (Laboratory: 1 hour)
**Prerequisites:** DRAF 264 and ITMD 122.
Upon successful completion of this course, the student should be able to define and use vocabulary related to kitchen and bath design and construction; identify and use proper architectural symbols common to kitchen
and bath floor plans and elevations; state the space relationships required for proper kitchen and bath usage; and draw kitchen and bath floor plans and elevations. Additionally, the student should be able to identify and explain the work triangle, structural detail, cabinetry and appliances in kitchen design and wet walls, cabinetry, structural detail and plumbing in bath planning.

**ITMD 239 CAPSTONE: PORTFOLIO AND PRESENTATION**

2 credits. 2 hours.

*Corequisites: ITMD 223 and 234.*

Upon successful completion of this course, the student should be able to select and rework portfolio materials for maximum visual potential and appeal. In addition, the student will prepare a résumé, conduct a job search, and present written and oral presentations based on resource and product files from other classes. The course is designed as a capstone for the interior merchandising program. It should be taken in conjunction with or after completion of the final interiors studio course or in the graduating semester.

**ITMD 273 INTERIOR MERCHANDISING SEMINAR: PRACTICES AND PROCEDURES**

2 credits. 2 hours.

*Prerequisite: ITMD 121.*

Upon successful completion of this course, the student should be able to describe methods of pricing interior design merchandising materials and services; measure accurately for materials; demonstrate the use of business math in interior design/merchandising applications; and compute cost in cases.

**ITMD 275 INTERIORS SEMINAR: BUDGET AND ESTIMATING**

2 credits. 2 hours.

*Prerequisite: ITMD 121.*

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the interiors industry. A minimum of 15 hours each week on-the-job training is required.

**ITMD 295 FIELD STUDY: DESIGN AND MERCHANDISING**

3 credits.

*Prerequisites: ITMD 121 and approval of the division administrator.*

This travel-for-credit course consists of visits to manufacturing plans, a market showroom and a merchandise mart in a major market city. Summer.

**ITMD 296 INTERIOR DESIGN: THE ORIENT**

3 credits.

Upon successful completion of this course, the student should be able to recognize and identify Asian furniture pieces and accessories from different countries; define and use vocabulary common to the art periods; and compare and contrast furniture and accessory pieces observed in museums, temples, homes, and antique stores. This course will include five three-hour pre-departure seminars, followed by a three-week field trip to Japan, Hong Kong and Thailand. Summer.

**LAND SURVEYING**

**SRVY 135 ELEMENTARY SURVEYING**

3 credits. 4 hours. (Laboratory: 2 hours)

*Prerequisite: MATH 130.*


**SRVY 136 ANALYSIS OF SURVEY MEASUREMENTS**

3 credits. 3 hours.

*Prerequisite: SRVY 135 with a minimum grade of C.*

Introduction to the true nature of surveying instruments and their use. Analysis of the effect that instruments and observers have on the measurements. Explanation of random error propagation, estimates of uncertainty, and dealing with this phenomena. Introduction to adjustments of measurement data.

**SRVY 137 SUBDIVISION PLANNING AND LAYOUT**

3 credits. 3 hours.

*Prerequisites: SRVY 135 and DRAF 152 with a minimum grade of C.*

Physical elements of designing land subdivisions including circulation, sewer and drainage systems, soils and earthwork, grading considerations, erosion control, lot and block arrangement, topography and existing land use factors, geometric analysis. Laws affecting land subdivisions, environmental considerations, and site analysis procedures.
SRVY 139  ROUTE AND CONSTRUCTION SURVEYING  
3 credits. 3 hours.  
Prerequisite: SRVY 135 with a minimum grade of C.  
A survey of equipment and methods used in laying out engineering construction projects with an emphasis on the methodology, computations, and note keeping techniques required.

SRVY 235  ADVANCED SURVEYING  
3 credits. 3 hours.  
Prerequisite: SRVY 135 with a minimum grade of C.  
This course is a continuation of surveying skills introduced in SRVY 135 with an emphasis on advanced techniques beyond plane surveying such as high order control networks, practical astronomy, and photogrammetry.

SRVY 236  LEGAL ASPECTS OF SURVEYING  
3 credits. 3 hours.  
Prerequisites: SRVY 135.  
A study of the legal principles of land boundaries, section corners, area; writing land descriptions, identification of land parcels; legal principles of boundary location, and the government land survey system.

SRVY 237  LAND SURVEYING  
3 credits. 3 hours.  
Prerequisites: SRVY 135 and 236.  
A study of the land survey practice of retracement and creation of new parcels as it relates to the lot survey, the sectional survey, and the water boundary survey. Further standard business practice will be discussed.

MACHINE TOOL TECHNOLOGY

Offered at the Business & Technology Center through Maple Woods  
James Shimel  Penny Tepesch

MATE 100  INTRODUCTION TO MACHINE TOOL TECHNOLOGY  
2 credits. 3 hours. (Laboratory: 2 hours)  
Machine tool technicians and the machine shop environment. History, conditions, setting, and future of the trade.

MATE 101  MACHINING AND TOOLING I  
5 credits. 8 hours. (Laboratory: 6 hours)  
Prerequisite: MATE 100.  
General machine shop bench work utilizing hand tools. Basic machining techniques utilizing lathes, milling machines, and power saws.

MATE 102  MACHINING AND TOOLING II  
5 credits. 8 hours. (Laboratory: 6 hours)  
Prerequisite: MATE 101.  
Advanced techniques for using power lathes and milling machines. Shaping metals precisely to blueprint specifications.

MATE 103  MACHINING AND TOOLING III  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: MATE 100, 101, and 102.  
Advanced techniques in machining parts (and assembly of those parts) and introduction to cutter grinding.

MATE 104  MACHINING AND TOOLING IV  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: MATE 103.  
Live group production. Selection, procurement, and handling of materials. Part plans and production. Assembly and finishing. Time and cost estimates. Special tooling requirements.

MATE 105  MACHINING AND TOOLING INTERNSHIP I  
3 credits. 3 hours.  
Prerequisite: MATE 100, 101, and 102.  
Supervised on-the-job training in a machine shop where students will have an opportunity to perfect machining and tooling techniques and job responsibilities learned in prior courses.

MATE 106  TOOL DESIGN  
4 credits. 6 hours. (Laboratory: 4 hours)  
Prerequisites: MATE 101 and DRAF 152.  
Developing jigs, fixtures, and other tooling devices necessary for efficient and economical manufacturing.

MATE 107  MACHINERY’S HANDBOOK  
3 credits. 3 hours  
Machinery, machining, and mechanics as presented in Machinery’s Handbook.

MATE 108  DIEMAKING I  
4 credits. 6 hours. (Laboratory: 3 hours)  
Prerequisite: ENGR 129 or MATE 102 and 106.  
Basic concepts of diemaking. Pierce, blank, and bending dies. Pilots strippers and die life.

MATE 109  DIEMAKING II  
4 credits. 6 hours. (Laboratory: 3 hours)  
Prerequisite: MATE 108.  

MATE 110  BASIC NUMERICAL CONTROL PROGRAMMING AND OPERATION  
3 credits. 5 hours. (Laboratory: 4 hours)  
Principles of numerical control and programming fundamentals. Application of numerical control programming to machine tools.

MATE 111  SPECIAL PROBLEMS AND PROJECTS IN MACHINE TOOL  
1 credit. 1 hour.  
Independent study in Machine Tool related areas under the supervision of a faculty member.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATE 112</td>
<td>SPECIAL PROBLEMS AND PROJECTS IN MACHINE TOOL</td>
<td>2</td>
<td>2</td>
<td>Independent study in Machine Tool related areas under the supervision of a faculty member.</td>
</tr>
<tr>
<td>MATE 113</td>
<td>SPECIAL PROBLEMS AND PROJECTS IN MACHINE TOOL</td>
<td>3</td>
<td>3</td>
<td>Independent study in Machine Tool related areas under the supervision of a faculty member.</td>
</tr>
<tr>
<td>MATE 200</td>
<td>JIG AND FIXTURE DESIGN</td>
<td>3</td>
<td>4</td>
<td>Prerequisite: ENGR 129 or MATE 102 and 106. Design concepts of workholding devices. Types of jigs and fixtures commonly used and principles of designing them.</td>
</tr>
<tr>
<td>MATE 202</td>
<td>BASIC PNEUMATICS</td>
<td>3</td>
<td>4</td>
<td>Principles of pneumatic power fluids, interpretation of piping layouts and symbols, system components and uses, reciprocating and rotary compressors, preparation and transmission of air, and trouble shooting are the areas covered.</td>
</tr>
<tr>
<td>MATE 203</td>
<td>PROCESS PLANNING AND PRODUCTION PROBLEMS</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: Approval of instructor. Various problems encountered in establishing the physical setting of a modern machine shop/manufacturing plant, including arrangement of equipment, systems of production, safety, maintenance of equipment, and facilities.</td>
</tr>
<tr>
<td>MATE 205</td>
<td>MACHINING AND TOOLING INTERNSHIP II</td>
<td>3</td>
<td>3</td>
<td>Prerequisite: MATE 100, 101, 102, and 105. Supervised on-the-job training in a machine shop where students will have an opportunity to perfect machining and tooling techniques and job responsibilities learned in prior courses.</td>
</tr>
<tr>
<td>MATE 210</td>
<td>COMPUTERIZED NUMERICAL CONTROL</td>
<td>3</td>
<td>4</td>
<td>Prerequisites: MATE 102 and 106. Manual part programming and computer-assisted part programming.</td>
</tr>
<tr>
<td>MATE 220</td>
<td>CNC MILLING AND TURNING CENTERS</td>
<td>2</td>
<td>4</td>
<td>Prerequisites: MATE 210 and MATH 104 or consent of instructor. This course is designed to introduce the student to industrial CNC programming as it applies to Computer Numerical Control turning and milling centers. An emphasis will be placed on machine controls, CAD/CAM, and troubleshooting of part programs. The instruction will include classroom, demonstrations, and lab exercises.</td>
</tr>
</tbody>
</table>

### MASS COMMUNICATIONS

**Penn Valley**

**MSCM 112 INTRODUCTION TO MODERN COMMUNICATIONS**

3 credits. 3 hours.
Historical study of content, structure, and control of modern communications in American society, providing a criteria for evaluating media content relative to the nature and consequences of news, entertainment, and advertising.

**MSCM 113 BASIC RADIO PRODUCTION**

3 credits. 4 hours. (Laboratory: 2 hours)
Principles and techniques of developing, producing and directing various types of radio programs in the areas of public service, commercial spots, news and sports. Basic operation of radio production equipment.

**MSCM 114 RADIO PRODUCTION II**

3 credits. 4 hours. (Laboratory: 1 hour)
Prerequisite: MSCM 113. Radio station operation, management techniques, and program concepts. Contemporary radio broadcast formats and contemporary issues.

**MSCM 115 TELEVISION PRODUCTION I**

3 credits. 4 hours. (Laboratory: 2 hours)
Principles and techniques of developing, producing, and directing various types of television programs in the areas of public service, commercial spots, panel shows, news, and sports programs. Basic operation of television equipment.

**MSCM 116 TELEVISION PRODUCTION II**

3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: MSCM 115. Television studio production procedures and advanced techniques. Producing programs of various kinds.

**MSCM 137 BROADCAST PERFORMANCE**

3 credits. 3 hours.
Introduction to performance problems encountered in broadcasting. General performance situations and techniques.

**MSCM 174 ELECTRONIC JOURNALISM**

3 credits. 3 hours.
News gathering, production, and performance for the electronic media.
MSCM 200  RADIO/TELEVISION INTERNSHIP  
1-6 credits. 5-30 hours.  
Prerequisite: Six credits in MSCM or approval of instructor.  
Supervised on-the-job training at radio stations, television stations, or newspapers.

MSCM 201  INTRODUCTION TO PUBLIC RELATIONS  
3 credits. 3 hours.  
Prerequisite: ENGL 104 or approval of the instructor.  
History, scope, ethics, and functions of public relations practices. Ways of gaining public support for an activity, cause, movement, or institution.

MSCM 299  EDITING TECHNIQUES  
2 credits. 3 hours. (Laboratory: 2 hours)  
Introduction to the equipment and techniques of editing three-quarter inch videotape with practical hands-on experience.

**MATHEMATICS**

<table>
<thead>
<tr>
<th>Longview</th>
<th>Maple Woods</th>
<th>Penn Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Brown</td>
<td>Kimberly Christensen</td>
<td>Tim Chappel</td>
</tr>
<tr>
<td>John Church</td>
<td>Martha Haeih</td>
<td>Joan Henson</td>
</tr>
<tr>
<td>Kenneth Eichman</td>
<td>Cheryl Lewkowsky</td>
<td>Nic LaHue</td>
</tr>
<tr>
<td>Randy Gupta</td>
<td>Robert Skukrud</td>
<td>Gregory Mitchell</td>
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<tr>
<td>Sharon Hamsa</td>
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<tr>
<td>Janet Wyatt</td>
<td>Blue River</td>
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</tr>
<tr>
<td>Min Zeng</td>
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</tr>
</tbody>
</table>

**NOTE:** Courses numbers under 100 do not apply to any degree or certificate.

MATH 20  BASIC MATHEMATICAL OPERATIONS  
3 credits. 3 hours.  
Review of basic arithmetic operations. Fractions, decimals, proportion, and percentages. Credit for courses numbered under 100 is not applicable to any degree or certificate.

MATH 23  BASIC MATHEMATICS/LAB  
3 credits. 5 hours. (Laboratory: 3 hours)  
Review of basic mathematical operations. Fractions, decimals, proportion, and percentages. Elementary geometry (perimeter, area, and volume).

MATH 40  INTRODUCTORY ALGEBRA  
3 credits. 3 hours.  
Prerequisite: Minimum grade of C in MATH 20, or a satisfactory score on the math placement test.  
Sets and functions through quadratics. Fundamental operations. Structure of the number system. Solving linear equations, operations on polynomials, exponents, and rational expressions. Credit for courses numbered under 100 is not applicable to any degree or certificate.

MATH 43  INTRODUCTORY CO-LABORATORY ALGEBRA  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: A grade of C or better in MATH 20, or an acceptable score on the math placement test.  
Review of operations and properties of the Real Number System. Operations on polynomials, exponents, and rational expressions. Solving and graphing linear equations. Applications are emphasized throughout the course. Credit for courses numbered under 100 is not applicable to any degree or certificate.

MATH 100  MATHEMATICS FOR BUSINESS  
3 credits. 3 hours.  
Application of arithmetic and mathematical processes to the solution of practical problems in general business, retailing, accounting, consumer credit, and personal finance.

MATH 101  MATHEMATICS FOR BUSINESS (PACE)  
2 credits. 2 hours.  
A practical application of arithmetic and mathematical processes to the solution of problems concerning business, accounting, finance, taxes, statistics, and graphs. Plus, the ability to communicate these concepts and types of information to others. Part of instruction is given on video tape.

MATH 103  TECHNICAL MATHEMATICS I  
3 credits. 3 hours.  
Prerequisite: MATH 40 or appropriate score on placement exam.  
Algebraic expressions, linear equations and systems of linear equations, functions, exponents, graphical analysis, factoring, and quadratic equations.

MATH 104  TECHNICAL MATHEMATICS II  
3 credits. 3 hours.  
Prerequisite: MATH 103 with a minimum grade of C.  
Applied geometry, complex numbers, solutions of right and oblique triangles, ratio and proportion, radian measure, exponential and logarithmic functions, and applications.

MATH 105  TECHNICAL MATHEMATICS—AVMT  
4 credits. 4.8 hours (Laboratory: 1.2 hours)  
Prerequisite: MATH 40 or one year of high school algebra.

**MATH 106 TECHNICAL ALGEBRA AND TRIGONOMETRY**
5 credits. 5 hours.
Prerequisite: MATH 40 or appropriate score on placement exam.
Algebraic functions, factoring fractions, linear and quadratic equations, complex number exponents, and radicals. Trigonometric functions, solutions of right triangles, functions of the general angle, and graphs of trigonometric functions. Vectors, periodic functions, phasors, logarithms. Applications to technology.

**MATH 107 BASIC MATHEMATICAL CONCEPTS**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 40, or a satisfactory score on the placement test.
Critical thinking skills, number theory and the real number system, algebra, graphs and functions, systems of linear equations and inequalities, geometry, consumer mathematics, and statistics.

**MATH 107 BASIC MATHEMATICAL CONCEPTS: MATH FOR EVERYDAY LIVING (PACE)**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 40, or a satisfactory score on the placement test.
Practical mathematics for students who do not plan to major in mathematics, engineering, or science. Critical thinking skills, number theory and the real number system, algebra, graphs and functions, systems of linear equations and inequalities, geometry, consumer mathematics, and statistics.

**MATH 108 CLINICAL MATHEMATICS**
1 credit. 1 hour.

**MATH 110 INTERMEDIATE ALGEBRA**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 40 or MATH 43 or a satisfactory score on the math placement test.
Fundamental operations, polynomials, stated problems, inequalities, factoring, fractions, exponents, radicals, functions and their graphs, systems of linear equations, quadratic equations, ratio, proportion, and variation.

**MATH 111 STATISTICS**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 110 or satisfactory score on math placement test.
Descriptive statistics, ungrouped and grouped data, elementary probability, discrete and continuous distribution, statistical inference, regression, and correlation analysis.

**MATH 118 ALGEBRA (PACE)**
4 credits. 4 hours.
Prerequisite: Minimum grade of C in MATH 40 or 107, or a satisfactory score on the math placement test.

**MATH 119 COLLEGE MATHEMATICS**
3 credits. 3 hours.
Prerequisite: Math 110 with C or better or an appropriate placement test score.
College Mathematics is a course designed for students seeking a liberal arts education. The objective of this course is to provide the students with a mathematical experience that will include topics from algebra, geometry, probability, and statistics with an emphasis on applications.

**MATH 120 COLLEGE ALGEBRA**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 110 or 118 or satisfactory score on the placement test.
A study of various types of equations and inequalities, functions and their inverses, theory of higher degree equations, systems of equations, determinants, logarithms and exponentials, and applications.

**MATH 130 TRIGONOMETRY**
3 credits. 3 hours.
Prerequisite: Minimum grade of C in MATH 120, or satisfactory score on the placement test. Plane geometry is strongly recommended.
Angle based trigonometric functions and their inverses, multiple angle formulas, identities, conditional equations, radian measure, arc length, angular velocity, function graphing, logarithms, and tables. Solution of triangles.

**MATH 141 DISCRETE STRUCTURES FOR COMPUTER SCIENCE I**
3 credits. 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.
Prerequisite: Minimum grade of C in MATH 110 or satisfactory score on the placement test.
This course is specifically designed to prepare students for calculus. Topics include polynomial and rational functions; the factor theorem and the fundamental theorem of algebra; exponential, logarithmic, and trigonometric functions; trigonometric equations, identities, and their applications; and systems of equations.
MATH 175  CALCULUS FOR BUSINESS AND SOCIAL SCIENCE  
3 credits. 3 hours.  
Prerequisite: MATH 120 with a minimum grade of C.  
Quadratic, polynomial, rational, exponential, and logarithmic functions used in differential and integral calculus applications in business, economics and social science.

MATH 180  ANALYTIC GEOMETRY AND CALCULUS I  
5 credits. 5 hours.  
Prerequisites: MATH 130 or 150 with a minimum grade of C.  
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.  
Prerequisites: MATH 180 with a minimum grade of C.  
A study of the calculus of elementary transcendental functions; integration by parts, by trigonometric substitution, by partial fraction and by miscellaneous substitutions; improper integrals; LHôpital’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.  
Prerequisite: Approval of the instructor.  
Mathematical topics of special interest.

MATH 197  SPECIAL TOPICS II  
1-3 credits. 1-3 hours.  
Prerequisite: MATH 196 and the approval of the instructor.  
Mathematical topics of special interest.

MATH 198  SPECIAL TOPICS III  
1-3 credits. 1-3 hours.  
Prerequisites: MATH 197 and approval of the instructor.  
Mathematical topics of special interest.

MATH 199  SPECIAL TOPICS IV  
1-3 credits. 1-3 hours.  
Prerequisites: MATH 198 and approval of the instructor.  
Mathematical topics of special interest.

MATH 206  TECHNICAL ANALYTIC GEOMETRY AND APPLIED CALCULUS  
4 credits. 4 hours.  
Prerequisite: MATH 106 with a minimum grade of C.  

MATH 210  ANALYTIC GEOMETRY AND CALCULUS III  
5 credits. 5 hours.  
Prerequisite: MATH 190 with a minimum grade of C.  
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.  
Prerequisite: MATH 210 with a minimum grade of C.  
Solution and application of ordinary differential equations including nth order nonhomogeneous linear cases, Laplace transform, and power series methods.

MATH 241  DISCRETE STRUCTURES FOR COMPUTER SCIENCE II  
3 credits. 3 hours  
Prerequisites: MATH 141 and CSIS 131.  
Lattice structures and graph theory, algorithms and complexity, recurrence relations, introduction to computability theory, and abstract machines. The theory introduced will be applied to appropriate areas of computer science.

MEDICAL TRANSCRIPTION

MTRN 101  MEDICAL TRANSCRIPTION I  
5 credits. 7 hours. (Laboratory: 4 hours)  
Prerequisites: ENGL 101 and OFSC 195.  
Introduction to the transcription of medical record reports using correct terminology, punctuation, and format.

MTRN 112  MEDICAL TRANSCRIPTION II  
5 credits. 10.7 hours. (Laboratory: 2 hours; clinical: 6.7 hours)  
Prerequisites: HITE 103 and MTRN 101, each with a minimum grade of C, and concurrent enrollment in MTRN 113.  
Development of transcription skills including medical vocabulary, punctuation, monitoring for quality, and productivity. Selection of word processing and dictation equipment.

MTRN 113  MEDICAL TERMINOLOGY FOR MEDICAL RECORDS I  
3 credits. 3 hours.  
Prerequisites: BIOL 108, HITE 103, and MTRN 101, each with a minimum grade of C.  
Advanced study of medical terms including those used in specialties such as radiology, pathology, cardiology, obstetrics, neurology, and surgery.
## MUSIC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 101</td>
<td>MIXED CHORUS I</td>
<td>1</td>
<td>3</td>
<td>Open to all students interested in group singing. Performance of various types of choral music in public.</td>
</tr>
<tr>
<td>MUSI 102</td>
<td>MIXED CHORUS II</td>
<td>1</td>
<td>3</td>
<td>Open to all students interested in group singing. Performance of various types of choral music in public.</td>
</tr>
<tr>
<td>MUSI 103</td>
<td>BAND I</td>
<td>1</td>
<td>4</td>
<td>Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.</td>
</tr>
<tr>
<td>MUSI 104</td>
<td>BAND II</td>
<td>1</td>
<td>4</td>
<td>Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.</td>
</tr>
<tr>
<td>MUSI 105</td>
<td>ORCHESTRA I</td>
<td>1</td>
<td>4</td>
<td>The orchestra will rehearse and perform orchestral music with emphasis on various styles of symphonic repertoire including standard and contemporary. Open to all students interested in playing in a community orchestra.</td>
</tr>
<tr>
<td>MUSI 106</td>
<td>ORCHESTRA II</td>
<td>1</td>
<td>4</td>
<td>The orchestra will rehearse and perform orchestral music with emphasis on various styles of symphonic repertoire including standard and contemporary. Open to all students interested in playing in a community orchestra.</td>
</tr>
<tr>
<td>MUSI 108</td>
<td>MUSIC APPRECIATION</td>
<td>3</td>
<td>3</td>
<td>Elements of music for students with limited musical background. Instruments, musical styles. Analysis of the works of the great composers with an emphasis on developing musical listening skills.</td>
</tr>
<tr>
<td>MUSI 109</td>
<td>MUSIC THEORY I</td>
<td>4</td>
<td>5</td>
<td>(Studio: 2 hours) Prerequisite: MUSI 107 with a minimum grade of C. Written harmony, ear training, sightsinging, dictation, and keyboard harmony. Melodic and harmonic relationships through study of intervals. Scales, triads, chords of the seventh and their inversions, nonharmonic tones including suspension, appoggiatura, and passing tones. Practical application in sightsinging, in ear training, and at the piano keyboard.</td>
</tr>
<tr>
<td>MUSI 111</td>
<td>MUSIC THEORY II</td>
<td>4</td>
<td>5</td>
<td>Prerequisite: MUSI 109. Written harmony, ear training, sightsinging, dictation, and keyboard harmony. Secondary triads and inversions, secondary sevenths, and secondary dominants and inversions. Nonharmonic tones including suspensions, pedal tones, and added sixths. Modulation by secondary dominants to closely related keys.</td>
</tr>
<tr>
<td>MUSI 112</td>
<td>CLASS PIANO I</td>
<td>2</td>
<td>3</td>
<td>Prerequisite: Some experience with note reading in at least one clef and with rhythmic notation. A practical approach to keyboard techniques including harmonization, transposition, and sight reading.</td>
</tr>
<tr>
<td>MUSI 114</td>
<td>PRIVATE INSTRUCTION I</td>
<td>1-2</td>
<td>1-2</td>
<td>Prerequisites: Approval of the instructor. Private instruction in 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.</td>
</tr>
<tr>
<td>MUSI 115</td>
<td>PRIVATE INSTRUCTION II</td>
<td>1-2</td>
<td>1-2</td>
<td>Prerequisites: MUSI 114 and approval of the instructor. Private instruction in 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.</td>
</tr>
<tr>
<td>MUSI 116</td>
<td>EVOLUTION OF JAZZ</td>
<td>3</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>MUSI 117</td>
<td>SPECIAL PROBLEMS IN MUSIC</td>
<td>1-3</td>
<td>1-3</td>
<td>Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).</td>
</tr>
</tbody>
</table>
MUSI 118  GROUP GUITAR FOR BEGINNERS  
1 credit. 2 hours. (Laboratory: 2 hours.)
Group instruction and performance experience for the
beginning guitar student. Fundamental approach to
guitar maintenance, tuning, finger technique, reading
music, and performing in a group atmosphere.

MUSI 119  JAZZ IMPROVISATION  
2 credits. 2 hours.
Prerequisites: MUSI 110, performance ability on an
instrument, and approval of the instructor.
Systematic approach for the instrumental performer to
the improvisation.

MUSI 120  CLASS VOICE I  
2 credits. 3 hours. (Studio: 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 123  CLASS PIANO II  
2 credits. 2 hours. (Studio: 2 hours)
Prerequisite: MUSI 112 with a minimum grade of C or
approval of the instructor.
Development of increased facility at the piano keyboard
through mastery of elementary exercises in harmoniza-
tion of melodies, sightreading, and transcription.

MUSI 125  CLASS GUITAR I  
2 credits. 3 hours. (Studio: 2 hours)
Hand positions, technique, and reading skills. Funda-
mentals of music. Improvisation applied to all styles of
music.

MUSI 126  CLASS GUITAR II  
2 credits. 3 hours. (Studio: 2 hours)
Prerequisite: MUSI 125.
Further development of reading skills and techniques.
Applied music theory. Improvisation applied to all
styles of music.

MUSI 127  CLASS PIANO III  
2 credits. 3 hours. (Studio: 2 hours)
Prerequisites: MUSI 123 with a minimum grade of C or
approval of the instructor.
Melodic harmonization, sightreading, and transposition.
Performance of piano literature of various periods.

MUSI 140  CLASS VOICE II  
2 credits. 3 hours. (Studio: 2 hours)
Prerequisite: MUSI 120.
Advanced sight singing in major and minor keys to
develop independence necessary for private voice
instruction. Elementary Italian art songs and more
difficult vocal repertoire in English.

MUSI 150  MIDI MUSIC PRODUCTION ON THE
COMPUTER  
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: One of the following: MUSI 107, 112,
114, or permission of the instructor.

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 201  ADVANCED MUSIC THEORY III  
4 credits. 5 hours. (Studio: 2 hours)
Prerequisite: MUSI 111.
Written harmony, ear training, sightsinging, dictation,
and keyboard harmony. Attention to all chromatically
altered chords, including diminished sevenths and
augmented sixths. Modulation to all keys. Analysis of
the Greek Modes. Emphasis on the analysis of 19th
century harmonic techniques. Opportunity for original
work. Practical application in sightsinging, in dictation,
and at the piano keyboard.

MUSI 202  ADVANCED MUSIC THEORY IV  
4 credits. 5 hours. (Studio: 2 hours).
Prerequisite: MUSI 201.
Chromatic alterations of secondary chords. Transposi-
tion. Emphasis on the analysis of 20th century harmonic
techniques. Original work in a free style.

MUSI 203  BAND III  
1 credit. 4 hours.
Open to all students interested in playing in an instru-
mental ensemble. Performance of various types of
instrumental music in public.

MUSI 204  BAND IV  
1 credit. 4 hours.
Open to all students interested in playing in an instru-
mental ensemble. Performance of various types of
instrumental music in public.

MUSI 205  INTRODUCTION TO MUSIC LITERATURE  
3 credits. 3 hours.
Prerequisite: MUSI 108.
Major composers, music literature, and musical forms
characteristic of various historical periods.

MUSI 206  CLASS PIANO IV  
2 credits. 2 hours. (Studio: 2 hours)
Prerequisite: MUSI 127 with a minimum grade of C or
approval of the instructor.
Melodic harmonization, sightreading, transcription,
accompanying, and reading from an open score.
Performance of piano literature of various periods.

MUSI 207  ORCHESTRA III  
1 credit. 4 hours. (Laboratory: 4 hours)
Prerequisite: Permission of instructor. Student must
furnish his or her own instrument.
The orchestra will rehearse and perform orchestral
music with emphasis on various styles of symphonic
repertoire including standard and contemporary. Open
to all students interested in playing in a community
orchestra.

MUSI 208  ORCHESTRA IV  
1 credit. 4 hours. (Laboratory: 4 hours)
Prerequisite: Permission of instructor. Student must
furnish his or her own instrument.
The orchestra will rehearse and perform orchestral music with emphasis on various styles of symphonic repertoire including standard and contemporary. Open to all students interested in playing in a community orchestra.

**MUSI 211 MIXED CHORUS III**
1 credit. 3 hours.
Open to all students interested in group singing.

**MUSI 212 MIXED CHORUS IV**
1 credit. 3 hours.
Open to all students interested in group singing.
Performance of various types of choral music in public.

**MUSI 214 PRIVATE INSTRUCTION III**
1-2 credits. 1-2 hours.
*Prerequisites: MUSI 115 and approval of the instructor.*
Private instruction in 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 215 PRIVATE INSTRUCTION IV**
1-2 credits. 1-2 hours.
*Prerequisites: MUSI 214 and approval of the instructor.*
Private instruction in 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.

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**NURSING**

See Practical Nursing, page 175, and Professional Nursing, page 176.

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**OCCUPATIONAL THERAPY ASSISTANT**

**OTHA 100 INTRODUCTION TO OCCUPATIONAL THERAPY**
2 credits. 2 hours.
*Prerequisite: Formal admission to the Occupational Therapy Assistant program.*
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.
*Prerequisite: Formal admission to the Occupational Therapy Assistant program.*
Guidelines for documentation of occupational therapy services.

**OTHA 103 CLINICAL CONDITIONS**
2 credits. 2 hours.
*Prerequisites: Formal admission to 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**
4 credits. 5.5 hours. (Laboratory: 3 hours).
*Prerequisites: Formal admission to the Occupational Therapy Assistant program.*
Use of techniques and low tech devices commonly used in occupational therapy practice to assist individuals in improving their performance of daily life tasks.
Introduction to architectural barriers.

**OTHA 108 ASSISTIVE TECHNOLOGY**
2 credits. 3 hours. (Laboratory: 2 hours)
*Prerequisites: BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106, and 116, each with a minimum grade of C.*
Hands-on introduction to high tech assistive technology and augmentative communication.

**OTHA 112 LEVEL I FIELDWORK I**
1 credit. 1.5 hours. (Clinical: 1 hour)
*Prerequisites: Formal admission to the Occupational Therapy Assistant program.*
Introduction to the role, policies, and procedures of fieldwork. Directed experience in a specified community setting.

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**OTHA 120 PEDIATRICS**
3 credits. 3 hours.
*Prerequisites: EMPT 102, BIOL 109, and OTHA 100, 102, 103, 106 and 116, each with a minimum grade of C.*
Occupational therapy practice as it relates to individuals from birth to early adolescence. Study of normal growth and development.

**OTHA 121 LEVEL I FIELDWORK II**
0.5 credits. 1 hour. (Clinical: 1 hour)
*Prerequisites: BIOL 109, EMPT 102, and OTHA 100, 102, 103, 106, and 116, each with a minimum grade of C; concurrent enrollment in OTHA 120.*
Directed experience in a specified community setting.

**OTHA 130 ANALYSIS OF PHYSICAL PERFORMANCE**
3 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisites: EMPT 102, BIOL 109, and OTHA 100, 102, 103, 106, and 116, each with a minimum grade of C.*
Analysis and evaluation of the components of physical performance and their relationship to functional activities.
OTHA 154  APPLIED NEUROLOGY
2 credits. 2 hours.
Prerequisites: BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106, and 116, each with a minimum grade of C, OR BIOL 210 and PTHA 152
Foundations of neuroscience necessary for practice as a rehabilitation professional. Anatomy and function of the nervous system. Correlation of clinical problems with pathology of the nervous system.

OTHA 173  SPECIAL TOPICS I
2 credits. 2 hours.
Prerequisites: Concurrent enrollment in PTA or OTA programs or completion of an associate's or advance 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. (Laboratory: 1 hour)
Prerequisites: American Institutions with a minimum grade of C.
Occupational therapy assessment and treatment techniques in the mental health setting.

OTHA 202  PHYSICAL DYSFUNCTION
3 credits. 3 hours.
Prerequisites: American Institutions with a minimum grade of C.
Occupational therapy assessment and treatment used with the physically and cognitively challenged populations.

OTHA 203  GERONTOLOGY
3 credits. 3 hours.
Prerequisites: American Institutions with a minimum grade of C.
Concepts and process of aging. The role of occupational therapy with the elderly.

OTHA 208  SPLINTING
2 credits. 3 hours. (Laboratory: 2 hours)
Prerequisites: American Institutions with a minimum grade of C.
Principles of splinting and guidelines for fabrication.

OTHA 212  LEVEL I FIELDWORK III
2 credits. 4 hours. (Clinical: 4 hours)
Prerequisites: Prerequisites: American Institutions with a minimum grade of C; concurrent enrollment in OTHA 201 and 202.
Directed experience in specified community settings.

OTHA 217  FIELDWORK SEMINAR
3 credits. 3 hours.
Prerequisites: American Institutions with a minimum grade of C.
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)
Prerequisites: OTHA 201, 202, 203, 208, 212, and 217, each with a minimum grade of C.
Directed clinical experience in different practice areas of occupational therapy.

OFFICE SYSTEMS
Longview  Maple Woods  Penn Valley
Marjorie Miller  Patricia Berge  Irene Forch
Juanita Ross

NOTE: Courses numbers under 100 do not apply to any degree or certificate.

OFSC 41  TYPEWRITER KEYBOARD
1 credit. 1 hour.
Introduction to the keyboard. Typing by touch. Courses numbers under 100 do not apply to any degree or certificate.

OFSC 101  BUSINESS ENGLISH
3 credits. 3 hours.
Review of fundamentals of grammar, sentence structure, punctuation, and capitalization.

OFSC 102  WRITING WITH THE PERSONAL COMPUTER
1 credit. 2 hours. (Laboratory: 2 hours)
Hands-on experience with the basic functions of creating and revising term papers. Use of automatic features such as spell check, grammar check, and style check.

OFSC 103  KEYBOARDING
2 credits. 3 hours. (Laboratory: 2 hours)
Development of the touch system of keyboarding skill on microcomputer alphabetic and numeric pads.
OFSC 141-144  SUPPORT SOFTWARE I, II, III, IV  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 161.  
Hands on approach to the application of computer software. Hardware, software, and disk maintenance.  
Keyboarding and function keys. Class schedule indicates the software package taught.  

OFSC 145-148  SUPPORT SOFTWARE I, II, III, IV  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 161.  
Hands on approach to the application of computer software. Hardware, software, and disk maintenance.  
Keyboarding and function keys. Class schedule indicates the software package taught.  

OFSC 159  PROFESSIONAL DEVELOPMENT  
3 credits. 3 hours.  
Self-assessment, career planning, job search skills, and development that includes problem solving, communication techniques, and professional appearance.  

OFSC 161  KEYBOARDING APPLICATIONS/TYPWRITING I  
3 credits. 4 hours. (Laboratory: 2 hours)  
Introduction to the keyboard using computers. Introduction to business letters, simple tabulations, and manuscripts.  

OFSC 162  KEYBOARDING APPLICATIONS/TYPWRITING II  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 161 or equivalent competency.  
Advanced practice in preparing business letters, tabulations, manuscripts, and rough drafts on the computer.  

OFSC 163  KEYBOARDING APPLICATIONS/ TYPWRITING III  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 162 or equivalent competency.  
Office standards in preparing business letters, tabulations, office forms, and legal materials on the computer.  

OFSC 164  KEYBOARDING APPLICATIONS/ TYPWRITING IV  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 163 or equivalent competency.  
Development of skills required of competent administrative assistants by solving production problems that are detailed, challenging, and creative.  

OFSC 165  TYPWRITING SPEED AND RETENTION REVIEW  
2 credits. 2 hours.  
Prerequisite: OFSC 161 or equivalent competency.  
Skill building to improve speed and accuracy on the keyboard.  

OFSC 166  LEGAL TYPWRITING  
3 credits. 4 hours. (Laboratory: 2 hours)  
Prerequisite: OFSC 162 or equivalent competency.  
Legal terminology, procedures, and forms.  

OFSC 171  MACHINE TRANSCRIPTION AND CALCULATION  
3 credits. 3 hours.  
Prerequisite: OFSC 161 or equivalent.  
Fundamental operations of electronic calculation using ten-key touch method and/or spreadsheet to work business math problems. Development of machine transcription skills.  

OFSC 176  OFFICE EXPERIENCE I  
3 credits. 15 hours.  
Prerequisites: Enrollment in OFSC 181.  
Development of office skills through supervised on-the-job experience in the office of a cooperating firm. Minimum of 15 hours per week.  

OFSC 177  OFFICE EXPERIENCE II  
3 credits. 15 hours.  
Supervised on-the-job office experience by the cooperating firm and the coordinator for further development of skills.  

OFSC 178  BUSINESS COMMUNICATIONS  
3 credits. 3 hours.  
Prerequisite: ENGL 101 or OFSC 101.  
Review of the fundamentals of grammar, sentence structure, punctuation, and capitalization. Various forms and styles of business communications. Instruction and practice in writing effective business letters.  

OFSC 180  BUSINESS LETTERS AND REPORTS  
3 credits. 3 hours.  
Prerequisite: ENGL 101 or OFSC 101.  
Fundamental principles of written communications as a foundation for preparing and writing effective business letters and reports.  

OFSC 181  ELECTRONIC OFFICE PROCEDURES  
3 credits. 3 hours.  
Prerequisite: OFSC 161.  
Basic office procedures. Fax, electronic mail, word processing, reprographics, mail responsibilities, preparing travel arrangements, company letters, and telephone communications.  

OFSC 182  VETERINARY OFFICE AND COMPUTER SKILLS  
3 credits. 3 hours.  
Prerequisite: Ability to key or type.  
A specialized training course in veterinary office skills and computer applications to include computerized office management skills, bookkeeping and accounts management, records and supply control, telecommunication, and client relation techniques.  

OFSC 183  LEGAL PROCEDURES  
3 credits. 3 hours.  
Prerequisite: OFSC 162 or equivalent competency.  
Legal terminology and machine transcription of legal correspondence and documents. Processing legal records and forms and managing the legal office.
OFSC 184 MEDICAL PROCEDURES
3 credits. 3 hours.
Prerequisite: OFSC 162 or equivalent competency.
Medical terminology, machine transcription of medical correspondence, reports, case histories. Processing medical records and forms/coding and managing the medical office.

OFSC 191 WORD PROCESSING MODULE 2
1 credit. (Laboratory 2 hours)
Prerequisite: CSOF 104 or consent of instructor.
A self-paced course, user directed, for intermediate-level users.

OFSC 192 WORD PROCESSING MODULE 3
1 credit. (Laboratory 2 hours)
Prerequisite: CSOF 104.
A self-paced course, user directed, for advanced word processing users.

OFSC 193 INTERNSHIP I
5 credits. 30 hours.
Prerequisites: Enrollment in approved course(s).
On-the-job experience approved by the coordinator. Minimum of 30 hours per week.

OFSC 194 INTERNSHIP II
5 credits. 30 hours.
Prerequisites: Enrollment in approved course(s).
On-the-job experience approved by the coordinator. Minimum of 30 hours per week.

OFSC 195 WORD PROCESSING CONCEPTS AND EQUIPMENT
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Keyboarding skill.
The role of word/information processing. Current trends in concepts, terminology, hardware, and software, and mastery of word processing software program.

OFSC 197 OFFICE MANAGEMENT
3 credits. 3 hours.
Planning and organizing administrative office operations. Leadership and human relations in office administration, including personnel practices and training. Control of administrative office operations, including job analysis and work measurement.

OFSC 200 ADVANCED WORD PROCESSING
3 credits. 3 hours (Laboratory: 3 hours)
Prerequisite: OFSC 195 or approval of the instructor.
Hands-on training in advanced functions of word processing software package. Projects utilizing all skills involved.

OFSC 210 INTRODUCTION TO DESKTOP PUBLISHING
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: OFSC 161. Experience with word processing recommended, but not required.
Fundamental concepts and terminology of desktop publishing. Hands-on experience with functions of current desktop publishing software on a personal computer.

OFSC 215 ADVANCED DESKTOP PUBLISHING
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: OFSC 210.
Students will review desktop publishing fundamentals and explore operating system features. Layout and design techniques and document enhancements will be used. Project applications will include brochures, flyers, and newsletters.

OFSC 250 OFFICE SYSTEMS CAPSTONE
3 credits. 3 hours
Prerequisites: Forty-five credit hours completed in one of three Office Systems’ Associate of Applied Science degrees: Administrative Assistant, Information/Word Processing and Office Management.
Demonstrate mastery-level competencies required for Office Systems degree completion. Produce professional portfolio and demonstrate skills in calculation, accounting, communication, critical thinking and management.

PARALEGAL

PARA 122 PROCEDURAL LAW
3 credits. 3 hours.
The student will examine and understand laws of criminal procedure regulating law enforcement and criminal law process; 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.

PARA 171 INTRODUCTION TO LEGAL TECHNOLOGY
3 credits. 3 hours.
Philosophical and historical background of law. Legal context, organization, purpose, and responsibility. Introduction to the career requirements, opportunities, and responsibilities.

PARA 173 CONTRACTS
3 credits. 3 hours.
Introduction to the formation of simple contracts, consideration, conditions, benefits, and impossibility. Remedies, performance, and breach.

PARA 175 TORTS
3 credits. 3 hours.
Introduction to 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.
Introduction to sources of laws and legal research methods; fundamentals of legal writing.
PARA 177 LEGAL WRITING  
3 credits. 3 hours.  
Prerequisite: PARA 176.  
In-depth instruction in legal writing, drafting legal documents including briefs, memoranda, and motions.

PARA 181 PROPERTY  
3 credits. 3 hours.  
Introduction to the fundamentals of real and personal property, ownership interests, zoning easement, liens, and bailments.

PARA 185 ETHICS FOR THE PARALEGAL  
3 credits. 3 hours.  
Prerequisite: PARA 171.  
This 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.

PARA 215 JUVENILE LAW  
3 credits. 3 hours.  
The student will be introduced to juvenile law, jurisdiction and disposition of the juvenile offender, court processing, adjudicatory process, and the uniform juvenile court act.

PARA 223 CRIMINAL LAW I  
3 credits. 3 hours.  
The student will be introduced to criminal law, classification and analysis of crimes and criminal acts with emphasis on criminal law as a means of preservation and protection of life and property.

PARA 224 CRIMINAL EVIDENCE  
3 credits. 3 hours.  
The student will examine and understand the 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.

PARA 248 CONSTITUTIONAL LAW  
3 credits. 3 hours.  
The student will be introduced to U.S. Supreme Court rulings that affect law enforcement. They will analyze and understand major constitutional decisions, federal statutes, interstate rules, and cases involving constitutional amendments affecting law enforcement jurisdiction and civil liberties.

PARA 277 LAW OFFICE MANAGEMENT  
3 credits. 3 hours.  
Review systems approach to law office management. Client relationship, billing practices, timekeeping, and law office library systems.

PARA 279 FAMILY LAW  
3 credits. 3 hours.  
Responsibilities and techniques in family relationships, legal problems in the family, and husband-wife and parent-child responsibilities.

PARA 281 BUSINESS ORGANIZATION  
3 credits. 3 hours.  
Practical aspects of the law of business organizations. Legal principles that must be observed in counseling and forming an enterprise.

PARA 283 WILLS, TRUSTS, AND PROBATE  
3 credits. 3 hours.  
Construction of wills, trusts, and the administration of a probate estate.

PARA 284 INTELLECTUAL PROPERTY  
3 credits. 3 hours.  
Prerequisite: PARA 171 with a minimum grade of C, ENGL 101 with a minimum grade of B, and acceptance into Paralegal program.  
Introduction to patent, trademark, and copyright law.

PARA 286 INTERNSHIP IN PARALEGAL TECHNOLOGY  
3 credits. 10 hours.  
Prerequisite: 15 credit hours of paralegal study or consent of department.  
On-the-job training in a law office.

PARA 291 BANKRUPTCY  
3 credits. 3 hours.  
Prerequisites: PARA 171 or approval of instructor.  
Introduction to the practice of bankruptcy law. Overview of bankruptcy code, rules, official forms, bankruptcy cases, and secondary authority.

PHILOSOPHY

Blue River  
Dennis Lowden  
Longview  
Michael Connelly  
Maple Woods  
Douglas Washer  
Paul Long  
Penn Valley  
Verle Muhrer

PHIL 100 INTRODUCTION TO PHILOSOPHY  
3 credits. 3 hours.  
Introduction to philosophical reflection on basic questions of human existence. Human freedom, human conflict, the existence of god(s), value and meaning, moral judgment, and the foundations of knowledge and reason.

PHIL 100 INTRODUCTION TO PHILOSOPHY (PACE)  
4 credits. 4 hours.  
Various philosophical perspectives. Freedom, morality, social control, knowledge, and ethics. Part of the instruction given by video tape.
### PHIL 101 PHILOSOPHY OF RELIGION
- 3 credits. 3 hours.
- An exploration of philosophical theories about basic religious concepts such as god, soul, belief, faith, and salvation.

### PHIL 102 WORLD PHILOSOPHY
- 3 credits. 3 hours.
- A study of the fundamental and traditional problems of philosophy with an emphasis on African, Asian, Indian, Arabic, Latin, and Native American philosophical traditions.

### PHIL 200 LOGIC
- 3 credits. 3 hours.
- An introduction to the art of thinking as applied to critical evaluation of information, the construction and evaluation of deductive and inductive arguments, solving practical and intellectual problems, and the rational and persuasive defense of ideas.

### PHIL 201 HISTORY OF PHILOSOPHY I
- 3 credits. 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 202 HISTORY OF PHILOSOPHY II
- 3 credits. 3 hours.
- Prerequisite: PHIL 100 or PHIL 201.
- Survey of the major aspects of philosophical thought from Bacon to Hegel.

### PHIL 203 ETHICS
- 3 credits. 3 hours.
- Ethical theories through which human beings have attempted to understand elements of moral conduct and language.

### PHIL 203 ETHICS: SOCIAL ETHICS (PACE)
- 4 credits. 4 hours.
- Important ethical theories, values, and moral conduct reflected in selected novels and plays. Part of the instruction given by video tape.

### PHIL 204 CONTEMPORARY PHILOSOPHIES OF VALUE
- 3 credits. 3 hours.
- Analysis of modern philosophies of personal and social value. Major contemporary “academic” and “popular” thinkers.

### PHYSICAL EDUCATION

**Longview**  Maple Woods  Penn Valley

**John O’Connell**

### ACTIVITY COURSES

**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)
- Prerequisite: PHED 107.
- 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.

**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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours</th>
<th>Laboratory Hours</th>
<th>Prerequisites</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHED 118</td>
<td>GOLF II</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<td>Advanced theory. Techniques of golf. Rhythm and swing, golf errors, and individual corrections and adjustments.</td>
</tr>
<tr>
<td>PHED 119</td>
<td>BASKETBALL I</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<td>Techniques, skills, and rules of basketball.</td>
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<tr>
<td>PHED 120</td>
<td>BASKETBALL II</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Advanced techniques, skills, and rules of basketball. Team and league play.</td>
</tr>
<tr>
<td>PHED 121</td>
<td>AEROBICS I</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>A program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.</td>
</tr>
<tr>
<td>PHED 122</td>
<td>AEROBICS II</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>An advanced program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.</td>
</tr>
<tr>
<td>PHED 123</td>
<td>BENCH AEROBICS</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 126</td>
<td>LIFETIME FITNESS I</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 127</td>
<td>LIFETIME FITNESS II</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 128</td>
<td>LIFETIME FITNESS III</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 129</td>
<td>LIFETIME FITNESS IV</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
<td>A cardiovascular and muscular development fitness programs 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.</td>
</tr>
<tr>
<td>PHED 130</td>
<td>PHEDFITNESS WALKING</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 131</td>
<td>JOGGING AND DISTANCE TRAINING</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>PHED 133</td>
<td>SOFTBALL</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.</td>
</tr>
<tr>
<td>PHED 135</td>
<td>FENCING I</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.</td>
</tr>
<tr>
<td>PHED 136</td>
<td>FENCING II</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.</td>
</tr>
<tr>
<td>PHED 137</td>
<td>TENNIS I</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Skills, rules, and practice in the techniques and strategy of tennis.</td>
</tr>
<tr>
<td>PHED 138</td>
<td>TENNIS II</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Advanced skills and practice in techniques and strategy of tennis.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Hours</td>
<td>Description</td>
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<tr>
<td>PHED 139</td>
<td>RACQUETBALL I</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) Introduction to the game of racquetball. Emphasis will be on rules, fundamental skills, game variations and strategies.</td>
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<tr>
<td>PHED 140</td>
<td>RACQUETBALL II</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 139 with a grade of C or better.</strong> Emphasis will be on advanced drills and techniques, along with a more detailed application of game strategies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHED 141</td>
<td>BOWLING I</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) History of bowling. Development of individual skills and techniques. Facilities, etiquette, equipment, league organization, and abridged rules.</td>
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<tr>
<td>PHED 142</td>
<td>BOWLING II</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 141 or consent of instructor.</strong> Improvement of performance skills and techniques. Form, rhythm, and coordination. Individual bowling and league play.</td>
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</tr>
<tr>
<td>PHED 143</td>
<td>SELF-DEFENSE</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) A course designed for both men and women emphasizing &quot;street self-defense.&quot; Effective physical techniques and strategies to avoid or terminate threatening actions or a violent attack will be introduced.</td>
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</tr>
<tr>
<td>PHED 144</td>
<td>KARATE I</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) Fundamental skills and techniques in the art of karate.</td>
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</tr>
<tr>
<td>PHED 145</td>
<td>KARATE II</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisites: PHED 144 or approval of instructor.</strong> Intermediate techniques in the art of karate.</td>
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</tr>
<tr>
<td>PHED 146</td>
<td>KARATE III</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisites: PHED 145 or approval of instructor.</strong> Further development of intermediate techniques in the art of karate.</td>
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</tr>
<tr>
<td>PHED 147</td>
<td>KARATE IV</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisites: PHED 146 or approval of instructor.</strong> Advanced techniques in the art of karate.</td>
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<tr>
<td>PHED 165-168</td>
<td>VARSITY SPORTS I-IV</td>
<td>1-3</td>
<td>2-3</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: Current membership in an intercollegiate athletic team.</strong> Participation in all phases of a varsity sport.</td>
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<tr>
<td>PHED 179</td>
<td>AQUA AEROBICS I</td>
<td>1</td>
<td>2</td>
<td>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.</td>
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<tr>
<td>PHED 180</td>
<td>AQUA AEROBICS II</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 179.</strong> Exercise program of advanced choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.</td>
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<tr>
<td>PHED 181</td>
<td>SWIMMING I</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) Adjusting to the water. Beginning water skills, safety, and beginning strokes.</td>
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<tr>
<td>PHED 182</td>
<td>SWIMMING II</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 181 or consent of instructor.</strong> Intermediate swimming techniques and strokes. Swimming as a source of lifelong fitness.</td>
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<tr>
<td>PHED 183</td>
<td>SWIMMING III</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 182 or consent of instructor.</strong> Development of advanced swimming skills. Proficiency and endurance in swimming.</td>
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<tr>
<td>PHED 184</td>
<td>LIFEGUARD TRAINING</td>
<td>1</td>
<td>2</td>
<td>1 credit. 2 hours. (Laboratory: 2 hours) <strong>Prerequisite: PHED 181 and American Red Cross Standard First Aid and Adult CPR or approval of instructor.</strong> This course is designed to give the student the minimum training skills required to qualify to serve as a nonsurf lifeguard. Successful completion of this course entitles the student to the American Red Cross Lifeguard Training Certificate (valid for three years).</td>
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<tr>
<td>PHED 185</td>
<td>WATER SAFETY INSTRUCTION</td>
<td>3</td>
<td>4</td>
<td>3 credits. 4 hours. (Laboratory: 2 hours) <strong>Prerequisite: Student must be proficient in all relevant basic water safety and swimming skills before the course begins or have approval of instructor.</strong> This course is designed to provide training for individuals wanting to become instructors in the American Red Cross aquatics/safety program.</td>
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</tr>
<tr>
<td>PHED 197-199</td>
<td>TOPICS IN PHED</td>
<td>1-3</td>
<td>2-3</td>
<td>1-3 credits. 2-3 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.</td>
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</table>
THEORY COURSE

PHED 151 INTRODUCTION TO HEALTH, PHYSICAL EDUCATION, AND RECREATION
3 credits. 3 hours.
History, philosophy, and principles of health, physical education, and recreation.

HEALTH COURSES

PHED 155 CARE AND PREVENTION OF ATHLETIC INJURIES
3 credits. 4 hours. (Laboratory: 2 hours)
Athletic training procedures for prevention of injury.
Recognition and treatment of athletic injuries.

PHED 157 PERSONAL HEALTH
3 credits. 3 hours.

PHED 158 FIRST AID, SAFETY, AND CPR
2 credits. 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. (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.

PHYSICAL SCIENCE

PHSC 101 PHYSICAL SCIENCE I (PACE)
4 credits. 5 hours. (Laboratory: 2 hours)
Fundamental concepts and principles of astronomy, chemistry, physics, and geology. Their relation to man and the environment. Part of the instruction given by video tape.

PHSC 101 PHYSICAL SCIENCE I
5 credits. 6 hours. (Laboratory: 2 hours)
Fundamental principles and concepts of astronomy, chemistry, physics, and geology and their relation to man and the environment.

PHSC 107 FOUNDATIONS OF PHYSICAL SCIENCE
5 credits. 6 hours (Laboratory: 2 hours)
Survey of basic principles and experimental history of the physical sciences and their importance in economic and social policy as shown by the study of selected areas.

PHYSICAL THERAPIST ASSISTANT

Cheryl Carpenter-Davis  Gwendolyn Robertson
Pamela Stockman

PTHA 151 INTRODUCTION TO PHYSICAL THERAPY
2 credits. 2 hours.
Introduction to the basic concepts of the function of a physical therapist and a physical therapist assistant as members of the health team. Interaction of health care disciplines in the care of the patient. Medical terminology related to the specific discipline.

PTHA 152 FUNDAMENTALS OF MODALITIES I
4 credits. 5.5 hours. (Laboratory: 3 hours)
Prerequisites: BIOL 100, BIOL 110, BIOL 150 and PTHA 151, each with a minimum grade of C and acceptance into the program.
Theory and application of treatment modalities used in physical therapy. Therapeutic measures and patient handling skills used in the physical treatment of various injuries and diseases. Field trips to observe the clinic and its modalities.

PTHA 153 KINESIOLOGY
4 credits. 6 hours. (Laboratory: 4 hours)
Prerequisites: BIOL 210, PTHA 152, and PTHA 160, each with a minimum grade of C.
Anatomy and function of the musculoskeletal system. Analysis of various daily activities. Application of physical therapy assessment procedures related to clinical kinesiology.

PTHA 154 APPLIED NEUROLOGY
2 credits. 2 hours.
Prerequisites: BIOL 210, PTHA 152, and PTHA 160, each with a minimum grade of C, or BIOL 109, EMTP 102, and OTHA 100, 102, 103, 106, and 116, each with a minimum grade of C.
Foundations of neuroscience necessary for practice as a rehabilitation professional. Anatomy and function of the nervous system. Correlation of clinical problems with pathology of the nervous system.

PTHA 155 REHABILITATION
4 credits. 5 hours. (Laboratory: 2 hours)
Prerequisites: PTHA 162 with a minimum grade of C.
Introduction to the philosophy underlying rehabilitation theory and principles of treatment involved in normal and abnormal ambulation and mobility. Application of external supports and assistive devices, and teaching activities of daily living with attention to description, demonstration, and practice. Field trips as required.
PTHA 158 THERAPEUTIC EXERCISE
4 credits. 6 hours. (Laboratory: 4 hours)
Prerequisites: PTHA 162 with a minimum grade of C.
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. Field trips to learn various specialized techniques.

PTHA 159 ORTHOPEDIC PATHOLOGY
2 credits. 2 hours.
Prerequisites: BIOL 210, PTHA 152, and PTHA 160, each with a minimum grade of C.
Orthopedic pathologies commonly seen in physical therapy practice; diagnosis, signs and symptoms, physiologic factors, and treatment.

PTHA 160 MEDICAL DISEASES
2 credits. 2 hours.
Prerequisites: BIOL 100, BIOL 110, BIOL 150, and PTHA 151, each with a minimum grade of C, and acceptance into the program.
Medical diseases commonly seen in physical therapy practice; diagnosis, signs and symptoms, physiologic factors, and treatment.

PTHA 161 FUNDAMENTALS OF MODALITIES II
4 credits. 5.5 hours. (Laboratory: 3 hours)
Prerequisites: BIOL 210, PTHA 152, and PTHA 160, each with a minimum grade of C.
Introduction to the theory and practical application of electrotherapy, patient documentation, patient care skills, and selected modalities, including indications and contraindications for use.

PTHA 162 CLINICAL EXPERIENCE I
2 credits. 5 hours. (Clinical: 5 hours)
Prerequisites: PTHA 153, 154, 159, and 161 and EMTP 102, each with a minimum grade of C. Completion of pre-clinical examination with a score of 80% or better. Demonstrated competency in pre-clinical checkouts. Supervised clinical experience in the practical application of techniques and procedures covered in all previous PTHA courses. Assisting physical therapists and physical therapist assistants in treatment of patients in a variety of clinical settings.

PTHA 164 PEDIATRICS AND GERONTOLOGY
2 credits. 2 hours.
Prerequisites: PTHA 162 with a minimum grade of C.
Specialized information related to the treatment of pediatric and older adult populations.

PTHA 170 CLINICAL EXPERIENCE II
2 credits. 5 hours. (Clinical: 5 hours)
Prerequisites: PTHA 162 with minimum grade of C. Concurrent enrollment in PTHA 155, 158, 164, and 171.
Supervised clinical experience in the practical application of techniques and procedures covered in all previous PTHA courses. Assisting physical therapists and physical therapist assistants in treatment of patients in a variety of clinical settings.

PTHA 171 CLINICAL SEMINAR
2 credits. 2 hours.
Prerequisites: PTHA 162 with a minimum grade of C.
Current professional and patient care issues regarding the practice of physical therapy, such as ethics, departmental organization, reimbursement, safety, and research.

PTHA 172 CLINICAL EXPERIENCE III
12 credits. 40 hours. (Laboratory: 40 hours)
Prerequisites: Completion of all other required courses in the PTHA program, each with a minimum grade of C. Practical application of principles learned in prior coursework. Experience rotation internships in selected hospitals and other clinical sites throughout the United States under the guidance of a physical therapist.

PTHA 173 SPECIAL TOPICS I
2 credits. 2 hours.
Prerequisites: 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 OTHA 173.

PHYSICS
Longview Maple Woods Penn Valley
Deanna Poudel Cynthia Sexton John Hawkins

PHYS 101 INTRODUCTORY PHYSICS
5 credits. 6 hours. (Laboratory: 2 hours)
A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics.

PHYS 106 GENERAL ASTRONOMY
5 credits. 6 hours. (Laboratory: 2 hours)
A survey of the properties and the laws governing the behavior of bodies in the cosmos, including the observational procedures from which the concept of the cosmos has developed and practical applications of space science.

PHYS 107 DESCRIPTIVE ASTRONOMY
3 credits. 3 hours.
A survey of the laws of nature as applied to the cosmos. Emphasis on the process of science in the study of the solar system, the Milky Way galaxy, and the rest of the universe.

PHYS 108 ASTRONOMY LABORATORY
1 credit. 2 hours. (Laboratory: 2 hours)
Introduction to astronomical observations and the process of science as applied to astronomy. Recognition of celestial objects, sky measurements, and interpretation of astronomical data.
### PHYS 110 PHYSICS FOR TECHNOLOGY I
3 credits. 4 hours. (Laboratory: 2 hours)
**Prerequisite:** MATH 106.
Principles of mechanics, heat, and sound with emphasis on applications to technology.

### PHYS 111 PHYSICS FOR TECHNOLOGY II
3 credit. 4 hours. (Laboratory: 2 hours)
**Prerequisite:** PHYS 110 with a minimum grade of C.
Principles of electricity, magnetism, optics, electronics, and nuclear technology with emphasis on applications to technology.

### PHYS 112 TECHNICAL PHYSICS
5 credits. 6 hours. (Laboratory: 2 hours)
**Prerequisite:** MATH 104 with a minimum grade of C.
Principles of mechanics, thermodynamics, sound, electricity, magnetism, light, and nuclear technology with emphasis on applications to technology.

### PHYS 130 GENERAL PHYSICS I
5 credits. 7 hours. (Laboratory: 4 hours)
**Prerequisite:** MATH 130.
Principles of mechanics, heat, and sound.

### PHYS 131 GENERAL PHYSICS II
5 credits. 7 hours. (Laboratory: 4 hours)
**Prerequisite:** PHYS 130 with a minimum grade of C.
Principles of electricity, magnetism, light, and atomic physics.

### PHYS 181 PRACTICUM IA
1 credit. 5 hours.
**Prerequisite:** Approval of a physics instructor.
On-the-job experience in research development applying class theory to engineering applications.

### PHYS 182 PRACTICUM IIA
2 credits. 10 hours.
**Prerequisite:** Approval of a physics instructor.
On-the-job experience in research development applying class theory to engineering applications.

### PHYS 191 PRACTICUM IB
1 credit. 5 hours.
**Prerequisite:** PHYS 130 or above.
Advanced on-the-job experience in research development applying class theory to engineering applications.

### PHYS 192 PRACTICUM IIB
2 credits. 10 hours.
**Prerequisite:** PHYS 130 or above.
Advanced on-the-job experience in research development applying class theory to engineering applications.

### PHYS 220 ENGINEERING PHYSICS I
5 credits. 7 hours. (Laboratory: 4 hours)
**Prerequisite:** Enrollment in or completion of MATH 190.
Principles of mechanics, heat and thermodynamics, wave motion, and sound.

### PHYS 221 ENGINEERING PHYSICS II
5 credits. 7 hours. (Laboratory: 4 hours)
**Prerequisites:** PHYS 220 with a minimum C grade and enrollment in or completion of MATH 210.
Principles of electricity and magnetism, geometrical and physical optics, and elementary atomic physics.

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### POLITICAL SCIENCE

<table>
<thead>
<tr>
<th>Longview</th>
<th>Maple Woods</th>
<th>Penn Valley</th>
</tr>
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<tbody>
<tr>
<td>Hartman</td>
<td>Lampe</td>
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</table>

#### POLS 135 INTRODUCTION TO POLITICAL SCIENCE
3 credits. 3 hours.
Principles of constitutional and political theory. Federal and Missouri constitutions and political processes in selected contemporary states.

#### POLS 136 INTRODUCTION TO AMERICAN NATIONAL POLITICS
3 credits. 3 hours.
Principles of political science. Examination of the development, organization, and functions of the national government. Its relationship to the cultural, economic, and social institutions of the United States. Federal and Missouri constitutions.

#### POLS 137 INTRODUCTION TO STATE AND LOCAL POLITICS
3 credits. 3 hours.
State political systems and subsystems including the executive, judicial, and legislative branches. Intergovernment relationships. Special attention to metropolitan areas. Federal and Missouri constitutions.

#### POLS 138 PRACTICUM IN PUBLIC ADMINISTRATION I
3 credits. 4 lecture hours.
**Prerequisite:** Completion of POLS 135, 136, or 137 with a minimum grade of B and permission of instructor.
Field work in a public agency in an entry-level position to obtain exposure to a department in City Hall or a state agency.
## PRACTICAL NURSING

Offered at Penn Valley

Pamela Beers Mattie Eley Amilie Massa
Roger Bidwell Dianne Graffenine- Betty Reynolds
Leslyn Brouillette Beedle Corinne Shaw
Linda Hanway Maureen Wiederholt

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Hours (Laboratory: Clinical)</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNUR 100</td>
<td>PERSONAL AND VOCATIONAL CONCEPTS</td>
<td>1</td>
<td>2 hours (2 hours)</td>
<td>Students must meet entrance requirements and must be accepted into practical nursing program. An introduction to the role of the student and Licensed Practical Nurse including history, trends, health care teams, and health care delivery systems. The impact of cultural, religious, and social issues on health care as well as ethical and legal responsibilities are also covered.</td>
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<tr>
<td>PNUR 102</td>
<td>FUNDAMENTALS OF PRACTICAL NURSING I</td>
<td>1.5</td>
<td>0.5 hours</td>
<td>Entry into the practical nursing program. This fundamental course introduces the student to the role of the practical nurse in meeting basic needs common to all clients. Basic nursing skills and safety aspects are presented. The student will practice these basic skills in the laboratory setting.</td>
</tr>
<tr>
<td>PNUR 103</td>
<td>FUNDAMENTALS OF PRACTICAL NURSING II</td>
<td>9</td>
<td>22.5 hours (3.5 hours; 3.2 hours)</td>
<td>Completion of PNUR 102 with a grade of C or better or Certified Nursing Assistant certification. Professional communication skills and approaches to clients of diverse populations across the lifespan are presented. Advanced nursing skills are taught utilizing the nursing process in their application to the client. Clinical experiences allow the learner to apply knowledge and skills through demonstration of competencies related to basic nursing care.</td>
</tr>
<tr>
<td>PNUR 104</td>
<td>BODY STRUCTURE AND FUNCTION</td>
<td>2</td>
<td>4 hours</td>
<td>Students must meet entrance requirements and must be accepted into the practical nursing program. Introduces students to the major structures and functions of the human body. Is taught according to body systems. Laboratory time is used to introduce and reinforce classroom instruction.</td>
</tr>
<tr>
<td>PNUR 106</td>
<td>FUNDAMENTAL CONCEPTS OF NUTRITION</td>
<td>1</td>
<td>2 hours</td>
<td>Students must meet entrance requirements and must be accepted into the practical nursing program. A study of basic nutrition and nutritional requirements throughout the life cycle, including a brief overview of dietary modifications necessitated by disease process.</td>
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</table>

**PNUR 107 DEVELOPMENTAL STAGES OF THE LIFE SPAN**
1 credit. 2 hours.
Prerequisites: Students must meet entrance requirements and must be accepted into the practical nursing program.
A study of the basic physical, social, and psychological changes occurring during the life cycle from newborn to death.

**PNUR 110 PHARMACOLOGY**
3.5 credits. 7 hours. (Clinical: 4.3 hours)
Prerequisite: Successful completion of all previously attempted courses of the program with a minimum grade of C.
Introduction of basic information regarding sources and effects of drugs, safe dosage preparation, and the responsibilities of drug administration. There is presentation of pharmacology with the description of drug, purpose, action, side effects, and nursing implications covered.

**PNUR 128 MENTAL HEALTH NURSING**
2.5 credits. 5 hours. (Clinical: 3.2 hours)
Prerequisites: Successful completion of all previously attempted courses of the program with a minimum grade of C.
An introduction to mental health concepts emphasizing therapeutic communication and nursing approaches to behavior disorders and care of common mental disorders.

**PNUR 132 THE CHILDBEARING FAMILY**
4.5 credits. 9 hours. (Laboratory: 1 hour; Clinical: 3.2 hours)
Prerequisites: Successful completion of all previously attempted courses of the program with a minimum grade of C.
Students will apply concepts of the nursing process, communication, and developmental stages to the care of the childbearing family, including the neonate through adolescence. Clinical experiences will reflect a variety of settings.

**PNUR 138 NURSING OF THE ADULT I**
9 credits. 18 hours. (Clinical: 7.5 hours)
Prerequisites: Successful completion of all previously attempted courses of the program with a minimum grade of C.
This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. Concepts are presented by body system, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing
problems and then to implement nursing interventions to meet client needs. Pharmacology and nutrition are integrated as theory content and included in clinical application.

**PNUR 144 NURSING OF THE ADULT II**

8 credits. 16 hours. (Clinical: 7.5 hours)  
*Prerequisites: Successful completion of all previously attempted courses of the program with a minimum grade of C.*

This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. Concepts are presented by body system, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing problems and then to implement nursing interventions to meet client needs. Pharmacology and nutrition are integrated as theory content and included in clinical application.

**PNUR 145 NURSING OF THE ELDERLY**

1 credit. 2 hours.  
*Prerequisites: Students must meet entrance requirements and must be accepted into the Practical Nursing Program.*

A basic study of the physical, social, and psychological changes that occur during the aging process. The student applies basic nursing skills and communication techniques and knowledge of cultural and ethnic differences to the older adult client. This course assists the student to recognize the role of the practical nurse in restoration and health maintenance.

**PNUR 146 LEADERSHIP**

3 credits. 6 hours. (Clinical: 4.3 hours)  
*Prerequisites: Successful completion of all previously attempted courses of the program with a minimum grade of C.*

Principles of leadership and management are utilized in the nursing process to meet the needs of the diverse client, family, and health team member. Legal responsibilities of the practical nurse in a leadership role are reviewed.

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**PROFESSIONAL NURSING**

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**Penn Valley**

Pamela Anthony  
Patricia O’Brien  
Jeana Wilcox  
Ann Carmack  
Hilda Ogilvie  
Tammie Willis  
Patricia Conley  
Maria Roby  
Patricia Winberg  
Sharon Graves  
Rosemary  
Ruth Yunker  
Karen Komoroski  
Shocklee-Fusaro  
Opzerine Madison

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**PNUR 115 PROFESSIONAL TRANSITIONS**

2 credits. 2 hours.  
*Prerequisites: BIOL 100 or CHEM 105, BIOL 109, BIOL 208, PSYC 140, and PSYC 243, each with a grade of C or better.*

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. (Clinical: 6 hours)  
*Prerequisites: BIOL 100 or CHEM 105 and PSYC 140, each with a grade of C or better. Prerequisite (grade of C or better) or taken concurrently: BIOL 109 and PSYC 243. Must be taken concurrently: RNUR 131.*

This course must be taken concurrently with RNUR 131 Essential Nursing Concepts in the first semester of the 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.  
*Prerequisites: BIOL 100 or CHEM 105 and PSYC 140. Prerequisite (grade of C or better) or taken concurrently: BIOL 109 and PSYC 243. Must be taken concurrently: RNUR 126.*

This course must be taken concurrently with Fundamentals of Professional Nursing in the first semester of the program and presents the concepts underlying the nursing curriculum. 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. (Clinical: 6 hours)  
*Prerequisites: RNUR 126, RNUR 131, BIOL 109, and PSYC 243, each with a grade of C or better. Prerequisite (grade of C or better) or taken concurrently: BIOL 208.*

This course is based on the belief that mental health nursing is an integral part of all nursing. It builds upon the foundation of basic knowledge of human behavior
which the student receives from the field of psychology. The student will acquire a basic knowledge of the causes, treatment, and prevention of mental disorders across the life span including the impact of environmental forces. Ethical/legal concepts are integrated throughout. Emphasis is placed on application of therapeutic communication techniques, psychiatric assessment skills, and the nursing process. The impact of the therapeutic environment upon the treatment of specific psychiatric populations across the life span will be presented.

**RNUR 138 NURSING CARE OF WOMEN AND NEONATES**
4 credits, 8 hours. (Clinical: 6 hours)  
*Prerequisites: RNUR 126, RNUR 131, BIOL 109, and PSYC 243, each with a grade of C or better. Prerequisite (grade of C or better) or taken concurrently: BIOL 208.*

This course is designed to provide experience in meeting basic needs of the childbearing family. The nursing process is utilized to develop a comprehensive plan of care for the family unit leading to the promotion of independence in the community. Emphasis is also placed on the importance of communication skills and health teaching in working with culturally diverse families. Major complications related to pregnancy, labor, delivery, postpartum, and newborn are addressed along with the impact of technology in the childbearing environment. Alternative birthing environments are discussed along with selected women’s health issues.

**RNUR 141 ADULT NURSING I**
3 credits, 3 hours.  
*Prerequisites: PSYC 243, BIOL 109, RNUR 126, and RNUR 131, each with a grade of C or better. Prerequisite (grade of C or better) or taken concurrently: BIOL 208.*

Adult Nursing I is the first of three medical-surgical nursing courses and builds upon the basic nursing content and skills learned in Fundamentals of Professional Nursing and Essential Nursing Concepts. Gerontological concepts are presented along with selected medical-surgical problems associated with this population. The nursing process will serve as the framework to integrate the concepts of legal/ethical issues, culture and ethnicity, developmental stages/tasks, and communication. Emphasis is placed on identifying physiological and psychological changes of clients aged 65 and older.

**RNUR 230 LEADERSHIP/MANAGEMENT/TRENDS**
2 credits, 2 hours.  
*Prerequisites: ENGL 101, SOCI 160, RNUR 234, and RNUR 238, each with a grade of C or better. Prerequisites (grade of C or better) or taken concurrently: SPDR 100 and one of the following: HIST 120 or 121; POLS 135, 136, or 137; or SOSC 151.*

This fourth semester course will focus on leadership and management principles necessary for the professional nurse to function in the leadership role. Professional responsibilities are delineated. Changes in health care delivery systems are discussed as well as other current issues and trends. Concepts and theories of leadership, management, communication, group process, and decision making are examined.

**RNUR 234 CHILD-CENTERED NURSING**
4 credits, 8 hours. (Clinical: 6 hours)  
*Prerequisites: BIOL 208, RNUR 134, RNUR 138, and RNUR 141, each with a grade of C or better. Prerequisites (grade of C or better) or taken concurrently: ENGL 101 and SOCI 160.*

This third semester clinical laboratory nursing course is designed to introduce the student to the role of the professional nurse in promoting health care in children and their families. Nursing care will be provided in primary, secondary and tertiary settings. This course stresses the uniqueness of each child and the family unit. Communication is employed to assist the child and family in health maintenance with the goal of independence and autonomy of function. The nursing process will be used as the interactive tool linking all aspects of care for culturally and ethnically diverse clients and their families. Developmental stages/tasks will be stressed in assisting the family unit toward health maintenance.

**RNUR 238 ADULT NURSING II**
5 credits, 9 hours. (Clinical: 6 hours)  
*Prerequisites: BIOL 208, RNUR 134, RNUR 138, and RNUR 141, each with a grade of C or better. Prerequisites (grade of C or better) or taken concurrently: ENGL 101 and SOCI 160.*

Adult Nursing II is the second of three medical-surgical nursing courses and is the first with a clinical component. This course allows students to utilize previous nursing concepts as they apply their skills to clients in a variety of secondary and tertiary settings. Students assume professional nursing roles in meeting basic needs by demonstrating skills in communication, critical thinking, and the nursing process. Students interact with culturally/ethnically diverse clients and integrate legal/ethical issues into the plan of care. Content regarding medical-surgical disease processes is continued, giving the student the basis of knowledge to assist the client to reach optimal status on the health-illness continuum.

**RNUR 244 ADULT NURSING III**
7 credits, 13 hours. (Clinical: 9 hours)  
*Prerequisites: ENGL 101, SOCI 160, RNUR 234, and RNUR 238, each with a grade of C or better. Prerequisites (grade of C or better) or taken concurrently: SPDR 100 and one of the following: HIST 120 or 121; POLS 135, 136, or 137; or SOSC 151.*

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.

PSYCHOLOGY

Blue River  Longview  Maple Woods
Jane Zeitner  Luis Flores, Jr.  Julia Bishop
Penn Valley  Andrew Geoghegan, Jr.  Robert Williams
Cebra Sims  Matthew Westra

PSYC 140  GENERAL PSYCHOLOGY
3 credits. 3 hours.
Introduction to the scientific study of behavior and experience with emphasis on maturation and learning, motivation, emotion, sensation, perception, and thinking. Aspects of personality and individual differences.

PSYC 141  ADVANCED GENERAL PSYCHOLOGY
3 credits. 3 hours.
Prerequisite: PSYC 140.
Content and methods of psychology with special training in the fundamentals of scientific investigation in psychology and the behavioral sciences. Scientific methods of observing, measuring, recording, and analyzing data.

PSYC 142  INTRODUCTION TO PSYCHOLOGY (PACE)
4 credits. 4 hours.
Basic content areas of psychology. Learning, cognition, emotion, motivation, social behavior, and scientific method. Emphasis on conceptualizations of individual personality.

PSYC 143  SURVEY OF AFRICAN-AMERICAN PSYCHOLOGICAL DEVELOPMENT
3 credits. 3 hours.
Prerequisite: PSYC 140.
Psychological principles as they apply to the development, behavior, and experience of the African-American.

PSYC 144  ADJUSTMENT AND PERSONALITY
3 credits. 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 146  INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
3 credits. 3 hours.
Prerequisite: PSYC 140.
Application of basic psychological principles to the industrial setting. Individual differences and their measurement. The role of managers, principles of communication, decision making, conflict resolution, motivation, and the relationship between job satisfaction and job performance.

PSYC 148  GROUP PROCESSES
3 credits. 3 hours.
Prerequisite: PSYC 140.
Analysis of group processes. Characteristics of groups. Dynamic interaction among members. Relationship between size, function, and roles played. Relationship of group members to one another.

PSYC 162  CORRECTIONAL PSYCHOLOGY
3 credits. 3 hours.
Prerequisite: PSYC 140.

PSYC 200  EDUCATION OF THE EXCEPTIONAL CHILD
3 credits. 3 hours.
Prerequisite: PSYC 140.
Examination of different types of exceptional children. Emphasis on education and remediation.

PSYC 210  INTERVIEWING AND INTERPERSONAL COMMUNICATIONS
3 credits. 3 hours.
Prerequisite: PSYC 144 or 162.
Development of skills necessary for effective performance in the helping professions despite differences in basic values and social backgrounds.

PSYC 240  CHILD DEVELOPMENT
3 credits. 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 241  HUMAN DEVELOPMENT (PACE)
4 credits. 4 hours.
Prerequisite: PSYC 140 or 142.
Development processes occurring at each stage of human life. Conflicts and their resolution. Impact on the individual of the concept of self and the social milieu. Case studies of individuals.
PSYC 243 HUMAN LIFESPAN DEVELOPMENT
4 credits. 4 hours.
Prerequisite: PSYC 140.
A discussion of the physical, social, emotional, and personality changes occurring during the life of the individual from conception through death. Emphasis is placed on the similarities and differences in development across and within cultures.

PSYC 245 ADOLESCENT PSYCHOLOGY
3 credits. 3 hours.
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.
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.
Prerequisite: PSYC 140.
Social and psychological problems of older persons in contemporary society. Personality change. Environmental conditions and the aging process in late life.

QUALITY ASSURANCE TECHNOLOGY
Offered at the Business & Technology Center through Longview

QCAT 150 INTRODUCTION TO QUALITY ASSURANCE I
3 credits. 3 hours.
Fundamentals of successful quality management. How to plan for, initiate, and maintain continuous quality improvement. Management functions and responsibilities, quality planning and deployment, determining needs, developing criteria and quality policy for a total quality organization.

QCAT 151 INTRODUCTION TO QUALITY ASSURANCE II
3 credits. 3 hours.
Prerequisite: QCAT 150.
Basic principles of employee involvement. Introducing the process into an organization, defining quality improvement goals and objectives, implementing pilot programs. Using the team approach and seven quality tools to make quality improvements.

QCAT 240 DESIGN AND ANALYSIS OF EXPERIMENTS
3 credits. 2 hours. (Laboratory: 2 hours)
Prerequisite: QCAT 151 with a minimum grade of C.
Applications in quality assurance. Computer spreadsheet applications, use of basic measurement tools, data collection and analysis, quality control charts, and measurement tolerances.

QCAT 251 PROCESS QUALITY CONTROL
3 credits. 3 hours.
Prerequisite: QCAT 151.
Statistical tools in process quality control. SOC, SQC, types of data, variability, frequency distributions, capability, control charting, general statistical measures, acceptance sampling, and MIL-STD.

QCAT 261 QUALITY STATISTICAL APPLICATIONS
3 credits. 3 hours.
Prerequisite: QCAT 251.
Statistical applications for quality assurance. Hypothesis testing, probability distributions, regression analysis, correlation, tests of relationships, data transformations, and nonparametric statistics.

QCAT 270 RELIABILITY AND METROLOGY
3 credits. 3 hours.
Prerequisite: QCAT 261.
Introduction to advanced quality assurance concepts in reliability and metrology. Product design, development, and production. Quality maintenance, product safety, and reliability testing. Precision measurements, traceableness, control systems, and measurement equipment.

QCAT 281 DESIGN AND ANALYSIS OF EXPERIMENTS
3 credits. 3 hours.
Prerequisite: QCAT 261.
Components of design. Types of design: randomized, block Latin square, Graeco-Latin square, incomplete block, Youden square, mixture, factorial, nested. Analysis of variance, analysis of means, method of least squares, and contrast analysis.

RADIOLOGIC TECHNOLOGY
Penn Valley
Judith Taylor Kimberly Thebeau-Siercks

RATE 150 INTRODUCTION TO RADIOLOGIC TECHNOLOGY
1 credit. 1 hour.
Introduction to the profession of radiologic technology, including the duties of the radiologic technologist in the health care environment.

RATE 160 SURVEY OF RADIOLOGIC TECHNOLOGY
4 credits. 15.4 hours. (Clinical: 13 hours)
Prerequisite: Admission to the radiologic technology program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATE 162</td>
<td>IMAGE PROCESSING</td>
<td>2</td>
<td>2.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Materials and factors relating to acquisition, processing, viewing, and storage of radiographs.</td>
</tr>
<tr>
<td>RATE 165</td>
<td>PATIENT CARE</td>
<td>2</td>
<td>2</td>
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<tr>
<td>RATE 170</td>
<td>RADIATION BIOLOGY AND PROTECTION</td>
<td>3</td>
<td>3</td>
<td></td>
<td>The principles of radiation biology and techniques used to protect the patient and personnel from the effects of exposure to ionizing radiation.</td>
</tr>
<tr>
<td>RATE 171</td>
<td>RADIOGRAPHIC EXPOSURES I</td>
<td>3</td>
<td>3.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Factors which affect radiographic image formation and determine image quality.</td>
</tr>
<tr>
<td>RATE 172</td>
<td>RADIOGRAPHIC POSITIONING I</td>
<td>3</td>
<td>3.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Anatomies and positioning of the alimentary canal, urinary system, and upper and lower extremities.</td>
</tr>
<tr>
<td>RATE 173</td>
<td>CLINICAL TRAINING I</td>
<td>3</td>
<td>(Clinical: 16 hours)</td>
<td>Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.</td>
<td></td>
</tr>
<tr>
<td>RATE 174</td>
<td>RADIOGRAPHIC EXPOSURES II</td>
<td>3</td>
<td>3.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Quality control of radiographic images. Technic charts, calibration of equipment, standard exposure systems, factors used for conversion of technics for variables in the exposure system. Special techniques used in producing radiographic images.</td>
</tr>
<tr>
<td>RATE 175</td>
<td>CLINICAL TRAINING II</td>
<td>4</td>
<td>(Clinical: 24 hours)</td>
<td>Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.</td>
<td></td>
</tr>
<tr>
<td>RATE 176</td>
<td>RADIOGRAPHIC POSITIONING II</td>
<td>3</td>
<td>3.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Anatomies, radiographic positioning, and film critique of the pelvis, bony thorax, vertebral column, cranium, and facial bones.</td>
</tr>
<tr>
<td>RATE 177</td>
<td>CLINICAL TRAINING III</td>
<td>4</td>
<td>(Clinical: 20 hours)</td>
<td>Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.</td>
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</tr>
<tr>
<td>RATE 178</td>
<td>IMAGING MODALITIES AND PATHOLOGY</td>
<td>3</td>
<td>3</td>
<td></td>
<td>Human disease processes and their relationship to patient examination in the radiology department. Radiographic pathology and imaging modalities.</td>
</tr>
<tr>
<td>RATE 179</td>
<td>RADIOGRAPHIC POSITION III</td>
<td>2</td>
<td>2</td>
<td></td>
<td>Anatomy and positioning of the biliary system, mammary glands, and temporal bone. Advanced film critique of radiographs of all routine radiographic examinations.</td>
</tr>
<tr>
<td>RATE 180</td>
<td>CLINICAL TRAINING IV</td>
<td>4</td>
<td>(Clinical: 24 hours)</td>
<td>Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.</td>
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</tr>
<tr>
<td>RATE 181</td>
<td>RADIATION PHYSICS</td>
<td>3</td>
<td>3.5</td>
<td>(Laboratory: 1 hour)</td>
<td>Application of fundamental physics principles relating to energy, electricity, and magnetism and their relevance to the study of x-rays and x-ray equipment.</td>
</tr>
<tr>
<td>RATE 182</td>
<td>CLINICAL TRAINING V</td>
<td>4</td>
<td>(Clinical: 24 hours)</td>
<td>Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.</td>
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</tr>
</tbody>
</table>
RATE 283 FINAL SEMINAR
2 credits. 2 hours.
Prerequisites: RATE 278 and 282, each with minimum grade of C.
Preparation for the National Registry examination.
Simulation of American Registry of Radiologic Technologists examination.

RATE 284 CLINICAL TRAINING VI
2 credits. 14 hours.
Prerequisites: RATE 278, 281, and 282 each with a minimum grade of C.
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

RATE 285 SPECIAL PROCEDURES
2 credits. 2 hours.
Prerequisites: RATE 170, 171, and 178, each with a minimum grade of C, and concurrent enrollment in RATE 279, 280, and 281.
Anatomy, positioning, equipment, and special tasks related to performance of special contrast media studies. Vascular, neurological, lymphatic, skeletal, and pulmonary systems.

RATE 288 SPECIALTY TRAINING
9 credits. 17 hours. (Laboratory: 16 hours).
Prerequisite: Approval of the instructor.
Specialized training in fields such as nuclear medicine, ultrasound, radiation therapy, and computer-assisted tomography, or in other radiologic areas approved by the instructor.

RATE 289 MAMMOGRAPHY
3 credits. 10 hours. (Clinical, 8 hours)
Prerequisite: Registry eligible or ARRT Radiographer in good standing.
Principles of mammography. Practical application under the supervision of a radiologic technologist.

RRT 150 RAILROAD OPERATIONS
3 credits. 3 hours.
This course includes information about the industry, its major assets, structure, and typical operations. Upon successful completion of this course, students should be able to define the current North American railroad industry characteristics, basic operations, components and processes, and industry structure and administrative processes.

RRT 165 RAILROAD SAFETY, QUALITY AND ENVIRONMENT
3 credits. 3 hours.
This course covers the importance of safety, quality, personal health, and environmental awareness to the railroad industry and emphasizes the basic tools and techniques for improving these conditions on the job. Upon successful completion of this course, students should be able to define and explain the needs for improved safety, quality, health, and environmental awareness; describe their basic principles; explain the elements of successful programs; and apply these elements to typical tasks on the job.

RRTC 123 INTRODUCTION TO CONDUCTOR SERVICE
4 credits. 5 hours lecture/demonstration.
Prerequisite: Admission to the JCCC’s Railroad Operations Program, conductor option.
Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors.

RRTC 175 CONDUCTOR MECHANICAL OPERATIONS
2 credits. 2.5 hours.
Prerequisite: Admission to the JCCC’s Railroad Operations Program, conductor option, and successful completion of RRTC 123 with a grade of C or better.
This course covers mechanical operations that relate to conductor service. This is the second course in the conductor option of the Railroad Operations degree program. Upon successful completion of this course, the student should be able to describe the importance and application of freight care mechanical policies and practices to ensure safe railroad operations.

RRTC 261 CONDUCTOR SERVICE
2 credits. 2.5 hours.
Prerequisite: Admission to the JCCC’s Railroad
Upon successful completion of this course, the student should be able to describe and apply railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively.

**RRTC 263 GENERAL CODE OF OPERATING RULES**

4 credits. 5 hours.

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, conductor option, and successful completion of RRTC 261 with a grade of C or better.*

This is the fourth course in the conductor option for the Railroad Operations degree program. Conductors must maintain a thorough understanding of the General Code of Operating Rules (GCOR). This course provides an in-depth study of the GCOR. Upon successful completion of this course, the student should be able to demonstrate abilities to apply the GCOR to safe and efficient train movement and operations.

**RRTC 265 CONDUCTOR FIELD APPLICATION**

9 credits. 16 hours. (On-the-job training: minimum 15 hours)

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, conductor option, and successful completion of RRTC 263 with a grade of C or better.*

Upon successful completion of this course, the student will have observed actual operations and be able to apply skills learned in classroom-based instruction to those operations. The student will observe and perform operations under the supervision of experienced conductor mentors in actual field locations.

**RRTD 122 INTRODUCTION TO RAILROAD DISPATCHING**

2 credits. 2.5 hours.

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, dispatcher option.*

Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and basic dispatching functions. Class currently held at Tarrant County Junior College, Ft. Worth, TX.

**RRTD 271 APPRENTICE RAILROAD DISPATCHER TRAINING I**

6 credits. 7.5 hours.

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, dispatcher option, and successful completion of RRTD 275 with a grade of C or better.*

Upon successful completion of this course, the student should demonstrate abilities to apply the General Code of Operating Rules, Maintenance of Way operating rules, and the Train Dispatcher’s Manual of policies and practices to safe and effective train movement and maintenance operations. This is an intensive course that prepares students to observe actual dispatching operations. Class currently held at Tarrant County Junior College, Ft. Worth, TX.

**RRTD 272 APPRENTICE RAILROAD DISPATCHER TRAINING II**

6 credits. 7.5 hours. (Laboratory: 3 hours)

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, dispatcher option, and successful completion of RRTD 271 with a grade of C or better.*

Upon successful completion of this course, the student should demonstrate the ability to use centralized traffic control equipment, computerized track warrant control equipment, and management information systems that record and report train movement. Students also will identify and resolve traffic conflicts safely and effectively. This is an intensive course in which students observe, practice, and demonstrate rail traffic dispatching functions in a laboratory setting. In addition, the student will spend an additional one week observing dispatching-related activities in the field in conjunction with this course. Class currently held at Tarrant County Junior College, Ft. Worth, TX.

**RRTD 275 RAILROAD DISPATCHING FIELD OBSERVATION**

3 credits. 16 hours. (On-the-job training: minimum 15 hours.)

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, dispatcher option, and successful completion of RRTD 122 with a grade of C or better.*

Upon successful completion of this course, the student will have observed actual dispatching operations and should be able to identify major job responsibilities. Students will observe operations under the supervision of experienced dispatcher mentors in actual dispatching offices. Class currently held at Tarrant County Junior College, Ft. Worth, TX.

**RRTD 276 RAILROAD DISPATCHING FIELD APPLICATION**

5 credits. (On-the-job training: minimum 15 hours.)

*Prerequisite: Admission to the JCCC’s Railroad Operations Program, dispatcher option, and successful completion of RRTD 272 with a grade of C or better.*

Upon successful completion of this course, the student should be able to apply skills learned in classroom-based dispatching instruction to those operations. This course is offered for 10 weeks, and students will observe and practice operations under the supervision of experienced dispatcher mentors in actual dispatching offices. Class currently held at Tarrant County Junior College, Ft. Worth, TX.
### READING

<table>
<thead>
<tr>
<th>Longview</th>
<th>Maple Woods</th>
<th>Penn Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susan Clark</td>
<td>Debra McCarty</td>
<td>Judith Flynn</td>
</tr>
<tr>
<td>Patricia Illing</td>
<td>Michele McGeeney</td>
<td>Vicki Raine</td>
</tr>
<tr>
<td>Blue River</td>
<td>Ronald Taylor</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Credit for courses numbered under 100 is not applicable to any degree or certificate.

#### READ 10 FOUNDATIONS FOR ACADEMIC READING I
- 3 credits. 3 hours.
- **Prerequisite:** Appropriate placement scores or instructor recommendation.
- 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.
- **Prerequisite:** Appropriate placement scores or the successful completion of READ 10/30 with a grade of C or better or instructor recommendation.
- Further development of fundamental ability to interact independently with printed material so as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, inference, organizational patterns, vocabulary development, and textbook strategies.

#### READ 13 LINGUISTIC COMPREHENSION I
- 3 credits. 3 hours.
- **Prerequisite:** Placement based on testing or recommendation of instructional team.
- 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 14 READING—VOCABULARY
- 1-3 credits. 1-3 hours.
- Vocabulary development through word analysis and context clues.

#### READ 15 INTRODUCTION TO AUDITORY DISCRIMINATION IN DEPTH I
- 1 credit. 1 hour.
- **Prerequisite:** Diagnostic testing and approval of instructor.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sounds in words.

#### READ 16 INTRODUCTION TO AUDITORY DISCRIMINATION IN DEPTH II
- 2 credits. 2 hours.
- **Prerequisite:** Diagnostic testing and approval of instructor.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sounds in words.

#### READ 17 INTRODUCTION TO AUDITORY DISCRIMINATION IN DEPTH III
- 3 credits. 3 hours.
- **Prerequisite:** Diagnostic testing and approval of instructor.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sound in words.

#### READ 18 LINGUISTIC COMPREHENSION II
- 3 credits. 3 hours.
- **Prerequisite:** Appropriate placement scores or the successful completion of READ 13/33 with a grade of C or better or instructor recommendation.
- 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, organizational patterns, vocabulary development, and textbook strategies.

#### READ 19 AUDITORY DISCRIMINATION IN DEPTH I
- 1 credit. 1 hour.
- **Prerequisite:** Diagnostic testing, approval of instructor, and completion of READ 15, 16, or 17.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sounds in words.

#### READ 20 AUDITORY DISCRIMINATION IN DEPTH II
- 2 credits. 2 hours.
- **Prerequisite:** Diagnostic testing, approval of instructor, and completion of READ 15, 16, or 17.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sound in words.

#### READ 21 AUDITORY DISCRIMINATION IN DEPTH III
- 3 credits. 3 hours.
- **Prerequisite:** Diagnostic testing, approval of instructor, and completion of READ 15, 16, or 17.
- Improvement in reading and spelling by increasing the student’s discrimination of number, sameness or difference, and order of sounds in words.

#### READ 22 VERBALIZING/VISUALIZING FOR LANGUAGE COMPREHENSION
- 3 credits. 3 hours.
- **Prerequisite:** Diagnostic testing and approval of instructor.
- Comprehension and retention of oral and written language, forming images, and verbalizing.
READ 25 STUDY SKILLS
1 credit. 2 hours.
Programmed instructional material on a microcomputer. Emphasis on specific techniques to organize the learning process. Methods of reading textbook assignments. Concentration and memory. Preparation for tests.

READ 26 LISTENING AND NOTETAKING
1-3 credits. 1-3 hours.
Practice in skill of listening and its application in notetaking. Emphasis on organization of material, written and spoken, and identification of various types of organizations as an aid to notetaking.

READ 30 FOUNDATIONS FOR ACADEMIC READING I
3 credits. 4 hours. (Laboratory: 2 hours).
Prerequisite: Appropriate placement scores or instructor recommendation.
Development of fundamental ability to interact independently with printed material so as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, word recognition, phonetic analysis, and vocabulary development. Lab component.

READ 31 FOUNDATIONS FOR ACADEMIC READING II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Appropriate placement scores or the successful completion of READ 10/30 with a grade of C or better or instructor recommendation.
Further development of fundamental ability to interact independently with printed material so as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, inference, organizational patterns, vocabulary development, and textbook strategies. Lab component.

READ 33 LINGUISTIC COMPREHENSION I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Placement based on testing or recommendation of instructional team.
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. Lab component.

READ 38 LINGUISTIC COMPREHENSION II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: Appropriate placement scores or the successful completion of READ 13/33 with a grade of C or better or instructor recommendation.
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, organizational patterns, vocabulary development, and textbook strategies. Lab component.

READ 40 EVERYDAY READING
1-3 credits. 1-3 hours.
Improvement of reading by working with newspapers, magazines, short stories, and novels. Maps, graphs, and charts.

READ 51 SPELLING I
3 credits. 3 hours.
Development of adult-level spelling skills by explanation and drill in the fundamentals of spelling. Basic patterns of vowel and consonant sounds, families of structurally similar words, and addition of affixes.

READ 52 SPELLING II
1 credit. 2 hours. (Laboratory: 2 hours)
Development of skills in the fundamentals of spelling using computer-assisted instruction.

READ 60 TEST-TAKING SKILLS
1-3 credits. 1-3 hours.
Test taking skills and test anxiety. Objective and essay tests.

READ 80 ELEMENTS OF CRITICAL THINKING
3 credits. 3 hours.
Developing critical thinking skills through reading and writing; i.e., distinguishing fact from opinion, understanding figurative language, analyzing propaganda techniques, and methods of problem solving.

READ 100 COLLEGE READING
3 credits. 3 hours.
Prerequisite: Appropriate placement scores or the successful completion of READ 11/31 with a grade of C or better or instructor recommendation.
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, and text strategies.

READ 101 SPEED READING
1 credit. 1 hour.
Prerequisite: Approval of instructor.
Purpose and method of speed reading. Guided practice in surveying, scanning, skimming, and developing flexibility of reading rates.

READ 103 LINGUISTIC COMPREHENSION III
3 credits. 3 hours.
Prerequisite: Appropriate placement scores and/or successful completion of READ 18/38 with a grade of C or better and/or recommendation of instructional team.
Enhancement of the ability to comprehend printed material at the college level. College-level vocabulary, critical and analytical reading, and text strategies through auditory and visual input.
READ 108 COLLEGE SUCCESS SKILLS
3 credits. 3 hours.
Campus orientation and skills for achieving education goals. Study skills such as textbook reading, notetaking, test preparation, and test taking. Life skills such as communication skills, time planning, and stress management.

READ 114 ADVANCED COLLEGE READING
3 credits. 3 hours.
Prerequisite: READ 100.
Further refinement in reading rate and vocabulary. Refinement of reading comprehension and concentration on critical reading.

READ 124 STUDY SKILLS
1 credit. 1 hour.
Techniques for organizing the learning process. Goal setting, memory, time budgeting, textbook reading, notetaking, test preparation, test taking, and exploration of library resources.

READ 199 INSTRUCTIONAL TECHNIQUES IN READING/SPELLING SKILLS I
3 credits. 6 hours.
Prerequisite: Approval of the instructor.
Training of clinicians in the concepts and techniques of the Auditory Discrimination in Depth program.

READ 201 INSTRUCTIONAL TECHNIQUES IN READING/SPELLING SKILLS II
2 credits. 2 hours.
Prerequisite: READ 199 or approval of instructor.
Advanced clinical techniques for training and testing students in the concepts and techniques of Auditory Discrimination in Depth and Visualizing/Verbalizing.

RSPT 250 PRINCIPLES OF RESPIRATORY CARE
4 credits. 22 hours. (Laboratory: 16 hours)
Prerequisite: Admission to the Respiratory Care program.
This is an introduction to the basic therapeutic modalities used in respiratory care, including patient safety and comfort considerations, infection control and standard precautions, medical gas delivery, humidity and aerosol therapy, basic respiratory pharmacology, secretion clearance techniques, and lung expansion therapy. Emphasis is on patient assessment, clinical application of therapies, therapy evaluation, and communication techniques. The role of respiratory care in the health care system and basic respiratory care service scope, organization, and operation are also introduced. Students will have the opportunity to work with patients after two to three weeks of introductory lecture and lab demonstration and practice. Summer.

RSPT 251 RESPIRATORY CARE EQUIPMENT
4 credits. 14 hours. (Laboratory: 8 hours)
Prerequisite: Admission to the Respiratory Care program.
This course is an introduction to basic respiratory care equipment. The operation, function, calibration, troubleshooting, and maintenance will be addressed for oxygen administration devices, aerosol generators, humidifiers, and hyperinflation devices. Medical gas production and storage will also be addressed. Summer.

RSPT 252 CLINICAL CARDIOPULMONARY PHYSIOLOGY
2 credits. 2 hours.
Prerequisite: Successful completion of the summer sequence of respiratory care courses.
This is a comprehensive study of the physiology and pathophysiology of the pulmonary, cardiovascular, and renal systems as they relate to respiratory care. Fall.

RSPT 253 CLINICAL PRACTICE I
4 credits. 24 hours. (Laboratory: 24 hours) Fall
Prerequisite: Successful completion of the summer sequence of respiratory care courses.
This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students with close supervision will have the opportunity to work with patients to further develop their skill and understanding of basic respiratory care procedures for adults and children. The course objectives progress throughout the semester to involve the students initially in basic care to the critically ill patient and as the students’ comfort level and exposures progress, the students are allowed to work with the more critically ill patients.

RSPT 254 CLINICAL PRACTICE II
4 credits. 24 hours. (Laboratory: 24 hours)
Prerequisite: Successful completion of the summer sequence of respiratory care courses.
This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students with close supervision will have the opportunity to work with patients to further develop their skill and understanding of critical respiratory care procedures for adults and children. Students will also be involved in specialty activities to include physician rounds, pulmonary rehabilitation, home care, pulmonary function, and cardiopulmonary stress testing. Spring.

RSPT 255 CARDIOPULMONARY MEDICINE I
1 credit. 2 hours.
Prerequisite: Admission to the Respiratory program.
This is the first of three courses that provide a detailed review of the respiratory and cardiac system anatomy and physiology and the clinical implications of normal and abnormal function. Summer.

RSPT 256 CLINIC TOPICS AND PROCEDURES I
4 credits. 6 hours. (Laboratory: 3 hours)
Prerequisite: Successful completion of the summer sequence of respiratory care courses.
This course supplements the fall clinical experiences. Concepts, techniques and procedures learned in the summer semester are reinforced. The student will develop new understandings and skills in the acute care, basic emergency care, and introductory-level critical care settings. Emphasis will be on arterial blood gas procurement and analysis, cardiac rhythm assessment and management, airway equipment and management procedures, patient management of obstructive lung disorders, peri-operative care and chest trauma. In addition, basic mechanical ventilation concepts and techniques will be addressed as they relate to physiologic effects, ventilator commitment, management and basic troubleshooting. Fall.

RSPT 257 CLINIC TOPICS AND PROCEDURES II
4 credits. 6 hours. (Laboratory: 3 hours)
Prerequisite: Successful completion of the summer sequence of respiratory care courses.
This course supplements the spring clinical experiences. Concepts, techniques and procedures learned in the fall semester are reinforced. The student will refine understanding and skills in the acute care, basic emergency care, and critical care settings. Emphasis will be on ventilator management of patients with specific lung insults, neurological compromise, and the cardiac patient. Advanced mechanical ventilation concepts and techniques will be addressed as they relate to physiologic effects, management and troubleshooting. Home care, pulmonary rehabilitation, physician-assisted procedures, cardiopulmonary stress testing, patient case management, and department management will also be addressed. Spring.

RSPT 258 RESPIRATORY CARE OF CHILDREN
2 credits. 2 hours.
Prerequisite: RSPT 230.
The focus will be on the respiratory care of neonatal and pediatric patients with emphasis on the management of cardiopulmonary disease states unique to children. Information will be based on developmental anatomy and physiology, pathology, diagnostic/laboratory assessments, and associated patient management in the acute, critical, emergency care, transport, and home care settings. Spring.

RSPT 260 CARDIOPULMONARY MEDICINE II
2 credits. 2 hours.
Prerequisites: Successful completion of the summer sequence of respiratory care courses.
This is the second in a series of three courses that provide a detailed review of pulmonary disorders, their pathology and their management.

RSPT 270 CARDIOPULMONARY PHARMACOLOGY
2 credits. 2 hours
Prerequisites: Successful completion of the summer sequence of respiratory care courses.
This course acquaints the student with general principles of pharmacology and provides a comprehensive review of all drugs and drug groups that are either administered by respiratory care practitioners or play an integral part in the management of patients they may encounter. Emphasis is on the clinical application of pharmacologic agents, their therapeutic effects, mechanism of action and adverse effects, rather than the biochemistry involved.

RSPT 275 CRT-RRT CLINICAL TOPICS AND PROCEDURES
4 credits. 4 hours.
Prerequisites: Admission to the Respiratory Care program CRT to RRT transition process.
This course is a transition course for the certified respiratory therapist preparing for the registry respiratory care process. Assessment, monitoring and respiratory management of the adult critical care patient is the primary emphasis.

RSPT 280 CRT-RRT CLINICAL PRACTICE TRANSITION
4 credits. 24 hours. (Laboratory: 24 hours)
Prerequisite: RSPT 233 and 245.
Students will assess and manage the adult, pediatric and neo-natal patient with respiratory and/or cardiac-related conditions using the basic respiratory care arsenal, as well as the critical care monitoring, mechanical ventilation and airway management techniques required for the more critically ill patient. Students will be exposed to cardiopulmonary diagnostic procedures, pulmonary rehabilitation, and home care management of the respiratory patient.
SIGN LANGUAGE INTERPRETING

Maple Woods  
Ula Williams

SIGN 101 CONVERSATIONAL AMERICAN SIGN LANGUAGE I  
3 credits. 4 hours. (Laboratory: 2 hours)  
A beginning course of instruction in American Sign Language designed to introduce functional communication skills. Also included will be fingerspelling signs. The focus is learning to exchange personal information in a culturally appropriate way. A no-voice, total immersion approach is used in this course.

SIGN 102 CONVERSATIONAL AMERICAN SIGN LANGUAGE II  
3 credits. 4 hours. (Laboratory: 2 hours)  
*Prerequisites: SIGN 101 or permission of program coordinator.*  
A course of instruction designed to further challenge the students to express themselves in a variety of situations using American Sign Language. Included will be fingerspelling signs. Each unit of instruction focuses on a major language function in interactive contexts. A no-voice, total immersion approach is used in this course.

SIGN 110 AMERICAN SIGN LANGUAGE I  
4 credits. 5 hours. (Laboratory: 2 hours)  
*Prerequisites: ENGL 101 and final grade of B or better in SIGN 102 or permission of the program coordinator.*  
A course designed to provide students with the principles and methods of communicating manually with Deaf individuals. Emphasis will be placed on the development of expressive and receptive skills in American Sign Language and an understanding of its grammatical structure. A no-voice, total immersion approach is used in this course.

SIGN 112 FINGERSPELLING  
1 credit. 2 hours. (Laboratory: 2 hours)  
*Prerequisites: ENGL 101 and final grade of B or better in SIGN 102 or permission of the program coordinator.*  
A course to provide students an intensive study of embedded fingerspelling and expressive drills. The students will develop discrimination of embedded numbers, recognize words according to affixes, discriminate adjacent fingerspelled words, and improve short-term visual memory skills. Students will be exposed to a variety of fingerspelling production.

SIGN 114 THE INTERPRETING PROFESSION  
2 credits. 2 hours.  
*Prerequisites: ENGL 101 and final grade of B or better in SIGN 102 or permission of the program coordinator.*  
This course gives an overview of interpreting as an occupation. Course work will focus on the role of the interpreter, code of ethics, certification, various modes of interpreting, legal issues that affect the profession, and organization of a free-lance business.

SIGN 116 DEAF CULTURE  
3 credits. 3 hours.  
*Prerequisites: ENGL 101 and final grade of B or better in SIGN 102 or permission of the program coordinator.*  
A course designed for the understanding of American Deaf culture and understanding the changing dynamics when interpreters are involved in communication. The end result is to better one’s own communication skills and to be able to communicate and mediate across cultures.

SIGN 118 SIGN-TO-VOICE I  
3 credits. 4 hours. (Laboratory: 2 hours)  
*Prerequisites: ENGL 101 and final grade of B or better in SIGN 102 or permission of the program coordinator.*  
A course designed to provide students with a study of sign-to-voice interpreting. The course of study includes short-term memory exercises, language analysis, sequencing, shadowing, paraphrasing, vocal inflection, diction, breathing, and pronunciation. Extensive use of videotapes provide students in-class practice.

SIGN 120 AMERICAN SIGN LANGUAGE II  
4 credits. 5 hours. (Laboratory: 2 hours)  
*Prerequisites: SIGN 110 and 116 or permission of program coordinator.*  
Continued development of expressive and receptive skills in American Sign Language. Emphasis will be placed on vocabulary acquisition in connection with the understanding and use of appropriate American Sign Language structure. Development of nonmanual behaviors will be stressed.

SIGN 122 LINGUISTICS OF AMERICAN SIGN LANGUAGE  
3 credits. 3 hours.  
*Prerequisites: SIGN 110 and 116 or permission of program coordinator.*  
A course designed to teach the basic concepts of linguistics as they relate to American Sign Language structure. The phonology, morphology, and syntax of American Sign Language will be the major areas studied.

SIGN 125 INTERPRETING I  
4 credits. 5 hours. (Laboratory: 2 hours)  
*Prerequisites: SIGN 110 and 116 or permission of program coordinator.*  
A course designed to develop skills in expressive interpreting. The course will focus on consecutive interpreting. Skills in analyzing the source language and target language will be developed. Extensive work on visualization and imagery skills will occur.

SIGN 128 SIGN-TO-VOICE II  
3 credits. 4 hours. (Laboratory: 2 hours)  
*Prerequisites: SIGN 110-118 inclusive or permission of program coordinator.*  
A course to provide the student with more difficult sign-
to-voice tasks. At this level of study, students will view signed narratives and voice consecutively. Instructor, peer, and self-evaluations will provide students feedback on strengths and weaknesses.

**SIGN 210 AMERICAN SIGN LANGUAGE III**  
4 credits. 5 hours. (Laboratory: 2 hours)  
Prerequisites: SIGN 110-128 inclusive or permission of program coordinator.  
A course for continued development of expressive and receptive American Sign Language skills. Continued emphasis on aspects of American Sign Language for increasing fluency in using the language. Students will increase their ability to discuss a variety of topics in the target language.

**SIGN 212 C.A.S.E. I**  
2 credits. 3 hours. (Laboratory: 2 hours)  
Prerequisites: SIGN 110-128 inclusive or permission of program coordinator.  
A course of study designed to develop skills in expressing conceptually accurate signed English. In this hands-on course, students will practice skills in transliterating spoken English to signed English using appropriate sign choices to convey the message to the Deaf consumer.

**SIGN 215 INTERPRETING II**  
4 credits. 5 hours. (Laboratory: 2 hours)  
Prerequisites: SIGN 110-128 inclusive or permission of program coordinator.  
A course designed for continued development of skills necessary to interpret spoken English to American Sign Language. Course work will focus on the development of simultaneous interpreting skills. Students will be exposed to videotaped interpreting models and introduced to interactive situations.

**SIGN 218 SIGN-TO-VOICE III**  
4 credits. 6 hours. (Laboratory: 4 hours)  
Prerequisites: SIGN 110-128 inclusive or permission of program coordinator.  
A course to develop skills for more difficult sign-to-voice interpreting tasks. At this level of study, students will watch videotaped signed narratives and begin to use simultaneous interpreting skills. Introduction of signers using Signed English will be included in the course of study.

**SIGN 220 AMERICAN SIGN LANGUAGE IV**  
4 credits. 5 hours. (Laboratory: 2 hours)  
Prerequisites: SIGN 110-128 inclusive or permission of program coordinator.  
A course to further develop conversational skills with the emphasis on native fluency in receptive and expressive modes. Continued vocabulary development to enhance the ability to converse on a variety of topics and levels is a priority.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Laboratory Hours</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>5</td>
<td>2</td>
<td>SIGN 110-128 inclusive or permission of program coordinator</td>
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<td>2</td>
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<td>A course of study designed to develop skills in expressing conceptually accurate signed English. In this hands-on course, students will practice skills in transliterating spoken English to signed English using appropriate sign choices to convey the message to the Deaf consumer.</td>
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<td>SIGN 222</td>
<td>C.A.S.E. II</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>SIGN 110-128 inclusive or permission of program coordinator</td>
<td>Continued study of transliteration. Skills developed in this course include expressing more complex spoken English texts in Conceptually Accurate Signed English. Continued sign vocabulary development.</td>
</tr>
<tr>
<td>SIGN 225</td>
<td>INTERPRETING III</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>SIGN 110-218 inclusive or permission of program coordinator</td>
<td>The final course in the development of skills when interpreting spoken English to American Sign Language. This course will focus on simultaneous interpreting in various situations. Heavy emphasis will be placed on interactive models in preparation for skill evaluations leading to certification.</td>
</tr>
<tr>
<td>SIGN 228</td>
<td>SIGN-TO-VOICE IV</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>SIGN 110-218 inclusive or permission of program coordinator</td>
<td>A course designed to provide more challenging levels of difficulty in sign-to-voice tasks. Students will simultaneously voice videotaped stories, lectures, panel discussions, dialogues and poetry produced by signers using Pidgin Signed English and American Sign Language. Work will continue on diction and vocal inflection to appropriately represent signed material.</td>
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<tr>
<td>SIGN 230</td>
<td>PRACTICUM/INTERNSHIP</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>SIGN 110-218 inclusive or permission of program coordinator</td>
<td>The student will interpret at a practicum site under the supervision of a mentor. Class will meet weekly for discussion of the practical experience. A journal will be kept to record feelings or reactions to various situations and new vocabulary learned at the practicum site.</td>
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<tr>
<td>SIGN 235</td>
<td>DIRECTED STUDY I</td>
<td>1</td>
<td>1</td>
<td></td>
<td>Consent of program coordinator</td>
<td>A flexible program of guided study in sign language interpreting. With the consent and guidance of the instructor, the student will conduct an in-depth study of a particular facet of interpreter training, including field observations and deaf community-oriented projects.</td>
</tr>
<tr>
<td>SIGN 236</td>
<td>DIRECTED STUDY II</td>
<td>1</td>
<td>1</td>
<td></td>
<td>Consent of program coordinator</td>
<td>A flexible program of guided study in sign language interpreting. With the consent and guidance of the instructor, the student will conduct an in-depth study of a particular facet of interpreter training, including field observations and deaf community-oriented projects.</td>
</tr>
</tbody>
</table>
SIGN 237  DIRECTED STUDY III
1 credit. 1 hour.
Prerequisite: Consent of program coordinator.
A flexible program of guided study in sign language interpreting. With the consent and guidance of the instructor, the student will conduct an in-depth study of a particular facet of interpreter training, including field observations and deaf community-oriented projects.

SIGN 238  DIRECTED STUDY IV
1 credit. 1 hour.
Prerequisite: Consent of program coordinator.
A flexible program of guided study in sign language interpreting. With the consent and guidance of the instructor, the student will conduct an in-depth study of a particular facet of interpreter training, including field observations and deaf community-oriented projects.

SOCIAL SCIENCE

Maple Woods
Robert Williams

SOSC 115  CONSUMER PROBLEMS
1-3 credits. 1-3 hours.
Problems and potentials of family spending and consumption with attention to consumer protection and marketing practices.

SOSC 126  SOCIAL SERVICE PRACTICUM
2 credits. 4 hours. (Laboratory: 3 hours)
Prerequisite: A course in psychology or sociology and approval of the instructor.
Experimental learning situation with a cooperating social agency for the development of social skills and of opportunities available in the social service area.

SOSC 150  FOUNDATIONS OF THE SOCIAL SCIENCES I
3 credits. 3 hours.
Introduction to social science and the scientific method. Institutional framework of society with emphasis on the family, religion, and education. Interpreting human behavior.

SOSC 150  FOUNDATIONS OF THE SOCIAL SCIENCES I: CONFLICTS IN THE MODERN WORLD (PACE)
4 credits. 4 hours.
Introduction to the social sciences. Development of social, political, and economic institutions. Conflict and consensus views of social issues in historical context. Emphasis on the role of economic thought.

SOSC 151  FOUNDATIONS OF THE SOCIAL SCIENCES II
3 credits. 3 hours.

SOSC 151  FOUNDATIONS OF THE SOCIAL SCIENCES II: STATE AND FEDERAL GOVERNMENT (PACE)
4 credits. 4 hours.
Economic and governmental institutions, the chief ideologies of the modern world, and international relations. American institutions and the federal and Missouri Constitutions.

SOSC 153  READINGS IN SOCIAL SCIENCE
1-3 credits. 1-3 hours.
A flexible program of guided reading, discussion, and written work designed to provide the student with either a survey of the social sciences or a detailed study of a particular area within social science. Includes a unit on American institutions and the federal and Missouri constitutions when requested.

SOSC 154  COLLOQUIA
1 credit. 1 hour.
Prerequisite: Approval of the chairperson of the social science division.
Readings in selected topics of current interest.

SOSC 171  COMPARATIVE ETHNIC AND CULTURAL STUDIES
4 credits. 4 hours.
A comparative study of the United States and contemporary societies in a foreign region, with focus on socioeconomic and political systems, to enhance the students’ understanding of American society.

SOSC 172  INTRODUCTION TO ARCHAEOLOGY
3 credits. 3 hours.
This course is designed to introduce basic archaeological principles used in bringing the past back to life. Areas studied will include archaeological sites in Africa, Europe, the Middle East, and the “New World.”

SOSC 235  INTERNATIONAL RELATIONS
3 credits. 3 hours.
Contemporary international relations as they affect the United States with emphasis on Far Eastern problems and aspects of Russo-American, Anglo-American, and Latin-American relations. Organization of the State Department diplomatic services. International agencies and the United Nations, functions and problems. Note: Credit for SOSC 235 is also available to students participating in Penn Valley’s study tours to foreign countries other than the Soviet Union. Information about this arrangement is available in the Penn Valley counseling office.
SOCIOLOGY

Blue River  Longview  Maple Woods
Sharon Hogan  Tammie May  Clifford Naysmith

Penn Valley  dorether Welch

SOCI 101  SEX ROLES AND SEXUALITY
3 credits. 3 hours.

SOCI 160  SOCIOLOGY
3 credits. 3 hours.
Introduction to sociological principles, practices, and concepts with emphasis on groups, culture, personality, society, communication, cities, and social institutions. Family, religion, government, social change, social control, and social progress.

SOCI 161  URBAN SOCIOLOGY
3 credits. 3 hours.
Prerequisite: SOSC 150, 152, or 160.
Social problems of an urban environment and the role of social change relative to race relations education, overpopulation, drug abuse, and other contemporary concerns.

SOCI 162  MARRIAGE AND FAMILY LIVING
3 credits. 3 hours.
Problems in personal and family living. Attitudes and practices for effective participation in marriage and family life.

SOCI 163  SOCIAL PROBLEMS
3 credits. 3 hours.
Representative social problems with emphasis on delinquency, personality disintegration, alcoholism, and family and racial conflicts.

SOCI 164  SOCIOLOGY OF THE BLACK FAMILY
3 credits. 3 hours.
How black families relate and respond to society as a whole with emphasis on social welfare, housing, law, and employment.

SOCI 165  CRIMINOLOGY
3 credits. 3 hours.
Crime as a social phenomenon. Classification of offenders. The criminal justice process. Theories of criminality.

SOCI 168  JUVENILE DELINQUENCY
3 credits. 3 hours.

SOCI 169  FAMILY VIOLENCE AND SEXUAL ABUSE
3 credits. 3 hours.
Scope, nature, and control of family violence and sexual abuse. Psychological aspects and intervention tactics.

SOCI 170  GENERAL ANTHROPOLOGY
3 credits. 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 180  COMMUNITY SOCIAL SERVICES
3 credits. 3 hours.
Prerequisite: SOCI 160.
A study of community social services with particular emphasis on social work, social welfare, and social agencies and the efforts of the community to provide these services.

SOCI 271  SOCIAL GERONTOLOGY
3 credits. 3 hours.
Prerequisite: SOCI 160 or HUMS 100.
This course provides an introduction to the study of aging in contemporary society, with emphasis on the debunking of various myths pertaining to the aging process and older persons. Attention is also given to the demographics of population aging, to the history of attitudes, and the sociocultural context informing attitudes, social interactions, and public policy.
# SPDR 100 FUNDAMENTALS OF SPEECH
3 credits. 3 hours.
*Prerequisite: ENGL 30 with a minimum grade of C or placement into ENGL 101 based on English placement testing.*

An introductory public speaking course including practical application of speaking and listening skills. Emphasis will be on organization and delivery of subject matter.

# SPDR 100 FUNDAMENTALS OF SPEECH: COMMUNICATIONS (PACE)
4 credits. 4 hours.
*Prerequisite: ENGL 30 with a minimum grade of C or placement into ENGL 101 based on English placement testing.*

Fundamentals of communications and the process of human interaction, especially as it applies to the world of work. Speaking, listening, discussion, and persuasion. Practical application of speaking and listening skills in both formal and informal situations. Simple forms of public speaking. Offered in the PACE program.

# SPDR 101 ADVANCED SPEECH
3 credits. 3 hours.
*Prerequisite: SPDR 100.*

Further practice in public speaking situations with special emphasis on organization, development of ideas, and mechanics of delivery.

# SPDR 102 FUNDAMENTALS OF HUMAN COMMUNICATION
3 credits. 3 hours.
*Prerequisite: ENGL 30 with a minimum grade of C or a satisfactory score on the English placement test.*

An introductory course in the process of human communication, covering the basic forms of public speaking as well as interpersonal communication, including small group dynamics and interviewing. Practical application of speaking and listening skills

# SPDR 103 INTERPERSONAL COMMUNICATION
3 credits. 3 hours.

Principles and skills of human communication relating to informal communication settings. Topics include relationships, conflict, gender communication, and self-concept.

# SPDR 104 DISCUSSION AND GROUP LEADERSHIP
3 credits. 3 hours.
*Prerequisite: SPDR 100.*

Consideration of contemporary problems through systematic, objective sharing and evaluating of ideas and information. Emphasis on the development of both leadership and participation skills.

# SPDR 105 APPLIED COMMUNICATIONS
1 credit. 1 hour.

The process of human communication as it applies to specific vocational fields. Speaking, listening and/or small group skills are examined and practiced in a vocational setting.

# SPDR 110 ARGUMENTATION AND DEBATE
3 credits. 3 hours.
Theory, methods, structure, and execution of competitive debate. Participation in competitive debates with other area debate squads.

# SPDR 112 ORAL INTERPRETATION OF LITERATURE
3 credits. 3 hours.
*Prerequisite: SPDR 100.*

Analysis and presentation of literary works to increase appreciation of and skill in reading aloud in individual and group performances.

# SPDR 114 THEATER AND THE WESTERN WORLD
3 credits. 3 hours.

Theater in Europe and America from ancient Greece to the present with attention to interrelationships between the theater and the various western societies of which it has been a part.

# SPDR 115 ACTING IN TELEVISION
3 credits. 4 hours. (Laboratory: 2 hours)
Introduction to performance in television. Basic performance techniques will be explored, culminating in a final project.

# SPDR 116 CHILDREN’S THEATER
3 credits. 4.5 hours. (Laboratory: 3 hours)

Introduction to children’s theatre and the various forms of children’s theatre based not only on theatrical styles but age levels. This is a class designed for the adult student actor with emphasis on performance before a live audience. Various imagination games will be employed to help student actors learn how to communicate to a child audience.

# SPDR 120 ACTING
3 credits. 3 hours.

Introduction to a wide variety of acting techniques and styles. Practical experience in dramatic and comic performance, auditioning, and criticism of performances.

# SPDR 121 ELEMENTS OF PLAY PRODUCTION
3 credits. 3 hours.
*Prerequisite: SPDR 100 or approval of the instructor.*

Elements of production. Plays, acting, directing, makeup, costuming, scene design, construction, properties, lighting, special effects, publicity, stage management, house management, and business management.
**SPDR 122-125 THEATER PRACTICUM**

1 credit. 1 hour.
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

**SPDR 126 SUMMER THEATER WORKSHOP**

1-3 credits. 1-3 hours.
Acting or technical production in one, two, or three productions of a local summer theater.

**SPDR 128 INTRODUCTION TO FILM**

3 credits. 3 hours.
Viewing and analysis of films. History and technical aspects of filmmaking. The visual language of this art form.

**SPDR 130 DIRECTED STUDIES IN SPEECH/THEATER/DEBATE**

1 credit. 1 hour.
*Prerequisites: SPDR 100 and approval of the instructor.*
Independent study in speech, theater, or debate. Individual or group work to explore special projects under the supervision of a faculty member.

**SPDR 131 DIRECTED STUDIES IN SPEECH/ THEATER/DEBATE**

2 credits. 2 hours.
*Prerequisites: SPDR 100 and approval of the instructor.*
Independent study in speech, theater, or debate. Individual or group work to explore special projects under the supervision of a faculty member.

**SPDR 132 DIRECTED STUDIES IN SPEECH/THEATER/DEBATE**

3 credits. 3 hours.
*Prerequisites: SPDR 100 and approval of the instructor.*
Independent study in speech, theater, or debate. Individual or group work to explore special projects under the supervision of a faculty member.

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**SURGICAL TECHNOLOGY**

**STNU 102 FUNDAMENTALS OF OPERATING ROOM TECHNIQUE**

11 credits. 21 hours. (Clinical: 15 hours)
Applies principles of medical and surgical asepsis. Focuses on preparation of the sterile field and identification of instruments, sutures, supplies, and equipment. Emphasis is on basic skills of the surgical technologist in preparation for and during the operative procedure. Practices maintaining a safe client environment and includes the responsibilities and duties of surgery personnel. Common surgical techniques and procedures are introduced.

**STNU 104 BODY STRUCTURE AND FUNCTION**

2 credits. 4 hours. (Laboratory: 2 hours)
*Prerequisites: Students must meet entrance requirements and must be accepted into the Surgical Technology program.*
Introduces students to the major structures and functions of the human body. Is taught according to body systems. Laboratory time is used to introduce and reinforce classroom instruction.

**STNU 105 PHARMACOLOGY FOR THE SURGICAL TECHNOLOGIST**

2 credits. 3 hours. (Clinical: 1 hour)
Development of knowledge and understanding of the metric, apothecary, household, and linear systems of measurement. The conversion of equivalents from one system to another. Focus is on terminology associated with pharmacology and procedures for safe and accurate handling of medications and solutions. Included is discussion of principles of anesthesia administration, postanesthesia client care, and care in emergencies.

**STNU 106 ASEPTIC TECHNIQUE FOR THE SURGICAL TECHNOLOGIST**

2 credits. 4 hours.
Study of structure, function, and pathogenicity of microorganisms, immune and infectious responses. An emphasis is placed on principles of sterilization, disinfecting, environmental sanitation, and practices that promote optimal healing.

**STNU 109 PRINCIPLES OF SURGICAL PROCEDURES I**

8 credits. 16 hours. (Clinical: 12 hours)
Focus is on diagnosis, pathology, and surgical sequence of general surgery, gynecological surgery, genitourinary surgery, and laparoscopic surgery. Included is discussion of postoperative care and complications.

**STNU 110 PRINCIPLES OF SURGICAL PROCEDURES II**

7 credits. 15 hours. (Clinical: 12 hours)
Focus is on diagnosis, pathology, and surgical sequence of ophthalmological, ENT, head and neck, plastic/reconstructive, and orthopedic surgeries. Included is a discussion of postoperative care and complications.
STNU 111  CAREER DEVELOPMENT FOR THE SURGICAL TECHNOLOGIST
2 credits. 2 hours.
Résumé development, interviewing techniques, and introduction to the current health care market. Emphasis on self-evaluation of professional skills and their potential application to the current health care market.

STNU 114  PRINCIPLES OF SURGICAL PROCEDURES III
7 credits. 13 hours. (Clinical: 9 hours)
Focus is on diagnosis, pathology, and surgical sequence with complex surgical specialties: neurosurgery, cardiovascular and peripheral vascular, thoracic, pediatric, gynecologic, and trauma surgery. Included is discussion of postoperative care and complications.

SURVEYING
See Land Surveying, page 156.

TRAVEL AND TOURISM

Maple Woods
Tim Tjaden

TRAV 100  BASIC RESERVATION SKILLS
1 credit. 1 hour.
Prerequisite: Permission of instructor.
Provides specialized job skill training for students newly employed in the airline industry. The course will reinforce and complement company training with an emphasis on building habits for success.

TRAV 101  INTRODUCTION TO THE TRAVEL INDUSTRY
3 credits. 3 hours.
Survey of all aspects of the travel industry. Domestic and international air travel, cruises, railroads, hotels, tours, and vacation planning.

TRAV 102  DESTINATION GEOGRAPHY
3 credits. 3 hours.
Prerequisite: Completion of or enrollment in TRAV 101.

TRAV 103  TRAVEL SALES AND RESERVATIONS
3 credits. 3 hours.
Prerequisite: TRAV 102.
Sales techniques with travel reservations. Travel customer counseling. Cross-selling of specific travel products.

TRAV 104  TRAVEL AGENCY OPERATIONS
3 credits. 3 hours.
Prerequisite: Completion of or enrollment in TRAV 103.
Survey of major activities of travel specialists. Reservations, work flow, communications, and automation.

TRAV 105  COMPUTER RESERVATION SYSTEMS
4 credits. 5 hours. (Laboratory: 2 hours)
Prerequisite: Completion of or enrollment in TRAV 104.

TRAV 111  DESTINATION SPECIALIST: THE CARIBBEAN REGION AND MEXICO
3 credits. 3 hours.
Designed as an applied geography course for professional certification for travel agency, cruise line, and airline employees. This course provides in-depth knowledge of the geography, climate, cultures, politics, languages, and history of the region. Emphasis will be placed on both physical and cultural attractions and activities and on the dynamics of the tourism industry. Students will take a national certification test to become a destination specialist. This is also a good introduction for people simply planning to visit the region. This course is not transferrable for the Missouri State Teaching Certificate.

TRAV 112  DESTINATION SPECIALIST: PACIFIC RIM
3 credits. 3 hours.
Designed as an applied destination geography course leading to professional certification for travel agency, cruise line, and airline employees. This course provides in-depth knowledge of the geography, climate, cultures, politics, languages, and history of the Pacific Rim including Australia, New Zealand, Tahiti and Polynesia, Melanesia, Micronesia, Japan, China, and East Asia. Emphasis will be placed on both physical and cultural attractions and activities as well as the dynamics of the regional tourist industry. Students will take a national certification test to become a destination specialist.
TRAV 113 DESTINATION SPECIALIST: NORTH AMERICA
3 credits. 3 hours.
Designed as an applied destination geography course leading to professional certification for travel agency, cruise line, and airline employees. This course provides in-depth knowledge of the geography, climate, cultures, politics, languages, and history of North America, especially Canada and the United States. Students will take a national certification test to become a destination specialist.

TRAV 114 DESTINATION SPECIALIST: WESTERN EUROPE
3 credits. 3 hours.
Designed as an applied destination geography course leading to professional certification for travel agency, cruise line, and airline employees. This course provides in-depth knowledge of the geography, climate, cultures, politics, languages, and history of Western Europe. Students will take a national certification test to become a destination specialist.

TRAV 115 DESTINATION SPECIALIST–CORPORATION TRAVEL GEOGRAPHY
3 credits. 3 hours.
Prerequisite: TRAV 102 or permission of the instructor.
An in-depth study of major business travel destinations. Both U.S. and international cities are reviewed. Topics include the fundamentals of business travel, needs of business travelers, and types of business travel. Students will work in teams to develop a service plan for commercial accounts. Each student will take a certification test from the Institute of Certified Travel Agents.

TRAV 120 ORIENTATION TO TRAVEL CAREERS
3 credits. 3 hours.
Survey of careers in the travel industry. Career development, opportunities with the PARS reservation system in airlines and travel-related businesses.

TRAV 121 TRAVEL SALES AND CUSTOMER SERVICE
3 credits. 3 hours.
Prerequisite: TRAV 103 or permission of the instructor.
Designed for airline, travel agency, and tour operator employees who have direct contact with the public. Emphasis is placed on developing a customer service program to retain customers and enhance sales.

TRAV 122 CRUISE COUNSELING AND MARKETING
3 credits. 3 hours.
Prerequisite: TRAV 101 or permission of the instructor.
The fundamentals of arranging and selling cruises. Includes port facilities, services, itineraries, shore and optional excursions, and reference materials. Emphasis is on cruise counseling, determining needs, making recommendations, customer service, and marketing.

TRAV 124 ADVANCED STUDIES IN TRAVEL AND TOURISM
3 credits. 3 hours.
Prerequisite: Permission of the instructor.
The Capstone course for students seeking an advanced certificate in travel management or an A.A.S. degree in travel and tourism. The student will complete a major project in corporate travel management or leisure travel management.

VETERINARY TECHNOLOGY

VETT 100 INTRODUCTION TO VETERINARY TECHNOLOGY
2 credits. 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 emotional involvement in the treatment and care of animals. Client relations, vaccination programs, regulatory organizations, receptionist duties, breeds and breed characteristics, neutering, puppy care, diets, and hospital management.

VETT 101 PRINCIPLES OF ANIMAL SCIENCE I
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: VETT 101.
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 110 PRINCIPLES OF ANIMAL SCIENCE II
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: VETT 101.
Anesthesia and the physiology of the digestive, urinary, endocrine, and reproductive systems. Blood and specimen collection, basic bandaging, and introduction to surgical preparation and radiographic processing.

VETT 111 SANITATION AND ANIMAL CARE
2 credits. 3 hours. (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. (Laboratory: 4 hours)
Prerequisites: VETT 101 and 110.
Administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparations and postoperative procedures, parenteral fluid administration, and intravenous hookups. Introduction to orthopedics, electrocardiography, bone marrow cytology, and pharmacology.
VETT 201 CLINICAL PATHOLOGY TECHNIQUES I
4 credits. 7 hours. (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. (Laboratory: 4 hours)
Prerequisites: BIOL 101 or 106 and VETT 101 and 110.
Basic principles of anatomy using a systemic approach. Physiology as it relates to anatomy and applicable pathology involving the animal body systems. Comparison of the animal species using the cat for dissection.

VETT 203 LABORATORY ANIMAL TECHNOLOGY
2 credits. 3 hours. (Laboratory: 3 hours)
Prerequisites: VETT 101, 110, and 201.
Restraint and handling of laboratory animals and birds. Blood collection, restraint, identification, medicating, anesthesia, and specimen collection. Supervisory skills for laboratory animal research.

VETT 209 EQUINE MEDICINE AND MANAGEMENT
3 credits. 4 hours. (Laboratory: 2 hours)
Prerequisite: VETT 212.
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. Laboratory procedures.

VETT 210 VETERINARY HOSPITAL TECHNOLOGY II
3 credits. 5 hours. (Laboratory: 4 hours)
Prerequisite: VETT 200.
Administration of anesthetics, surgical assisting, bandaging, casting, blood transfusions, surgical preparations, and postoperative care. Administration of parenteral fluid and emergency treatments. Introduction to ophthalmology and dermatology.

VETT 211 CLINICAL PATHOLOGY TECHNIQUES II
5 credits. 8 hours. (Laboratory: 6 hours)
Prerequisite: VETT 201.
Theory and performance in hematologic, urinalysis, clinical chemistry, and parasitology. Introduction to simple immunologic tests, blood coagulation tests, and bone marrow evaluation.

VETT 212 LARGE ANIMAL TECHNOLOGY
4 credits. 6 hours. (Laboratory: 4 hours)
Prerequisites: VETT 101 and 110.
Techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Bovine, porcine, and ovine medicine and management including restraint, blood collection, medicating, and nursing techniques.

VETT 213 RADIOLOGY AND ELECTRONIC PROCEDURES
2 credits. 3 hours. (Laboratory: 2 hours)
Intensive study and practice in radiological techniques, radiographic exposure techniques, filming processing, contrast radiography, and machine electronics.

VETT 214 VETERINARY TECHNICIAN INTERNSHIP
6 credits. 420 hours.
Prerequisite: Two semesters of first-year veterinary technology courses.
Supervised intensive clinical study under the direction of cooperating veterinarian to provide 420 hours of actual work experience.
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| SPAN       | 101 141 | 102 141 | 129 141 | 203 142 | 204 142 | 212 142 | 214 142 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| SPDR       | 100 192 | 100P 192 | 101 192 | 102 192 | 103 192 | 104 192 | 105 192 | 110 192 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
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| STNU       | 100 193 | 102 193 | 104 193 | 105 193 | 106 193 | 109 193 | 110 193 | 111 194 | 114 194 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
Administration and Faculty

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ADMINISTRATION AND FACULTY

OFFICERS OF THE DISTRICT

WAYNE E. GILES ................................................. Chancellor
B.S., Southern Illinois University
M.S., Southern Illinois University
Ph.D., St. Louis University

DONALD DOUCETTE .................................. Vice Chancellor
Education and Technology
B.A., Cornell University
M.A., Arizona State University
Ph.D., Arizona State University

FRED GROGAN ....................................................... President
B.A., Bates College
M.A., Arizona State University
Ph.D., University of Missouri–Columbia

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A.A., Arapahoe Community College
B.A., Loretto Heights College
M.A., University of Northern Colorado
Ed.D., University of Northern Colorado

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A.A., Kansas City Kansas Community College
B.S. Ed., Kansas State University–Emporia
M.S., University of Kansas
Ed. D., University of Kansas

ALLAN TUNIS ............................................... Vice Chancellor
Administrative Services
B.S., Wayne State University
M.S., Wayne State University
Ed.S., University of Missouri–Kansas City

MALCOLM T. WILSON ............................................ President
B.A., Kentucky State University
M.A., Murray State University

ADMINISTRATION

MARVIN AARON ........................ Associate Dean of Student Development and Support Services
B.A., Wayland University
M.A., Eastern New Mexico University
Ed.S., Eastern New Mexico University
Ph.D., University of Missouri–Kansas City

STANLEY R. ABRAHAMSON ......................... Director Automotive Technology
B.S., Pittsburg State University
M.S., Pittsburg State University

BOBBY L. ABRAM ........................................ District Director of Foundation-Alumni Association
Administrative Center
A.A., Evangel College
B.A., Avila College
M.P.A., University of Missouri–Kansas City

SHELLI R. ALLEN ............................ Director, Project Success
B.A., Truman State University
M.A., University of Iowa

JAMES BABER ............................... Dean of Instruction
B.A., Jackson State
M.S., Jackson State
Ed.D., Northern Illinois University

MELANIE A. BAILEY ...................... Director Educational Opportunity Center
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B.S., University of Kansas–Lawrence
M.Ed., Howard University–Washington, DC
Ed.S., University of Missouri–Kansas City

GAIL BARRHAM ............................ Senior Project Associate
Administrative Center
A.A., Longview Community College
B.A., University of Missouri–Kansas City
M.S., Kansas State University

ELNA LYNN BARRON ...................... Associate Dean
Maple Woods
B.S., Missouri Western State College
M.Ed., William Woods University

CAROLYN BASKETT ....................... District Director Human Resources
Administrative Center
B.S., Alabama A&M University
M.A., Ottawa University

JACK BITZENBURG .................. Associate Vice Chancellor
Occupational and Continuing Education
B.S., Central Missouri State University
M.S., Central Missouri State University

ELEANOR SMITH BOWIE ....... Director of Title III Project
Penn Valley
B.A., St. Augustine’s College
M.A., North Carolina Central University

MARGARET BOYD ...................... Director of PACE
Longview
B.S., University of Arkansas
M.S., University of Central Arkansas

GLORIA BRADY ............................ District Director Purchasing and Contract Administration
Administrative Center
B.S., Quincy College
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JOHNNIE W. MCCLINTON ....................... Dean of Campus
          Student Services  
          Blue River 

           Licensed Psychologist 
          B.A., Baylor University  
          M.S.Ed., Baylor University 
          Ph.D., University of Missouri–Columbia 

WESLEY MEIXELSPERGER ..................... District Director 
          Accounting  
          Administrative Center 

          Certified Public Accountant 
          B.S., Southwest Missouri State University 
          M.B.A., Southwest Missouri State University 

DARRELL MEYER ............ District Director, Physical Facilities 
          Administrative Center 
          B.S., Kansas State University 

JOHN MICHAEL .............................. District Director 
          Enrollment Services  
          Administrative Center 
          B.S., Central Missouri State University 
          M.S.Ed., Central Missouri State University 

MONICA MINGUCCI .......................... Director 
          Applied Language Institute  
          Penn Valley 
          A.A., Faculdades Alcantara Machado 
          M.A., Central Missouri State University 

ELIZABETH N. MINIS ................. Dean of Student Services 
          Penn Valley 
          B.S., Emporia State University 
          M.S., Emporia State University 
          Ed.D., University of Missouri–Columbia 

MARK MURTHA .................... Acting District Director of 
          Applications Development  
          Administrative Center 
          A.A., Maple Woods Community College 
          B.A., University of Missouri–Kansas City 
          M.A., University of Missouri–Kansas City 

VAN MUSCHLER ..................... Director, Western Missouri 
          Public Safety Training Institute  
          Blue River 
          B.S., University of Missouri–St. Louis 
          M.A., National Louis University 

JOHN REAM ................................. Associate Director 
          Training and Development  
          Business & Technology Center 
          B.S., Southern Nazarene University 
          M.Div., Nazarene Theological Seminary 
          M.A., University of Missouri–Kansas City 
          Ed.S., University of Missouri–Kansas City 

BARBARA REINWALD .............. Senior Project Associate, 
          MetroSoft  
          Administrative Center 
          A.A., Maple Woods Community College 
          B.S., Park College 
          M.A., University of Missouri 

ROBIN RETZER .... Administrative Intern, Financial Services 
          Administrative Center 
          A.A., Metropolitan Junior College of Kansas City 
          B.A., William Jewell College 
          B.S., William Jewell College 

EUGENE SCHIEBER ................. Dean of Technical Education 
          Maple Wood/BTC 
          B.S., Northwest Missouri State 
          M.A., Northwest Missouri State 
          Ed.Spec., University of Missouri–Kansas City 

GARY SCHIEBER ...................... Acting District Director 
          of Computer Services  
          Administrative Center 
          B.S., University of Missouri 

JIM SEAMAN ............................... District Director 
          Training and Development 
          BTC 
          B.S., William Jewell College 
          M.B.A., Avila College 

JANE A. SMELTZER ...................... District Director 
          Management Systems and Procedures  
          Administrative Center 
          B.S., University of Missouri–Columbia 
          M.B.A., University of Missouri–Kansas City 

G. DALE THOMAS ....................... Dean of Instruction 
          Blue River 
          B.S.Ed., Central Missouri State University 
          M.S., Emporia State University 
          D.A., Idaho State University 

MARY TRUEX ...................... Associate District Director 
          Human Resources  
          Administrative Center 
          B.A., University of Northern Iowa 

CHARLES VAN MIDDLESWORTH ....... District Director 
          Research, Evaluation and Assessment  
          Administrative Center 
          B.A., Northwestern State College 
          M.A., Eastern New Mexico 
          Ed.D., University of Kansas 

REINHARD WEGLARZ ................. District Director 
          Management and Auxiliary Services  
          Administrative Center 
          B.S., Benedictine College 
          M.B.A., University of Missouri–Kansas City
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<th>Name</th>
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| Karen West                   | Assistant Dean of Planning and Development    | A.A., El Camino College  
B.A., California State University  
M.A., Pacific School of Religion  
Ed.D., University of Missouri–Columbia | Penn Valley |
| Susan Wilson                 | Administrative Intern                          | B.S., Emporia State University                              |        |
| Wesley Wingfield             | District Director                              | B.A., University of Miami  
NCE, CCDA, CNE, MCP                                           |        |
| William Allyn                | Drafting                                      | B.S., Central Missouri State University                     | Longview |
| Pamela Jo Anthony            | Nursing                                       | R.N., Research Medical Center  
B.S.N., University of Missouri–Kansas City  
M.S.N., University of Missouri–Kansas City | Penn Valley |
| Bruce Apel                   | Outreach Counselor                             | M.A., University of Missouri–Kansas City  
Ed.S., University of Missouri–Kansas City | Longview |
| John D. Arnold               | Automotive                                    | A.S.E., Master Automobile Technician  
G.M., Master Technician                                        | Longview |
| Lynndell L. Avery            | Economics and Accounting                      | B.S., University of Wichita  
M.B.A., University of Denver                                      | Penn Valley |
| Sharon Bagg                  | History                                       | Chair, Division of Natural/Social Sciences and Math  
B.M.E., Emporia State University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City | Blue River |
| Hossein Bahmaie              | Economics                                     | B.S., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City | Longview |
| James R. Bard                | Chemistry                                     | B.S., University of Oklahoma  
M.S., University of Arkansas  
Ph.D., University of Missouri–Kansas City | Maple Woods |
| Craig Bartholomaeus          | English                                       | B.A., University of Illinois  
M.A., The Ohio State University  
Ph.D., University of Colorado | Penn Valley |
| Dianane Grafentine Beedle    | Nursing                                       | A.S.N., Neosho County Community College  
B.S.N., Pittsburg State University | Penn Valley |
| Pamela Beers                 | Practical Nursing                             | Diploma, Providence Hospital School of Nursing  
B.S., St. Mary College                                              |        |
| James Q. Beisel              | Business                                      | B.S., Kansas State University, Agriculture  
B.S., Kansas State University, Business Administration  
M.B.A., University of Kansas | Longview |
| Linda F. Bell                | Child Development                             | B.S., University of Arkansas, Pine Bluff  
M.S., Emporia State University                                        | Penn Valley |
| Patricia A. Berge            | Office Systems                                | A.B., University of Kentucky  
M.A., University of Missouri–Kansas City | Maple Woods |
| Roger Bidwell                | Practical Nursing                             | B.S.N., St. Lukes College of Nursing  
M.S.N., University of Kansas                                           | Penn Valley |
| Julia Bishop                 | Psychology                                    | B.A., University of Nebraska  
M.A., University of Nebraska  
Ph.D., University of Nebraska                                            | Maple Woods |
| Sarah F. Bivins              | Human Sciences                                | B.S., Tuckegee Institute  
M.S., University of Wisconsin                                            | Penn Valley |
| Mary Ann Blitt               | Foreign Language                              | B.A., University of Colorado–Colorado Springs  
M.A., Colorado State University                                             | Maple Woods |
| Gretchen Blythe              | Counseling                                    | B.A., Ottawa University  
M.S., Drake University                                                  | Longview |
| Todd I. Bowdish              | Biology                                       | B.S., Northeast Missouri State University  
Ph.D., University of South Florida                                      | Penn Valley |
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<th>Name</th>
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<td>ARTHUR M. BRADY JR.</td>
<td>EMT – Paramedic</td>
<td>Licensed EMT-Paramedic</td>
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<td>DEBRA L. BROWN</td>
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<td>MICHAEL BROWN</td>
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<td>Physical Therapist Assistant</td>
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Certified Public Accountant
B.S., University of Kansas
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Chair, Division of Social Science
A.A., Penn Valley Community College
B.S., Park College
M.A., Central Missouri State University
Ed.S., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City
A.S.E. Certified Master Automobile Technician
B.S., Ferris State University
Chair, Math/Engineering/Physical Sciences
B.S., Fort Hays State University
M.A., Fort Hays State University
R.N., General Hospital and Medical Center
B.S.N., University of Kansas
B.A., Benedictine College
M.A., University of Missouri–Columbia
M.S., University of Missouri–Kansas City
B.A., Earlam College
M.S., University of Central Florida
Ph.D., Indiana University
B.A., University of Missouri–Kansas City
M.A., University of Missouri–Columbia
B.S., State University of New York at Buffalo
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M.S., University of Missouri–Columbia

JOAN HENSON .......................................................... Mathematics
B.A., Molloy Catholic College for Women
M.S., Adelphi University

CINTHIA A. HERBERT ............................................. Computer Science/
Information Systems
B.S., Southwest Missouri State University

RICHARD HIGGASON .................................................. English
B.S., University of Missouri–Columbia
M.A., University of Missouri–Kansas City

ELIZABETH HILL .................................................. Speech and Theater
B.A., Southeast Missouri State University
B.S., Southeast Missouri State University
M.A., University of Missouri–Kansas City
Ph.D., Southern Illinois University–Carbondale

JUANAN HILL .......................................................... Applied Language
M.A., University of Kansas

THOMAS J. HILLENBRAND ............................................ English
A.B., Loyola University of Chicago
M.A., Loyola University of Chicago

WILLIAM HODGKINSON ........................................... English
B.S., Central Michigan University
M.A., Central Michigan University

SHARON E. HOGAN ............................................. Sociology
B.S., Central Missouri State University
B.S.E., Central Missouri State University
M.A., Central Missouri State University

ROBERT J. HOLMAN .............................................. Business
Chair, Division of Business, Technology and Public Safety
B.S., Central Missouri State University
M.A., Central Missouri State University

PATRICIA P. ILLING ........................................... Reading
B.S.Ed., University of Missouri–Columbia
M.S., University of Kansas

PRISCILLA JACKSON-EVANS ........................................ History
Chair, Division of Social Science
A.A., St. Joseph Junior College
B.A., University of Missouri–Columbia
M.A., University of Missouri–Columbia

JULIANNE JACQUES .................................................. Counselor
B.S., University of Florida
M.Ed., University of Maryland

MARY ELLEN JENISON ............................................ Director, ABLE Program
Academic Bridges to Learning Effectiveness
A.A., Longview Community College
B.A., Avila College
M.A., University of Missouri–Kansas City

CHRISTOPHER L. JOHNSON ....................................... Geology
B.S., University of Wisconsin

GARY H. JOHNSON .................................................. Computer Science/
Information Systems
Microsoft Certified Systems Engineer
A.S., Metropolitan Junior College–Kansas City
B.S.B.A., Avila College
M.B.A., Avila College

MONICA JOHNSTON .................................................. Computer Software
B.S., University of Kansas
M.B.A., Keller Graduate School of Management

DAN JUSTICE ...................................................... Engineering
Chair, Division of Communications
B.S., University of Missouri–Rolla
M.S., University of Texas
Ph.D., University of Texas

SID J. KANTER ....................................................... Management
B.S., University of Kansas
M.S.D.E., Central Missouri State University

JAMES E. KARASIEWICS ............................................. English
Chair, Division of Communications
B.A., State University College of New York, Buffalo
M.A., State University College of New York, Brockport
Ph.D., Kansas State University

RUSSELL D. KEEVY .................................................. English
A.A., Spokane Falls Community College
B.A., Eastern Washington University
M.A., Eastern Washington University

MAUREEN KENNEDY .................................................. Counseling
B.A., Fontbonne College, St. Louis, MO
M.Ed., University of Missouri–Columbia

HAROLD KENYON .................................................. EMT–Paramedic
Licensed EMT-Paramedic
A.A.S., Penn Valley Community College
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JERRY MACHE .......................................... Computer Science
B.A., St. Thomas College
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M.S.N., University of Missouri–Kansas City

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M.A., University of Missouri–Columbia

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M.A., Iowa State University

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M.A., Southeast Missouri State University

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M.S., University of Arkansas

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M.A., University of Missouri–Columbia

CORNELL E. SHAW ......................... Practical Nursing
A.D.N., Kansas City Kansas Community College
B.S.N., Mid-America Nazarene College
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<td>Machine Tool</td>
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<td>KIMBERLY THEBEAU-SIERCKS</td>
<td>Radiologic Technology</td>
<td>Penn Valley</td>
<td>Registered Radiologic Technologist Registered Mammographer B.S., Avila College M.S., Kansas State University</td>
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<td>NANCY THOMPSON</td>
<td>Education</td>
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<td>B.A., Barat College, Illinois M.A., College of Holy Names, California Ph.D., University of Kansas</td>
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D.Sc., The Technion-Israel Institute of Technology

JAMES K. WEAVER ......................... Business
Longview
A.B., Drury College
M.B.A., Drury College

JANET L. WEAVER ..................... Outreach Counselor
Maple Woods
B.A., University of Missouri–Kansas City
M.Ed., University of Missouri–Columbia

DOREOTHER WELCH ...................... Sociology
Penn Valley
B.S., Avila College
M.S., Central Missouri State University
M.A., Webster University
M.S., University of Kansas

MATTHEW R. WESTRA .................. Psychology
Longview
A.A., Golden West College
B.A., California State University–Fullerton
M.S., California State University–Los Angeles

MAUREEN WIEDERHOLT ............... Practical Nursing
Penn Valley
B.S.N., Webster University

F. KIM WILCOX ......................... Speech
Penn Valley
B.A., University of Missouri–Kansas City
M.A., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

JEANA WILCOX ......................... Nursing
Penn Valley
B.A., University of Missouri–Kansas City
B.S., Central Missouri State University
M.S.D., University of Kansas

F. ULA WILLIAMS ...................... Sign Language Interpreting
Maple Woods
CSC:LSC Certified
MICS: Comprehensive
B.S., Emporia State University
M.S., Kansas University

ROBERT H. WILLIAMS .................. Psychology and History
Maple Woods
A.A., Maple Woods Community College
B.A., William Jewell College
M.A., University of Missouri–Kansas City
Ph.D., University of Missouri–Kansas City

TAMMIE WILLIS ............................... Nursing
Maple Woods
B.A., Missouri Western State College
M.A., University of Missouri–Columbia

LINDA WILSON ......................... Librarian
Maple Woods
B.A., Missouri Western State College
M.A., University of Missouri–Columbia

PATRICIA A. WINBERG ........................ Nursing
Penn Valley
R.N., Research Medical Center
B.S.N., Avila College
M.S.N., University of Kansas Medical School of Nursing
CHERYL WINTER .............................................. Mathematics  
A.A., Metropolitan Community Colleges  
B.A., Avila College  
M.S., Central Missouri State University  

JANET K. WYATT ............................................. Mathematics  
B.S., University of Arkansas  
M.A., University of Arkansas  

CHRISTINE A. YANNITELLI .............................. Counseling  
B.A., Michigan State University  
M.Ed., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City  

DEMPSEY A. YEARY ................................. Electronics  
B.S., DeVry Institute of Technology  

WILLIAM YOUNG .............................................. History  
B.A., Iowa State University  
M.A., Iowa State University  

RUTH YUNKER .............................................. Nursing  
B.S.N., University of Kansas  
M.Ed., University of Missouri–Kansas City  
M.S.N., University of Missouri–Kansas City.  

MIN M. ZENG .............................................. Mathematics  
B.S., SW China Normal University  
M.S., Western Illinois University  
Ph.D., University of Missouri–Columbia  

STEPHANIE ZERKEL .............................................. English  
B.S.E., University of Arkansas at Little Rock  
M.A., University of Arkansas at Little Rock  

DENISE ZORTMAN .............................................. Learning Resources  
B.A., Adams State College  
M.A., University of Denver  

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.  

ROBERT ABRAMS (1970-1994)  Lodging and Food Service  
B.A., University of Denver  
M.Ed., University of Missouri–Columbia  

A.A., Graceland College  
B.S., Central Missouri State University  
M.A., Central Missouri State University  
Spec. in Bus. Adm., Central Missouri State University  

RITA K. AUSTIN (1969-1986) ...................... Foreign Language  
A.B., New York State College for Teachers  
A.M., University of Kansas  

MELVIN A. AYTES (1961-1995) ...................... Political Science  
B.S., Central Missouri State University  
M.A., Central Missouri State University  

HAROLD E. BAGGERLY (1964-1995) .................. Engineering  
B.S., University of Kansas  
M.S., University of Kansas  
Licensed Professional Engineer  

JOHN W. BANKS (1969-1986) ...................... Office Systems  
B.S., Central Missouri State University  
M.A., University of Northern Iowa  

NANCY J. BANKS (1990-2000) ...................... Nursing  
B.S. in Ed., Southwest Missouri State University  
B.S.N., Avila College  
M.S.N., Kansas University  

EDITH BARTHOLOMEW (1957-1985) .................. English  
A.B., Wheaton College  
A.M., Northwestern University  

EDWARD BEASLEY (1968-1993) ...................... History  
B.A., Lincoln University  
M.A., Emporia State University  
Ph.D., University of Missouri–Kansas City  

MICHAEL E. BENSON (1972-1997) ............... Criminal Justice  
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
B.S.C., University of North Dakota at Grand Forks
M.B.A., Central Missouri State University

LEWIS E. BERG (1957-1986) ............................. Mathematics
A.B., De Pauw University
M.A., Syracuse University

DALE R. BIAGI (1965-1998) ........ Geology and Geography
A.A., Kaskaskia College
B.S., Illinois State University
M.S., Illinois State University

ALDINE BLANKENSHP (1951-1979) ........ Office Systems
A.A., Northeast Junior College
A.B., University of Northern Colorado
M.A., University of Northern Colorado

B.S., Emporia State University
M.P.A., California State University

ANN E. BOEHM (1983-1989) ......................... Psychology
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

STEPHEN BRAINARD (1970-1998) .................... President
B.S., State University of New York
M.S., Syracuse University
Ph.D., University of Missouri–Columbia

LOREE D. BREED (1970-1986) ......................... English
B.A., Avila College
M.A., University of Missouri–Kansas City
M.P.H., University of Kansas

RONALD L. BRINK (1969-1998) ............ Speech and Theater
Chair, Division of Communications
B.A., Missouri Valley College
M.A., University of Denver
Ph.D., University of Missouri–Kansas City

JOAN NANCE BROWN (1964-1994) .......... Mathematics
B.S., Harding College
M.A., University of Kansas

SUZANNE BROWN (1984–1994) ..................... Health
Registered Record Administrator
B.S., Texas Woman’s University
M.S., Texas Woman’s University

ROBERT S. BUCHANAN (1971-1993) ............... English
A.B., University of Missouri–Columbia
M.A., University of Missouri–Columbia

RALPH E. BUGLEWICZ (1965-1993) .. History and Russian
B.A., University of Kansas
M.A., University of Kansas

GEORGE A. BUNCH (1956-1989) .................. Social Science
B.S., Northwest Missouri State University
M.S., University of Kansas

WALTER M. BURKS (1970-1981) ............... Social Science
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
B.S., Southwest Missouri State University
M.S., Central Missouri State University

A.B., Pittsburg State University
M.B.A., Harvard University
Ed.D., Harvard University

JEREMIAH CAMERON (1963-1989) ............... English
A.B., University of Indiana
A.M., University of Chicago
Ph.D., Michigan State University

PATRICK R. CAPRANICA (1965-1995) .......... Social Science
B.S., Pittsburg State University
M.S., Pittsburg State University

KENNETH M. CARTER (1975-1992) ............ Automotive
Chair, Division of Communications
A.S.E. Certified Master Truck Technician
A.A.S., Longview Community College

VERNON L. CASE (1967-1993) ..................... Data Processing
B.A., William Jewell College
M.B.A., University of Missouri–Kansas City

GREGORY A. CHRISTY (1981-1992) ............ Drafting
B.S., Central Missouri State University
M.S., Central Missouri State University

JOHN P. COLEMAN (1969-1988) ..................... Art
B.F.A., Kansas City Art Institute
M.F.A., Kansas City Art Institute
OMAR G. CONRAD (1965-1995) ......................... Geology
B.S., University of Kansas
M.S., University of Kansas

HARVEY J. COOKE (1968-1995) ....................... Business
Chair, Division of Business
B.S., Emporia State University
M.S., Emporia State University

WILLIAM PATRICK COYNE (1970-2000) ........... Automotive
A.S.E. Certified Master Automobile Technician
B.S., Pittsburg State University
M.S., Pittsburg State University

BETTY L. CRAFT (1975-2000) ......................... Office Systems
B.B.A., Washburn University of Topeka

DARLENE CUMMINGS-HILL (1972-1995) .......... Nursing
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

WILLIAM DAVID CRIM (1964-1991) ............... Mathematics
B.S.E.E., University of Missouri–Columbia
M.S., New Mexico Highlands University
M.S.E.E., University of Missouri–Columbia

B.A., Huston Tillotson College
M.Mus.Ed., University of Kansas
Ed.D., Nova University

ORVILLE L. DARBY (1956-1982) ..................... Economics
B.A., Wichita State University
M.A., University of Colorado

HERMAN B. DAVIS (1969-1977) ..................... Criminal Justice
B.S., University of Missouri–Kansas City

DONALD H. DAY (1974-1986) ....................... Electronics
B.S.E.E., Finlay Engineering College

B.S., Pittsburg State University
M.S., Pittsburg State University

M. ALBERT DIMMIT SR. (1990-2000) ............. History
B.S., Kansas State University
M.A., Kansas University
Ph.D., Kansas University

B.Arch., Washington University
M.A., University of Missouri–Kansas City

PERRY A. DOYLE JR. (1966-1998) ................... Physics
A.B., William Jewell College
M.S., University of Missouri–Rolla

RICHARD W. DRUMM (1983-1999) ................ District Director
Human Services and Risk Management
B.A., Long Island University
M.A., New York University

PRICE ELLIS (1969-1995) .......................... History
B.S., Central Missouri State University
M.S., Central Missouri State University

Licensed Attorney, State of Missouri
B.A., Wichita State University
J.D., University of Missouri–Kansas City

B.S., Rockhurst College
M.B.A., University of Missouri–Kansas City
Ed.D., Nova University

A.A., Longview Community Colleges
B.S.B.A., Central Missouri State University

EDWIN MATTHEW FLYNN (1961-1995) ........ Speech and Theater
A.B., University of Missouri–Columbia
A.M., University of Missouri–Columbia

ELLEN P. FORREST (1971-2000) ............... Associate Vice Chancellor and Assistant to the Chancellor Administrative Center
B.A., Marymount Manhattan College
M.A., Fordham University

WILLIAM L. FOSTER (1987-1999) ........ Associate Director
Occupational and Continuing Education Administrative Center
B.S.E., University of Arkansas
M.Ed., University of Arkansas

THOMAS R. GARRETT (1966-1989) ............... Counseling
Licensed Psychologist
A.S., Flat River Junior College
B.S., University of Missouri–Columbia
M.Ed., University of Missouri–Columbia
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Location</th>
<th>Years</th>
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<tr>
<td>John M. Gazda</td>
<td>English</td>
<td>Penn Valley</td>
<td>1957-1993</td>
<td>B.A., University of Kansas; M.A., University of Kansas; Ph.D., University of Kansas</td>
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<tr>
<td>Kenneth W. Gillespie</td>
<td>District Director Physical Plant Administrative Center</td>
<td></td>
<td>1971-1998</td>
<td>B.S., Central Missouri State University; M.S., Central Missouri State University</td>
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<td>Louis E. Gillham</td>
<td>Counseling</td>
<td>Maple Woods</td>
<td>1965-1993</td>
<td>B.S., Southwest Missouri State University; M.S., Central Missouri State University</td>
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<td>Florence W. Goldman</td>
<td>Reading</td>
<td>Longview</td>
<td>1976-1986</td>
<td>B.S.Ed., Temple University; M.Ed., University of Illinois; Ph.D., University of Missouri–Kansas City</td>
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<td>Marvin Goldstein</td>
<td>Mathematics</td>
<td>Longview</td>
<td>1962-1999</td>
<td>B.S., University of Oklahoma; M.A., University of Oklahoma</td>
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<td>Charles M. Gosselin</td>
<td>Associate Dean of Instructional Technology</td>
<td>Penn Valley</td>
<td>1970-1998</td>
<td>B.S., Rockhurst College; M.S., University of Missouri–Kansas City</td>
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<td>Ronald E. Greathouse</td>
<td>Vice Chancellor Administrative Services</td>
<td>Administrative Center</td>
<td>1969-2000</td>
<td>B.S., Pittsburg State University; M.S., Pittsburg State University</td>
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<tr>
<td>Richard L. Hair</td>
<td>Sociology</td>
<td>Longview</td>
<td>1973-2000</td>
<td>Licensed Clinical Marriage and Family Therapist; B.S., Rockhurst College; M.A., University of Notre Dame; M.Ed., Xavier University</td>
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<td>Dorothy Hamilton</td>
<td>Nursing</td>
<td>Penn Valley</td>
<td>1973-1986</td>
<td>B.A., Point Loma Nazarene College; M.A., Point Loma Nazarene College</td>
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<tr>
<td>Cecil N. Hammonds</td>
<td>District Director Management Systems Administrative Center</td>
<td></td>
<td>1959-1996</td>
<td>B.S., University of Missouri–Kansas City; M.S., University of Kansas; Ph.D., Louisiana State University</td>
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<td>Barbara M. Hankins</td>
<td>Art</td>
<td>Longview</td>
<td>1971-1997</td>
<td>B.F.A., University of Kansas; M.F.A., University of Kansas; Ed.D., Nova University</td>
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<tr>
<td>Robert M. Hankins</td>
<td>Biology</td>
<td>Longview</td>
<td>1952-1985</td>
<td>B.S., Emporia State University; M.S., Emporia State University; Ed.D., Nova University</td>
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<td>Lillian Harrington</td>
<td>Speech and English</td>
<td>Penn Valley</td>
<td>1972-1988</td>
<td>A.B., Benedictine College; M.A., Catholic University of America</td>
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<td>Charles F. Henry</td>
<td>Physics</td>
<td>Penn Valley</td>
<td>1984-1994</td>
<td>A.A., Graceland College; B.S., Central Missouri State University; M.S., University of Missouri–Rolla</td>
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<td>Karen Herzog</td>
<td>Dean of Instruction</td>
<td>Penn Valley</td>
<td>1971-1999</td>
<td>B.S., Ozark Christian College; M.A., Kansas State University; Ph.D., University of Kansas</td>
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<td>Donald J. Herzog</td>
<td>English</td>
<td>Longview</td>
<td>1971-2000</td>
<td>B.S., Wisconsin State University at LaCrosse; M.A., Kansas State University; Ed.D., University of Kansas</td>
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<td>Karen Herzog</td>
<td>Dean of Instruction</td>
<td>Penn Valley</td>
<td>1971-1999</td>
<td>B.S.L., Ozark Christian College; M.A., Kansas State University; Ph.D., University of Kansas</td>
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<td>Julia Hill</td>
<td>Recruitment Coordinator</td>
<td>Penn Valley</td>
<td>1975-1992</td>
<td>B.S., Lincoln University; M.S., University of Southern California; Ed.D., Nova University</td>
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<td>Title/Department</td>
<td>Institution/State</td>
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<td>E. Jay Hilty Jr.</td>
<td>1963-1992</td>
<td>Philosophy</td>
<td>Maple Woods</td>
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<td>B.Mus., University of Colorado</td>
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<td>Joyce Hilty</td>
<td>1986-1993</td>
<td>Data Processing</td>
<td>Maple Woods</td>
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<tr>
<td>Sarah Hopkins</td>
<td>1972-1998</td>
<td>Director of PACE Program for Adult College Education</td>
<td>Longview</td>
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<td>B.S. in Ed., Central Missouri State University</td>
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<td>Dennis Hronek</td>
<td>1973-2000</td>
<td>Associate Dean of Occupational/Continuing Education</td>
<td>Blue River</td>
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<td>A.R.R.T. Registered Technologist</td>
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<td>Ruth Hulse</td>
<td>1966-1983</td>
<td>Nursing</td>
<td>Penn Valley</td>
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<td>Ashley Johnson</td>
<td>1975-1989</td>
<td>Assistant to the President</td>
<td>Maple Woods</td>
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<td>Elbert Johnson</td>
<td>1982-1993</td>
<td>Economics</td>
<td>Longview</td>
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<td>Jane Jones</td>
<td>1966-1984</td>
<td>Biology</td>
<td>Penn Valley</td>
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<td>KENNARD D. KELLY</td>
<td>1969-1989</td>
<td>Criminal Justice</td>
<td>Maple Woods</td>
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<td>Margaret Kelly</td>
<td>1969-1996</td>
<td>Computer Science/Information Systems</td>
<td>Longview</td>
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<td>Patricia Kemner</td>
<td>1970-1990</td>
<td>Biology</td>
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<td>Harry King</td>
<td>1973-1980</td>
<td>Social Science</td>
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<td>Karen Kistner</td>
<td>1970-1997</td>
<td>District Director</td>
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<td>ORLYN O. LOCKARD</td>
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<td>PATRICIA A. LORENZ</td>
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**Additional Information:**
- **RUSSEL G. LEE** holds a B.S. and M.S. in Mathematics from the University of Missouri–Columbia.
- **JOHN E. LEHENEY** has a B.S. and M.Ed. in Counseling from Central Missouri State University and Columbia, respectively.
- **ALDO W. LEKER** is a President with a B.S. from Southwest Missouri State University and M.B.A. from University of Missouri–Kansas City.
- **ORLYN O. LOCKARD** is a Drafting and Design/Engineering Technology with a B.S. from Central Missouri State University and M.A. from George Peabody College for Teachers.
- **A. K. LONGFELLOW** is a Dean of Students with a B.S. and M.S. from Central Missouri State University.
- **WANDA F. LORD** is an Office Systems with a B.S. from University of Missouri–Columbia and M.A. from University of Missouri–Kansas City.
- **PATRICIA A. LORENZ** is a Biology with a B.A. from St. Louis University and Ph.D. from University of Kansas.
- **L. DOONE LOUGHERY** is an Office Systems and Careers with a B.S.Ed. from Northeast Missouri State University.
- **FORREST G. LOWE** is a Licensed Professional Engineer with a B.S. from Northwest Missouri State University and M.S. from Texas Christian University.
- **ROBERT LOWE** is a District Director of Computer Services with a B.S. from Pittsburg State University.
- **WILLIAM J. MANN** is a Chancellor with a B.S. from Northern Illinois University and M.S. from Northern Illinois University.
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| ALBERT W. SANDRING (1990-1995) | Drafting                          | Longview                                 | B.S.M.E., Kansas State University  
                          | Licensed Professional Engineer    | M.B.A., University of Missouri–Columbia                                                          |
                          |                                  | M.S., Central Missouri State University                                                      |
                          |                                  | B.A., Baker University  
                          |                                  | M.S., Central Missouri State University                                                      |
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                          |                                  | A.M., Smith College                                                            |
                          |                                  | M.A., University of Missouri–Kansas City  
                          |                                  | Ph.D., University of Missouri–Kansas City                                                  |
| CHARLES E. SHIELDS (1967-1995)   | District Director                  | Administrative Center                    | A.A., North Central Missouri College  
                          |                                  | B.S., University of Missouri–Columbia                                                      |
| THOMAS H. SICKING (1968-1994)    | English, Journalism                | 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                            | Penn Valley                              | R.N., General Hospital and Medical Center  
                          |                                  | B.S.N., Avila College                                                                    |
| SUE M. SINTON (1973-1992)       | Nursing                            | Penn Valley                              | R.N., St. Joseph Hospital School of Nursing  
                          |                                  | B.A., University of Missouri–Kansas City  
                          |                                  | M.A., University of Chicago                                                               |
                          |                                  | M.F.A., University of Iowa                                                               |
                          |                                  | M.A., Central Missouri State University                                                  |
                          |                                  | B.A., Sterling College                                                                   |
|                                  |                                   |                                         | M.A., Fort Hays State University                                                           |
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                          |                                  | M.S., Emporia State University                                                            |
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| EVELYN R. STAATZ (1969-1996)    | Librarian                          | Longview                                 | B.S., University of Missouri–Columbia  
                          |                                  | M.A., University of Missouri–Columbia                                                      |
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                          |                                  | M.P.A., Syracuse University                                                              |
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                          |                                  | B.S., Avila College                                                                     |
|                                  |                                   |                                         | M.Ed., Central Missouri State University                                                        |
                          |                                  | M.S., Central Missouri State University                                                     |
| PAUL THOMPSON JR. (1971-1999)   | President                          | Blue River                                | B.S., Missouri Valley College  
                          |                                  | M.S., Southern Illinois University                                                           |
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