

# THE METROPOLITAN COMMUNITY COLLEGES CATALOG 2004-2005

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An on-line copy of the MCC  
2004-2005 Catalog can be found at  
[www.kcmetro.edu](http://www.kcmetro.edu)

Serving the four Missouri counties  
of metropolitan Kansas City  
An Equal Opportunity/Affirmative  
Action Employer

#### ◆NOTE◆

This catalog contains information that will familiarize you with the Metropolitan Community Colleges. Contents of this catalog are current as of the March 2004 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.edu](http://www.kcmetro.edu).

# Letter From the Chancellor



Success. It is a word not taken lightly at the Metropolitan Community Colleges. Blue River, Longview, Maple Woods, Penn Valley, and the Business & Technology College 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, Penn Valley, and the Business & Technology College 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.

In the previous two fiscal years MCC has been cut over \$10 million in state aid appropriations. Our faculty, staff and administrators have worked to address these severe cuts to our budget, while at the same time endeavoring to minimize the impact of the budget reduction on our students. Despite the cuts to our budget, 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.

A handwritten signature in black ink, which appears to read "Wayne L. Piles". The signature is written in a cursive style.

## The Board of Trustees



Seated (left to right): David L. Disney; David R. Buie, president; and Chuck James, vice president.  
Standing (left to right): J. Robert Ashcroft, Jeffrey A. Grubb, and Robert H. Martin.

## The Officers of the District



Standing: Wayne E. Giles, Chancellor  
Seated (left to right): Jack Bitzenburg, president, Business & Technology College; Jacqueline I. Snyder, president, Penn Valley Community College; Malcolm T. Wilson, president, Blue River Community College; Donald S. Doucette, vice chancellor of education and technology; Allan H. Tunis, vice chancellor of administrative services; Fred L. Grogan, president, Longview Community College; Merna S. Saliman, president, Maple Woods Community College

# ACADEMIC CALENDAR

## Spring Semester 2004

Martin Luther King Jr. holiday (no classes)	Monday, Jan. 19
Campus Inservice Day (no classes, day or evening)	Tuesday, Jan. 20
First day of classes, day and evening	Wednesday, Jan. 21
First Saturday class	Saturday, Jan. 24
Faculty Convocation Day (no classes, day and evening)	Wednesday, Feb. 25
Midterm	Friday, March 12
Spring break	March 15-20
Classes resume	Monday, March 22
Last day for withdrawal without assessment	Monday, April 19
Last Saturday class	Saturday, May 8
Last day of classes, day and evening	Wednesday, May 12
Reading Day, evening finals only	Thursday, May 13
Final exams, day and evening	May 14-19
Saturday final exams	Saturday, May 15
Final exams, day only	Thursday, May 20
Commencement	Friday, May 21

## Summer Session 2004

First day of classes, day and evening	Monday, June 7
Independence Day observed	Monday, July 5
Last day for withdrawal without assessment	Wednesday, July 15
Last day of classes, day and evening	Wednesday, July 28
Finals, day and evening	Thursday, July 29

## Fall Semester 2004

New Faculty Orientation	Aug. 19 and 20
Campus Inservice Day	Monday, Aug. 23
First day of classes, day and evening	Tuesday, Aug. 24
First day of Saturday classes	Saturday, Aug. 28
Labor Day holiday	Monday, Sept. 6
Midterm	Friday, Oct. 15
District Inservice Day (no classes day and evening)	Tuesday, Oct. 26
Last day for withdrawal without assessment	Monday, Nov. 15
Thanksgiving holiday begins at 4 p.m.	Wednesday, Nov. 24
Classes resume	Monday, Nov. 29
Last Saturday class	Saturday, Dec. 11
Last day of classes, day and evening	Monday, Dec. 13
Reading Day, evening finals only	Tuesday, Dec. 14
Final exams, day and evening	Dec. 15-20
Saturday final exams	Saturday, Dec. 18
Last day for day final exams	Tuesday, Dec. 21
Holiday break/offices closed	Dec. 24-Jan. 1

## Spring Semester 2005

Martin Luther King Jr. holiday (no classes)	Monday, Jan. 17
Campus Inservice Day (no classes, day or evening)	Tuesday, Jan. 18
First day of classes, day and evening	Wednesday, Jan. 19
First Saturday class	Saturday, Jan. 22
Faculty Convocation Day (no classes, day and evening)	Wednesday, March 2
Midterm	Friday, March 11
Spring break	March 14-19
Classes resume	Monday, March 21
Last day for withdrawal without assessment	Monday, April 18
Last Saturday class	Saturday, May 7
Last day of classes, day and evening	Wednesday, May 11
Reading Day, evening finals only	Thursday, May 12
Final exams, day and evening	May 13-18
Saturday final exams	Saturday, May 14
Final exams, day only	Thursday, May 19
Commencement	Friday, May 20

## Summer Session 2005

First day of classes, day and evening	Monday, June 6
Independence Day observed	Monday, July 4
Last day for withdrawal without assessment	Thursday, July 14
Last day of classes, day and evening	Wednesday, July 27
Finals, day and evening	Thursday, July 28

## Fall Semester 2005

New Faculty Orientation	Aug. 18 and 19
Campus Inservice date, no day classes	Monday, Aug. 22
First day of classes, evening	Monday, Aug. 22
First day of classes, day	Tuesday, Aug. 23
First day of Saturday classes	Saturday, Aug. 27
Labor Day holiday	Monday, Sept. 5
Midterm	Friday, Oct. 14
District Inservice Day (no classes day and evening)	Tuesday, Oct. 25
Last day for withdrawal without assessment	Monday, Nov. 14
Thanksgiving holiday begins at 4 p.m.	Wednesday, Nov. 23
Classes resume	Monday, Nov. 28
Last day of classes, evening	Friday, Dec. 9
Last Saturday class	Saturday, Dec. 10
Last day of classes, day	Monday, Dec. 12
Evening final exams	Monday, Dec. 12
Reading Day, evening finals only	Tuesday, Dec. 13
Final exams, day and evening	Dec. 14-16
Saturday final exams	Saturday, Dec. 17
Final exams, day classes only	Monday, Dec. 19
Last day for day final exams	Tuesday, Dec. 20
Holiday break/offices closed	Dec. 24- Jan. 1

# ALL ROADS LEAD TO MCC

## 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 64057-2052

## 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

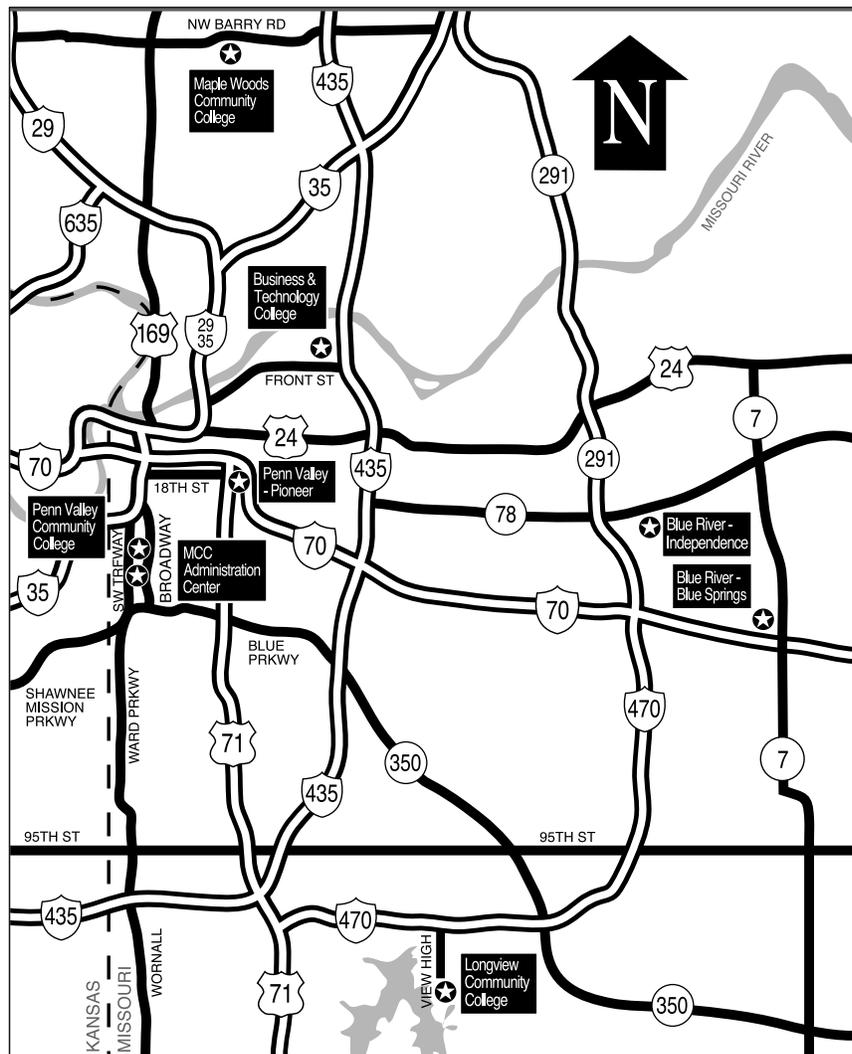
## PIONEER CAMPUS

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

## BUSINESS & TECHNOLOGY COLLEGE

Telephone (816) 482-5210  
Fax (816) 482-5256  
1755 Universal Avenue  
Kansas City, Missouri 64120-2429

No matter where people live in the greater Kansas City metropolitan area, they're just minutes away from one of the five Metropolitan Community Colleges. There's Blue River, with its two campuses in Blue Springs and Independence; Business & Technology College, located near I-435 and Front Street; Longview to the south; Maple Woods in the Northland; and Penn Valley in Midtown.



# OPENING DOORS OF OPPORTUNITY SINCE 1915

The roots of the Metropolitan Community Colleges go back to 1915, when the Kansas City Polytechnic Institute was founded at 11<sup>th</sup> and Locust Street. 125 students enrolled. Now more than 43,000 students a year attend five MCC colleges spread across four counties. In its long tradition of excellence, MCC has brought opportunity to hundreds of thousands of people and has made an enormous cultural and economic impact on the area.

In 1919, the institution became the Junior College of Kansas City and was the first two-year college in the United States to award the associate's degree. The Junior College continued to expand until 1964, when voters in suburban school districts—Belton, Center, Grandview, Hickman Mills, Lee's Summit, North Kansas City and Raytown—joined with the Kansas City School District to create the Metropolitan Community Colleges District.

Five years later, three colleges—Longview, Maple Woods, and Penn Valley—opened their doors. In the 80s and 90s, Blue Springs, Fort Osage, Independence and Park Hill School District voted to join MCC. A campus was established at Blue Springs in 1984 and in 1995, a campus at Independence was built. In 1997, these two campuses became Blue River Community

College. In 1995, MCC business services and technical training were centralized in a remodeled part of the Kansas City Merchandise Mart. Several expansions later, this facility became MCC's fifth college in 2002, the Business & Technology College.

## Longview Community College

The Longview campus overlooks Longview Lake in Lee's Summit and is on land donated to MCC by the family of R.A. Long, a pioneer lumberman. The campus's seven buildings include an exceptional Recreational Center and one that houses the college's nationally prominent automotive technology program. In 2001, Longview became the first community college to achieve *Time* magazine/*Princeton Review's* College of the Year honors.

## Maple Woods Community College

The Maple Woods campus in the Northland gets its name from a nearby stand of sugar maple trees. The campus includes buildings for the veterinary technology building and a Human Services Center, which provides housing for area human services agencies as well as the college's child care and fitness center.

## Penn Valley Community College

Located near Penn Valley Park, Penn Valley is a huge enclosed campus that includes the Francis Child Development Institute and the Anna and Kemper Carter Center for Visual Arts and Imaging Technology. The campus is home to nearly a dozen health care career programs.

## Blue River Community College

Serving eastern Jackson County, Blue River is home to the Western Missouri Public Safety Training Institute with both Police and Fire Academies and EMT training. A new campus building at Independence will help meet the growing demand at this college.

## Business & Technology College

The massive BTC building that now includes all of the former Kansas City Merchandise Mart, actually has more building square footage than any other MCC college. A long list of technical programs puts the BTC at the cutting edge of today's technical world. With its latest expansion, the BTC now offers a 56,500 sq. ft. meeting and exhibit hall.



# ADMISSION INFORMATION

## 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 or apply online at [www.kcmetro.edu](http://www.kcmetro.edu).
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 must obtain permission from a parent or legal guardian. They may take a limited class schedule but only after getting approval from their high school official and the appropriate MCC administrator. After this approval, students should complete an Application for Admission, which is available in the admissions office.

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

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

## Admission to JCCC and KCKCC Programs

The Metropolitan Community College District has developed cooperative agreements with Johnson County Community College (JCCC) and Kansas City Kansas Community College (KCKCC) that al-

low Missouri students to enroll in certain programs at resident tuition and fee rates. MCC students who want to study under these agreements must follow the steps outlined below in completing the application and enrollment procedure to be eligible for in-state tuition:

1. Complete an application for admission to both MCC and the cooperative school.
2. Complete placement testing.
3. Register for classes at MCC during official registration days, as listed in the MCC course schedule, and pay tuition.
4. Provide a copy of the MCC student schedule to the cooperative school. Register for classes at the cooperative school during official registration days, as listed in the cooperative school credit bulletin. Lab fees and insurance fees must be paid at the cooperative school.
5. MCC will only pay tuition at the cooperative school for courses that are not offered at MCC. If you elect to take a course at the cooperative school that is offered at MCC, you will be responsible for paying the out-of-state tuition.
6. Enrollment in programs is limited. Students must submit their transcripts and application for admission to the cooperative school by the established deadline. Check with the records office at the cooperative school.
7. Students must apply for financial aid at the cooperative school.

It is the student's responsibility to check with an MCC counselor or advisor before enrollment.



## 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.

Program	College	Is Special Application Required?	Special Requirements
Dental Assisting	Penn Valley	Yes. See page 43	High school diploma, 2.5 GPA, or GED certificate; ENGL 101 with a minimum grade of C.
Emergency Medical Technician	Penn Valley	Yes. See page 46	High school diploma or GED certificate. The student must be at least 18 years old when the EMTP 150 course is completed.
Fire Academy	Blue River	Yes. See page 74	High school diploma, GED. Must be at least 18 years of age. No felony or misdemeanor convictions. Good driving record. Apply in person at the Fire Academy.
Ford Automotive Student Service Educational	Longview	Yes. See page 59	Early application, approval by a Ford, Mazda, or Lincoln-Mercury dealer, high school diploma or GED certificate, and satisfactory performance on screening examination, reading comprehension, basic mathematics and Bennet mechanical comprehension.
General Motors Automotive Service Educational	Longview	Yes. See page 59	Early application, approval by a General Motors dealer, high school diploma or GED certificate, and satisfactory performance on screening examination, reading comprehension, basic mathematics and Bennet mechanical comprehension.
Health Information Technology	Penn Valley	Yes. See page 44	Minimum 2.5 grade point average in high school and previous college courses or GED score of 245.
Medical Transcription	Penn Valley	Yes. See page 45	Minimum GPA 2.5, typing minimum 45 words per minute, completion of ENGL 101 and OFSC 195 or equivalent.
Police Academy	Blue River	Yes. See page 73	High school diploma, GED. Must be at least 18 years of age. No felony or misdemeanor convictions. Good driving record. Apply in person at the Police Academy.
Practical Nursing	Penn Valley	Yes. See page 47	High school diploma or GED certificate. Satisfactory placement test scores. Satisfactory HOBET test scores in general mental ability, spelling, natural sciences, judgment and vocational adjustment. The student must be at least 18 years old when the program is completed.
Professional Nursing	Penn Valley	Yes. See page 47	High school diploma or GED certificate. Satisfactory NET (Nurse Entrance Test) scores in reading comprehension and basic math, completion of prerequisite courses with minimum grade of C and 2.5 or better cumulative GPA, and passing required medical examination. The student must be at least 19 years old when the program is completed.
Occupational Therapy Assistant	Penn Valley	Yes. See page 45	Completion of prerequisite courses with a minimum grade of C to include anatomy/physiology if taken prior to acceptance into the program. Satisfactory performance on the placement test in reading achievement, English, and/or TOEFL and math.
Paramedic	Penn Valley	Yes. See page 46	EMTP 150 with a minimum grade of C or a Missouri EMT license.
Physical Therapist Assistant	Penn Valley	Yes. See page 46	High school diploma or GED certificate, completion of prerequisite courses with minimum grade of C and satisfactory performance on examination in verbal skills and/or TOEFL examination.
Radiologic Technology	Penn Valley	Yes. See page 49	Completion of prerequisite courses with minimum grade of C and a minimum overall GPA of 2.5.
Respiratory Care JCCC	Penn Valley	Yes. See page 50	Completion of prerequisite courses with minimum grade of C and a minimum overall 2.0 GPA.
Sign Language Interpreter Training	Maple Woods	Yes. See page 78	Application by midsemester of Spring. Completion of SIGN 101 and 102.
Surgical Technology	Penn Valley	Yes. See page 51	High school diploma or GED certificate. Satisfactory placement test scores. Satisfactory HOBET test scores in general mental ability, spelling, natural sciences, judgment and vocational adjustment. Must be at least 17 years old when the program is completed.
Veterinary Technology	Maple Woods	Yes. See page 51	Application by March 15 for fall enrollment. Completion of BIOL 106.

## 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 and Affidavit of Support.**
- **Official School Transcripts** (translated to English).
- **Transfer Clearance Form.** If you are transferring from another U.S. school, you must also submit a Transfer Clearance Form. The International Student Advisor at the college you are now attending must fill it out.
- **English Placement Test.** It is the policy of the Metropolitan Community Colleges that all non-native speakers of English 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 1

#### Spring Semester

(January-May) January 2

#### Summer Semester

(June-July) May 15

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

## 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. Students who have taken an ACT test within the last 2 years may use those scores in place of the writing and reading portions of the test. The math portion of the test will be required. Bring ACT scores to the Testing Center and we will evaluate them.  
Visiting students who have approval for enrollment from their home campuses will not be required to test.
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 with disabilities who need testing accommodations 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 residence established with the intent of making that residence a permanent home for an indefinite period.

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

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

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

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

**District.** The Metropolitan Community College District 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.

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

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

**Out of State Resident.** A person who lives in the United States, but not in the state of Missouri.

**International Resident.** A foreign national who is in the United States in an approved student visa status.

### Resident Status

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

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

**Unemancipated Minor Student.** MCC assumes that an unemancipated minor student lives with his or her parents or legal guardians. If the parents or legal guardians

establish a domicile within the district, the student will be considered a district resident at the next enrollment.

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

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

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

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

## Help for Service Members

MCC is a Servicemember Opportunity College (SOC), one of more than 1000 colleges and universities that provide advantages, including credit for military education, for military members and their families and veterans. Call (816) 759-4101 for more information.

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

## Determining Resident Status

Students are responsible for providing documentation supporting resident status.

### Evidence of Eligibility

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

### Evidence of Domicile

The following offers sufficient proof of domicile.

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

### Supporting Evidence

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

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

## Other Evidence

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

1. Voter registration.
2. Part-time employment.
3. Statement of intention to establish a domicile in the district or the state.
4. Automobile registration with an address in the district or the state.
5. Valid driver's license with an address in the district or the state.

## Certifying Residency

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

## Penalty for Giving False Residency Information

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

# 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) 220-6500
BTC	(816) 482-5610
Longview	(816) 672-2020
Maple Woods	(816) 437-3019
Penn Valley	(816) 759-4020

### Textbooks

Full-time students should expect to pay about \$300 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 will not be allowed to enroll in any MCC class, will not be allowed to check out any further property, and official college records, including transcripts and grades, will be withheld. Privileges will be reinstated once the debt is paid.

### 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 \$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.

## Tuition Payment Plan

Students enrolled in three credit hours or more can pay tuition and fees in three or four equal installments through MCC Payment Services. Applications for the installment plan are available at campus business offices. There is a non-refundable application fee to initiate an installment plan. For more information contact MCC Payment Services at (816)-482-5401.

## 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 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 completing the Free Application for Federal Student Aid (FAFSA) should use the following number for all MCC colleges: 002484. The FAFSA may be found on the web at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

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) 220-6577  
Longview, (816) 672-2066  
Maple Woods, (816) 437-3066  
Penn Valley, (816) 759-4066  
BTC, (816) 482-5210



# 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 can be accessed at [metrolink.kcmetro.edu](http://metrolink.kcmetro.edu).

## 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.

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

## Grade Point Average (GPA)

To determine a student's GPA, multiply the number of credit hours for each course by the number of scholarship points assigned to that grade. Add together the scholarship points from all classes and then divide that figure by the total number of credit hours attempted. When calculating GPA, do not include classes for which a student has received 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 Incomplete (I).
2. Make up the final exam as soon as possible to remove the grade of Incomplete (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.

## Satisfactory Progress

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

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

Number of Semester Hours Attempted	Minimum Grade Point Average
12	1.00
30	1.50
45	1.75
60	2.00

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 and/or financial aid 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. For specific requirements for satisfactory progress for financial aid, please see the financial aid office on the campus or refer to the student handbook for more details.

## Academic Record

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

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

All items are kept 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

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. See the dean of instruction's office on each campus for more information.

## Transcripts

The records office will provide transcripts of a student's academic record after receiving a written or on-line request. Official copies of the transcript, which bear the MCC seal, will be sent directly to other colleges and universities. However, transcripts issued to a student will not have the college seal. MCC charges no fee for providing transcripts requested on-line.

## Credit by Certification

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

## Credit by Examination

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

## Credit for Advanced Standing

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

## Family Educational Rights and Privacy Act

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 the right 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 listing, electronic mail address, photograph, date and place of birth, major field of study, dates of attendance, grade level, enrollment status (e.g., full-time or part-time), participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees, honors and awards received, and the most recent educational agency or institution attended. 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.

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## 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.

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## 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.**

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## 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.**

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## 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.**

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## Student Load

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

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

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## 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.

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

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

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

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## 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.

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## 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.

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.

## Employment Resources

Employment resources offers assistance with job-seeking skills and identifying employment on and off campus. The employment resources' Internet-based job bank, Project HIRE (Helping Industry Recruit Employees), is a job resource for the Kansas City regional area. See [www.ProjectHIRE.net](http://www.ProjectHIRE.net).

Additional services include: on-campus employment (student regular and federal work-study), on-campus recruiting, career fairs, resumé writing assistance, growing occupations, and job resource materials.

## Counseling

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

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

## Support Services

### Child Care Centers

So parents with small children can attend classes, MCC provides child care centers at 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, public safety office  
Maple Woods, public safety office  
Penn Valley, public safety office

## Textbooks and College Bookstores

Full-time students should expect to pay about \$300 for books each semester.

MCC 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 and periodicals, the libraries feature Internet access, microfilm, video and audio. Remote access to electronic databases is available to students.

Students attending one campus can use materials from any of the other MCC libraries. Borrowing procedures are similar on all campuses. Reciprocal borrowing cards are available for use at other institutions.

MCC libraries (Blue River, Longview, Maple Woods and Penn Valley) belong to the Missouri Bibliographic Information User System (MOBIUS), a consortium of 57 academic Missouri libraries. In addition to the 173,110 items owned by the MCC libraries, library users will have access to over 17 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 WILO (Western Inter Library Organization) cluster. Other members of the cluster are Avila, Rockhurst, Midwestern Baptist Theological Seminary, St. Paul School of Theology, and William Jewell.

More information is available at the library website, which is located at <http://www.kcmetro.edu/library>.

## Computer Lab Services

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

## E-mail Access

All MCC students taking classes for credit 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 others.

## 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, (816) 220-6577

Longview, (816) 672-2254

Maple Woods, (816) 437-3192

Penn Valley, (816) 759-4089

For relay calls dial 711.

For more information visit the MCC website at:

[www.kcmetro.edu/access.html](http://www.kcmetro.edu/access.html)

**ABLE Program.** The ABLE program (Academic Bridges to Learning Effectiveness), offered at Longview and Penn Valley, provides a more intensive level of services for students with learning disabilities or brain injuries to help them make the transition to a traditional college or the workplace. A learning disabilities specialist works individually with each student to design a program that fits his or her needs. The student also takes special courses to learn basic skills, communication skills, and college survival strategies.

By providing a structured curriculum, as well as extra counseling and academic support, the ABLE program gives students a solid foundation for success. Additional fees are charged for students opting to enroll in this program. For information about ABLE, call Longview at (816) 672-2366 or Penn Valley at (816) 759-4717. Visit the ABLE website at [www.kcmetro.edu/programs/able.html](http://www.kcmetro.edu/programs/able.html).

## Learning Assistance Centers

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

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

## Reading 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) 220-6512

Longview, (816) 672-2665

Maple Woods, (816) 437-3197

## Reentry Programs

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

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

Blue River, (816) 220-6577

Longview, (816) 672-2237

Maple Woods, (816) 437-3095

Penn Valley, (816) 759-4089

BTC, (816) 482-5210

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## Project Success

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

- academic tutoring that supplements the classroom experience,
- transfer coordination to expose the participants to the opportunities that await them at four-year colleges and universities,
- 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 or visit its web site: [www.kcmetro.edu/pennvalley/success/](http://www.kcmetro.edu/pennvalley/success/).

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## 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 Student 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.

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## 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.

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## 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) 220-6577  
Longview, (816) 672-2400  
Maple Woods, (816) 437-3555  
Penn Valley, (816) 759-4222

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## 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.; 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.

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## Educational Opportunity 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 100, Kansas City, Mo. 64111. For more information about EOC, call (816) 759-4400.

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## Alumni Association

Since 1915 more than 600,000 students have attended MCC and its forerunners, the Polytechnic Institute and the Kansas City Junior College. The MCC Foundation Alumni Association, founded in 1975, supports the mission of the Metropolitan Community Colleges and the 43,000 students it annually serves by addressing the financial and educational needs of students through scholarships, educational enhancement programs and the improvement of learning facilities.

The MCC Foundation Board of Directors is comprised of up to 30 business, community and student leaders elected to serve two-year terms. Board members demonstrate their commitment to the MCC mission by contributing their time and resources. Through its board of volunteers, the Foundation strengthens ties to the community and raises funds for scholarships. Contributions to the MCC Foundation Alumni Association support scholarship endowment, annual scholarships, and programmatic endeavors. Call (816) 759-1195 for more information, or visit <http://kcmetro.edu/foundation.asp>.

# GENERAL INFORMATION

## Philosophy of the Metropolitan Community Colleges

The five 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.

## Vision Statement

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

Student learning is central to our mission; employee learning is key to our strength; and organizational learning is the foundation for innovation and growth. Learning is a lifelong process. Learners are whole persons with intellectual, physical, emotional, spiritual, social, ethical, vocational, and economic dimensions.

As learners, as facilitators of learning, and as an organization, we accept responsibility to:

- Manage learning and commit the time and energy that meaningful learning requires.

- Encourage free and open exchange of ideas as a natural part of change.
- Synthesize tradition and innovation in order to enhance academic achievement.
- Design and implement structures and processes that promote learning.
- Draw on diversity to influence and inform learning.
- Engage in continuous assessment, reflection, and adaptation.
- Create a physical, social, and intellectual environment that supports learning.
- Build partnerships that promote individual, institutional, and community betterment.

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: art, biology, business administration, chemistry, computer science, criminal justice, economics, education, engineering, English, foreign language, geography, geology, history, human services, mathematics, music, philosophy, physical education, physics, political science, psychology, social science, social work, sociology, speech and theater arts. Check out the online transfer and articulation catalog at [www.kcmetro.edu](http://www.kcmetro.edu).

## Occupational Programs

MCC offers more than 70 occupational programs that prepare students for immediate employment or career advancement in order to succeed in some of today's exciting, fast-paced professions.

MCC confers an associate in applied science degree in many technical areas ranging from general business and veterinary science to electronics and manufacturing technology. Although not originally designed for transfer, MCC has several articulation agreements built upon the A.A.S. degree, including general business, drafting, electronics technology, construction management, automotive management, human services, and others.

Students should be particularly careful to select appropriate courses to meet both A.A.S. degree requirements at MCC and bachelor's degree requirements at a four-year college or university. Students need to discuss their plans with an academic advisor.

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, health services, mechanical and engineering technologies, computer support and telecommunications, electronics, fire science, paralegal, manufacturing technology, and child growth and development.

## Basic Skills Courses

MCC students take placement tests in English, reading and mathematics. These results help them 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.

## 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 the Business & Technology College (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, manufacturing 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) 482-5210.

## 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) 220-6548  
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 non-discrimination on the basis of age, color, creed, disability, marital or parental status, national origin, race, religion, or gender in admissions, educational programs or activities, and employment, as specified by federal laws Title IX of the Education Amendments of 1972, Titles VI and Title VII of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973 and 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:

Jon Burke, 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.

**Business & Technology College:**

Margaret Boyd, 7775 Universal, Kansas City, Missouri 64120-2427; telephone (816) 482-5240.

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 disability. If you need any accommodations due to a disability, contact the access professional at Blue River, (816) 220-6577; Longview, (816) 672-2254; Maple Woods and Business and Technology College, (816) 437-3192; Penn Valley, (816) 759-4089. Any other location call (816) 759-1164. For relay calls, dial 711.

**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 dean of students 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, health 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.edu/crimereport.html](http://www.kcmetro.edu/crimereport.html).

**Printed copies of the report are available at the campuses through the public safety office and dean 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.

	Page
Satisfactory Progress.....	13
Accreditation.....	24
Admissions Policies.....	7
Cost of Attendance.....	11
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) 220-6548  
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) 759-4623  
3201 Southwest Trafficway  
Kansas City, MO 64111-2764

College Relations Coordinator  
Business & Technology College:  
Telephone (816) 482-5612.  
7775 Universal  
Kansas City, MO 64120-2427

**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 Higher Learning Commission of the North Central Association of Colleges and Schools. Various programs in the District are accredited by specialized accrediting agencies. (See page 24.)

**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 another, including from high school to college and from college to college. A complete list of these agreements is available in each MCC counseling center or online. Please work with your counselor/ advisor to determine degree plans.

**ASSOCIATE'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 classes and results in the awarding of a diploma known as a certificate of proficiency. However, some certificate programs include only 15 to 20 credits hours 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 an examination that measures their knowledge of a particular subject without taking a college course. The exam

may be a standardized test prepared by a national organization or one created and given by a college instructor. Students will pay a fee for taking the latter test.

**CURRICULUM.** 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 28 and 36.)

**DIRECTORY INFORMATION.** According to federal law, the college may for a valid reason release without the student's consent what it calls *directory* information: the student's name, address, telephone listing, electronic mail address, photograph, date and place of birth, major field of study, dates of attendance, grade level, enrollment status (e.g., full-time or part-time), participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees, honors and awards received, and the most recent educational agency or institution attended. According to Public Law 93-380, the Family 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, 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.edu> 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.

**EMPLOYMENT COORDINATORS.** Assist students and community members in all aspect of job acquisition.

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

**FEDERAL WORK-STUDY PROGRAM.** This is a federal financial-aid program that allows enrolled students who need financial assistance to earn income by working on campus or for an approved off-campus agency.

**FINANCIAL AID.** This can be a grant, loan or scholarship that helps a student pay tuition or other educational costs. Financial aid may come from governmental, institutional or private sources.

**FULL-TIME STUDENT.** This is a student who is taking at least 12 credit hours during the fall or spring semester or at least six credit hours during the summer term.

**GED.** 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 Equivalence.

**GENERALEDCATION.** These courses 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.

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

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

	Credit Hours	Grade	Scholarship Points
BIOL 101	5	A	20
ENGL 101	3	C	6
HIST 120	3	B	9
MATH 120	3	D	3
TOTAL	14		38

$$38 \text{ divided by } 14 = 2.7$$

(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 in 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 a visa approved for study.

**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 and the Business & Technology College. The District's legal name is the Junior College District of Metropolitan Kansas City, Missouri.

**METROLINK.** This is the web-based system that allows you to access your personal and academic information and perform a variety of other transactions over the Internet.

**METROMAIL.** This is the student email system that is used by the administration and faculty to send you important information throughout the year.

**METRO TOUCH (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.** This is a secondary field of study — such as English, history or math — for a student pursuing a four-year degree.

**NONDISTRICT MISSOURI RESIDENT.** This is a person who lives in Missouri but not within the boundaries of the Metropolitan Community College District, which includes the following school districts: Belton, Blue Springs, Center, Fort Osage, Grandview, Hickman Mills, Independence, Kansas City, Lee’s Summit, North Kansas City, Park Hill and Raytown.

**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.

**OCCUPATIONAL EDUCATION.** 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.

**PRACTICUM.** This is a course that covers practical applications of theories already studied.

**PREREQUISITE.** This is a course that must be completed with a minimum grade of C (or higher if indicated) before a student can begin a subsequent course. Prerequisites are indicated in the course description. All students must meet the prerequisite of any course in which they wish to enroll. In some cases, prerequisites are the previous course(s) in a sequence. In other cases, they may be a demonstration of a prerequisite skill. Students who believe that they have met prerequisites by their academic work at a college or university must provide evidence of meeting the prerequisite prior to enrolling in the course.

**PROGRAM 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.

**PROGRAM OF STUDY.** This is a series of required and elective courses that lead to a degree or certificate. Curriculum is a synonymous term.

**READING/STUDY CENTER.** This center provides courses, a walk-in lab, work analysis and individual help for reading comprehension, rate and vocabulary. Appointments with professional staff members for reading and study skills improvement are also available. Contact each campus for information about individual evaluations and diagnostic services.

**REGULAR STUDENT EMPLOYMENT.** Allows students enrolled at MCC to work on campus. Positions are available on an as needed basis according to the hiring department.

**RESIDENT 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).

Number of Semester Hours Attempted	Minimum Grade-Point Average
12	1.00
30	1.50
45	1.75
60	2.00

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.

**STANDARD OF STUDENT CONDUCT.** This is a code of behavior required of students enrolled at MCC. (See page 14.)

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

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

**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.

**TRANSCRIPT.** This is a copy of a student’s academic record listing courses taken, grades earned, and honors and degrees received. A student can request that copies bearing the District’s seal be sent to educational institutions and other agencies. Transcripts given to students usually lack the official seal.

**TRANSFER DEGREE PROGRAM.** This is a series of required and elective courses that prepare students to continue their studies at a four-year college or university. Before transferring, students earn 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.

## Accreditation

The Metropolitan Community College District—including Blue River Community College, Longview Community College, Maple Woods Community College, Penn Valley Community College, and the Business & Technology 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) 759-1050.

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

COLLEGE	PROGRAM	ACCREDITING AGENCY
Longview	Automotive Technology	National Automotive Technicians' Educational Foundation (NATEF)
Maple Woods	Veterinary Technology	American Veterinary Medical Association
Penn Valley	Dental Assisting	American Dental Association Commission on Dental Accreditation
	Emergency Medical Technician—Paramedic	Missouri State Department of Emergency Medical Service
	Health Information Technology	Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Council on Accreditation of the American Health Information Management Association
	Human Services	Council for Standards in Human Services Education
	Practical Nursing	Missouri State Board of Nursing National League for Nursing
	Professional Nursing	Missouri State Board of Nursing National League for Nursing
	Occupational Therapy Assistant	Accreditation Council for Occupational Therapy Education, American Occupational Therapy Association
	Paralegal	American Association for Paralegal Education
	Physical Therapist Assistant	Commission on Accreditation in Physical Therapy Education
	Radiologic Technology (Radiography)	Joint Review Committee on Education in Radiologic Technology
	Respiratory Care	Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Committee on Accreditation for Respiratory Care (CoARC) (Through JCCC)
	Surgical Technology	Accreditation of Allied Health Education Professionals (CAAHEP)
	Blue River	Police Academy Fire Academy
Business & Technology College	Manufacturing Technology	National Institute for Metalworking Skills (NIMS) Mastercam

# 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 — 45 of them in general education courses and 12-17 hours in electives. The Associate in Computer Science, Associate in Engineering, and Associate in Science also require an area of specialization. In addition to these general education and specialization courses, students must take electives that will bring their total number of credits up to the amount required for the degree. Only courses numbered 100 or higher can be applied toward the degree.

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

### State Requirement

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

### Application for a Degree

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

# The Associate in Arts Degree

**M**CC's Associate in Arts degree generally provides the first two years of college work a student might complete at a four-year college or university. The program includes 45 hours of general education courses, as well as enough electives to reach the required 62 credit hours. The general education courses strengthen students' basic skills and provide them with knowledge to competently function in a variety of environments: school, work and day-to-day life. These classes also provide students with opportunities to cultivate effective communication, critical thinking, and quantitative literacy skills; value learning as an ongoing, lifelong process; understand the principles of natural and physical sciences; appreciate the human condition through the study of humanities; and achieve an awareness of social, political, and behavioral environments.

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

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

## Degree Requirements

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

1. The graduation requirements for transfer degrees listed on page 26.
2. The general education requirements listed below.
3. Sufficient electives to bring their total number of credits to 62.

## General Education Requirements

### American Institutions—6 credits

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

Complete two courses from the following:

(One must be HIST.)

- HIST 120 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

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

### Communications—9 credits

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

Complete the following:

- ENGL 101 Composition and Reading I **and**
- ENGL 102 Composition and Reading II **and**
- SPDR 100 Fundamentals of Speech **or**
- SPDR 102 Fundamentals of Human Communication

### Humanities—9 credits

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

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

Art History – any course

Literature – any course

Foreign Language – any course (101 or above) or

- SIGN 101 Conversational American Sign Language I

**or**

- SIGN 102 Conversational American Sign Lang. II

History

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

Humanities – any course

Music

- MUSI 108 Music Appreciation or
- MUSI 116 Evolution of Jazz

Philosophy – any course

Speech and Drama

- SPDR 103 Interpersonal Communication
- SPDR 104 Discussion and Group Leadership
- SPDR 110 Argumentation and Debate
- SPDR 112 Oral Interpretation of Literature
- SPDR 114 Theater and Western World
- SPDR 128 Introduction to Film

Mass Communications

- MSCM 112 Introduction to Modern Communications

### Mathematics—3 credits

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

Complete the following:

- MATH 119 College Mathematics **or**  
higher-numbered MATH course

### **Natural Sciences—9 credits**

*Rationale:* The Natural Sciences requirement will enable students to demonstrate understanding of natural environments and methods for gaining such knowledge including the scientific method and empirical methods of scientific inquiry.

Complete two laboratory sciences—one in biological science and one in physical science. The physical sciences include the following disciplines: chemistry, geology, physical geography, meteorology, physical science and physics.

### **Social Sciences—6 credits**

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

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

Economics - any course

Geography

GEOG 105 World Geography

GEOG 111 Geography of the Western World

GEOG 112 Geography of the Eastern World

GEOG 113 Cultural Geography

GEOG 114 Introduction to Geography

GEOG 207 Geography of the U.S. and Canada

History - any course

Social Sciences - any course

Political Science - any course

Psychology - any course

Sociology - any course

Anthropology - any course

### **Learning Enhancement Requirements**

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

Complete a Writing Intensive course:

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

**and**

Complete one of the following:

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

**or**

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

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

### **Other Associate in Arts Degree Requirements**

#### **Computer—3 credits**

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

Complete the following:

CSIS 110 Technology and Information Management ~~✗~~

**or**

higher-numbered CSIS course

#### **Electives—12-17 credits**

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

Complete 12-17 credits of electives to total a minimum of 62 hours.

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

**Total credits required for the A.A. degree**

**62**

# PACE Program for Adult College Education

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PACE is an evening and weekend program designed to provide working students a pathway to an Associate in Arts degree in six semesters or less. This is accomplished by offering a variety of instructional delivery options and comprehensive support systems that meet the changing educational needs of students and the community while upholding high standards of excellence. PACE classes can be combined with other classes offered by the college to create a convenient schedule. Credits earned through this program will transfer to four-year institutions.

The mission of PACE is to provide a strong foundation for the acquisition and application of knowledge in preparation for lifetime learning. PACE focuses on increasing access to higher education for those students who have time and place constraints due to work or family commitments. PACE has an outreach program that can bring Longview to the workplace. Classes are also offered at various community locations.

The hallmark of PACE is convenience. Student support services are available at times when the working student is able to access them. The program offers both traditional and interdisciplinary classes for the student who wants to complete a college degree or fulfill personal educational goals at times and places that best fit the student's schedule. Courses are scheduled to minimize trips to the Longview campus. Students can make one trip to campus per week and attend two classes. Students can enroll in traditional 16-week courses, shorter duration courses or evening intersessions.

Many classes offered through PACE utilize instructional technology to enhance learning and to allow more time and place flexibility for completing course work. Technologies currently used include Internet, web-assisted, and ITV (cable).

**Interactive TV (ITV):** Classes delivered over cable TV allow a student to be able to view either Comcast (channel 20) or Time Warner Cablevision (channel 17) from their homes. Students viewing from home interact with the instructor by using the telephone and the web. Students may also attend class at the studio classroom.

**Internet:** Some classes offered through PACE are delivered completely through the Internet. Minimal or no time is spent on campus. Students choosing this course delivery format must have reliable access to the Internet. An Internet Service Provider (ISP) will be necessary to access the Internet from home.

**Web-Assisted:** These classes combine classroom attendance with coursework on the Internet. Because some of the course requirements are completed on the Internet, the time required on campus is reduced. Students must have reliable Internet access.

For more information, call the PACE office at (816) 672-2461. Hours are Monday-Thursday: 8 a.m. to 6:30 p.m. and Friday, 8 a.m. to 4:30.

# The Associate in Computer Science Degree

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

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

1. Computer Science
2. Computer Information Systems

## Degree Requirements

In order to receive the degree of Associate in Computer Science, the student must complete the requirements for all degrees listed under Degree Graduation Requirements and the course requirements listed below.

**NOTE:** This degree is currently being revised. An  symbol denotes course is being revised. For best information, please check with the division office to talk with the campus CSIS coordinator or check the CatalogLIVE on the web at [www.kcmetro.edu](http://www.kcmetro.edu).

## A.C.S. Computer Science

### General Education Requirements

#### American Institutions:

*Two of the following (one must be HIST):*

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	6

#### Communications:

ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech <b>or</b>	
SPDR 102	Fundamental of Human Communication	3

Humanities (2 courses, 2 areas of study, 1 course must be Literature or PHIL):

Art History – any course

Literature – any course

Foreign Language – any course (101 or above) or

SIGN 101 Conversational American Sign Lang. I or

SIGN 102 Conversational American Sign Lang. II

History

HIST 133 Western Civilization I or

HIST 134 Western Civilization II

Humanities – any course

Music

MUSI 108 Music Appreciation or

MUSI 116 Evolution of Jazz

Philosophy – any course

Speech and Drama

SPDR 103 Interpersonal Communication

SPDR 104 Discussion and Group Leadership

SPDR 110 Argumentation and Debate

SPDR 112 Oral Interpretation of Literature

SPDR 114 Theater and Western World

SPDR 128 Introduction to Film

### Mass Communications

MSCM 112	Introduction to Modern Communications	6
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### Natural Sciences (one lab course):

LAB Course	BIOL, CHEM, GEOL, PHSC, PHYS	5
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### Social Sciences (one course):

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

### History - any course

Social Sciences - any course

Political Science - any course

Psychology - any course

Sociology - any course

Anthropology - any course 3

### Specific Program Requirements

*15 Credit Hours from the following:*

CSIS 121	Programming Fundamentals 	
CSIS 131	Object-Oriented Programming I 	
CSIS/		
MATH 141	Discrete Structures for Computer Science I	
CSIS 221	Intro to Computer Architecture	
CSIS 231	Object-Oriented Programming II 	
CSIS/		
MATH 241	Discrete Structures for Computer Science II	
CSIS 271	Data Structures & Algorithm Analysis	15

*15 Credit Hours from the following:*

MATH 150	Precalculus	
MATH 180	Analytic Geometry & Calculus I	
MATH 190	Analytic Geometry & Calculus II	
MATH 210	Analytic Geometry & Calculus III	
MATH 230	Differential Equations	15
Electives:	CSIS or General Education	3

**Total Credit Hours Required 62**

## A.C.S. Computer Information Systems

General Education Requirements	
American Institutions:	
<i>Two of the following (one must be HIST):</i>	
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
	6
Communications:	
ENGL 101	Composition and Reading I
ENGL 102	Composition and Reading II
SPDR 100	Fundamentals of Speech <b>or</b>
SPDR 102	Fundamental of Human Communication
	3
	3
	3
Humanities (2 course, 2 areas of study, 1 course must be Literature or PHIL):	
Art History – any course	
Literature – any course	
Foreign Language – any course (101 or above) or	
	SIGN 101 Conversational American Sign Lang. I or
	SIGN 102 Conversational American Sign Lang. II
History	
	HIST 133 Western Civilization I or
	HIST 134 Western Civilization II
Humanities – any course	
Music	
	MUSI 108 Music Appreciation or
	MUSI 116 Evolution of Jazz
Philosophy – any course	
Speech and Drama	
	SPDR 103 Interpersonal Communication
	SPDR 104 Discussion and Group Leadership
	SPDR 110 Argumentation and Debate
	SPDR 112 Oral Interpretation of Literature
	SPDR 114 Theater and Western World
	SPDR 128 Introduction to Film
Mass Communications	
	MSCM 112 Introduction to
	Modern Communications
	6
Natural Sciences (one lab course):	
LAB Course	BIOL, CHEM, GEOL, PHSC, PHYS
	5
Social Sciences (one course):	
Geography	
	GEOG 105 World Geography
	GEOG 111 Geography of the Western World
	GEOG 112 Geography of the Eastern World
	GEOG 113 Cultural Geography
	GEOG 114 Introduction to Geography
	GEOG 207 Geography of the U.S. and Canada
History - any course	
Social Sciences - any course	
Political Science - any course	
Psychology - any course	
Sociology - any course	
Anthropology - any course	3

Specific Program Requirements		3
MATH 120	College Algebra	
<i>15 Credit Hours from the following:</i>		
CSIS 121	Programming Fundamentals 	
CSIS 131	Object-Oriented Programming I 	
CSIS/		
MATH 141	Discrete Structures for Computer Science I	
CSIS 221	Intro to Computer Architecture	
CSIS 231	Object-Oriented Programming II 	
CSIS/		
MATH 241	Discrete Structures for Computer Science II	
CSIS 250	ASSEMBLER Programming	
CSIS 271	Data Structures & Algorithm Analysis	15
Electives:	General Education, CSIS or BSAD	15
<b>Total Credit Hours Required</b>		<b>62</b>

\* These courses are being revised. Please check with the division office to talk with the campus CSIS coordinator for the most recent information or go to [www.kcmetro.edu](http://www.kcmetro.edu) CatalogLIVE as updates occur.

# The Associate in Engineering Degree

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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

ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II	
	<b>and either</b>	
ECON 110	Intro to Economics <i>or</i>	
ECON 210	Macroeconomics <i>or</i>	
	<i>Two of the following:</i>	
POLS 135	Introduction to Political Science	
POLS 136	Introduction to American National Politics	
POLS 137	Introduction to State and Local Politics	6

## Specific Program Requirements

CHEM 111	General College Chemistry I <i>and</i>	
CHEM 112	General College Chemistry II*	
	<b>or</b>	
CHEM 115	Engineering Chemistry	5-10
ENGR 101	Intro to the Profession	1
ENGR 104	FORTTRAN for Engineers <i>or</i>	
CSIS 135	FORTTRAN Programming	3
ENGR 113	CAD & Microcomputer Applications <i>or</i>	
DRAF 152	Engineering Graphics & CADD I	3-5
ENGR 229	Statics	3
MATH 180	Analytic Geometry & Calculus I	5
MATH 190	Analytic Geometry & Calculus II	5
MATH 210	Analytic Geometry & Calculus III	5
MATH 230	Differential Equations	3
PHYS 220	Engineering Physics I	5
PHYS 221	Engineering Physics II	5
	<i>Two of the following four courses:</i>	
ENGR 223	Thermodynamics	
ENGR 230	Dynamics	
ENGR 233	Circuit Analysis I	
ENGR 240	Mechanics of Materials	6-8

**Total Credit Hours Required 64-71**

\*Depending on transfer requirements, CHEM 112 may be waived by the division chairperson (Must be in writing).

# The Associate in Science Degree

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

## A.S. Biology

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>and</b>	
HIST 121	American History II	
	<b>or</b>	
<i>Two of the following:</i>		
POLS 135	Introduction to Political Science	
POLS 136	Introduction to American National Politics	
POLS 137	Introduction to State and Local Politics	
	<b>or</b>	
<i>Two of the following:</i>		
SOSC 150	Foundations of Social Science I <b>and</b>	
SOSC 151	Foundations of Social Science II	6
Specific Program Requirements		
BIOL 104	General Botany	5
BIOL 106	General Zoology	5
BIOL Elective:108	or above excluding 117 & 118	5
CHEM 111	General College Chemistry I	5
CHEM 112	General College Chemistry II	5
CHEM 221	Organic Chemistry I <b>and</b>	
CHEM 222	Organic Chemistry II	
	<b>or</b>	
PHYS 130	General Physics I <b>and</b>	
PHYS 131	General Physics II	10
MATH 120	College Algebra	3
MATH 130	Trigonometry	3
Special Program Electives		6
<b>Total Credit Hours Required</b>		<b>62</b>

## A.S. Chemistry

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>and</b>	
HIST 121	American History II	
	<b>or</b>	
<i>Two of the following:</i>		
POLS 135	Introduction to Political Science	
POLS 136	Introduction to American National Politics	
POLS 137	Introduction to State and Local Politics	
	<b>or</b>	
<i>Two of the following:</i>		
SOSC 150	Foundations of Social Science I <b>and</b>	
SOSC 151	Foundations of Social Science II	6
Specific Program Requirements		
CHEM 111	General College Chemistry I	5
CHEM 112	General College Chemistry II	5
CHEM 221	Organic Chemistry I	5
CHEM 222	Organic Chemistry II	5
MATH 180	Analytic Geometry & Calculus I	5
MATH 190	Analytic Geometry & Calculus II	5
MATH 210	Analytic Geometry & Calculus III	5
PHYS 220	Engineering Physics I	5
PHYS 221	Engineering Physics II	5
Special Program Electives		4
<b>Total Credit Hours Required</b>		<b>64</b>

# OCCUPATIONAL CERTIFICATE & 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.

## 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 or other electives to bring students' total credits to the number needed for a degree. Specific requirements for each program are described on pages 36 to 80.

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

### State Requirement

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

### Application for a Degree

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

## Location of Occupational Programs

	D-Degree only					D/C-Degree and certificate					C-Certificate only							
	PV	MW	LV	BR	BTC		PV	MW	LV	BR	BTC		PV	MW	LV	BR	BTC	
<b>ARTS</b> (p. 36)																		Computer Aided Drafting & Design
Graphic Design	D																	Civil
Digital Prepress Technician	C																	General
<b>BUSINESS</b> (p. 37-40)																		Envir. Health & Safety Tech.
Accounting	D	D	D	D														Environmental Specialist
Accounting Assistant or Clerk	C	C	C	C														Health and Safety Specialist
Computerized Accounting	C	C	C	C														Grounds & Turf Management
General Business	D	D	D	D														Horticulture††
Entrepreneurial Studies	C	C	C	C														Industrial Technologies
Supervision	C	C	C	C														Bricklayer†
Supply Chain Logistics	C	C	C	C	C													Construction Carpentry†
Management	D	D	D	D														Construction Cement Masons†
Accounting	D	D	D	D														Construction Ironworking†
Computer Science																		Construction Laborer†
& Info. Systems	D	D	D	D														Electronics Engineering Tech.
Construction Management					D													Electronics Technology
Environmental Health																		Glazier†
& Safety Tech.					D													Heating, Vent. & Air Cond.
Marketing & Retailing	D	D	D	D														Industrial Electrical
Office Management ✕	D	D	D	D														Industrial Maintenance
Administrative Assistant ✕	C	C	C	C														Inside Wiring†
<b>COMPUTERS</b> (p. 41-42)																		Millwright
Computer Science & Info. Systems ✕																		Painter†
Cisco					D/C													Stationary Engineer
Database ✕	D/C	D/C	D/C	D/C	D/C													Land Surveying
Networking ✕	D/C	D/C	D/C	D/C	D/C													Occupational Education
Programming ✕	D/C	D/C	D/C	D/C	D/C													Manufacturing Technology
Technical Support ✕	D/C	D/C	D/C	D/C	D/C													CNC
Web & Multimedia ✕	D/C	D/C	D/C	D/C	D/C													Pre-Apprenticeship
Telecommunications Technology					D/C													Music Technology#
<b>HEALTH</b> (p. 43-52)																		Power Plant Technology††
Biotechnology††	D/C	D/C	D/C	D/C														Quality Assurance Technology
Dental Assisting	D/C																	Railroad Operations††
Health Information Technology	D																	<b>SOCIAL SERVICES</b> (p. 72-79)
Coding Specialist	C																	Criminal Justice
Medical Transcription	C																	Correctional Science
Occupational Therapy Assistant	D																	Juvenile Services
Paramedic (EMT)	D/C																	Mental Health
Physical Therapist Assistant	D																	Police Academy
Practical Nursing	C																	Police Science
Professional Nursing	D																	Fire Academy
Radiologic Technology	D																	Fire Science Technology
Respiratory Care††	D																	Forensic Chemistry#
Surgical Technology	C																	Hospitality Management††
Veterinary Technology		D																Chef Apprenticeship
<b>HUMAN SCIENCES</b> (p. 53-57)																		Food and Beverage
Child Growth & Development	D/C																	or Hotel/Motel
Fashion Design or Merchandising	D																	Human Services
Interior Design††	D/C																	Correctional Services
<b>INDUSTRIAL/TECHNICAL</b> (p. 58-71)																		Drug Addiction Services
Audio Engineering Technology#	D	D	D	D														Mental Health Services
Automotive Technology																		Workers in Devel. Disabilities
Collision Repair Technology+																		Youth Care Services
Ford ASSET, GM ASEP, or																		Youth Development Worker
Gen. Auto																		Youth Work
Mechanical or Merchandising																		Mortuary Science#
																		Paralegal Technology
																		Sign Language Interpreting
																		Deaf Studies

+ Coop with Area Vo-Tech schools

† Apprenticeship programs

†† Articulated with Johnson County Community College

# Articulated with Kansas City Kansas Community College

✕ Degree and certificates under revision

# ART

## Graphic Design

A.A.S. Graphic Design .....	63 Credits
Digital Prepress Technician Certificate.....	21 Credits

*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.

### A.A.S. Graphic Design

#### General Education Requirements

ART 108	Survey of Art <i>or</i>	
ART 150	History of Art I <i>or</i>	
ART 151	History of Art II	3
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
	Electives: General Education	6

#### Specific Program Requirements

ART 100	Art Fundamentals I	3
ART 102	Computers in Design 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 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	Elective	3

**Total Credit Hours Required 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.

#### Specific Program Requirements

ART 102	Computers in Design I	3
ART 115	Orientation to Graphic Communications	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 Required 21**

# BUSINESS

## Accounting

A.A.S. Accounting.....	66 Credits
Accounting Assistant Certificate .....	16 Credits
Accounting Clerk Certificate .....	30 Credits
Computerized Accounting Certificate .....	21 Credits

*Offered at all colleges*

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

### A.A.S. Accounting

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra <b>or</b>	
MATH 120	College Algebra	3
SPDR 100	Fundamentals of Speech	3

Specific Program Requirements		
BSAD 101	Accounting Principles I	3
BSAD 102	Accounting Principles II	3
BSAD 109	Principles of Supervision <b>or</b>	
BSAD 204	Business Management	3
BSAD 151	Personal Finance <b>or</b>	
ECON 210	Macroeconomics <b>or</b>	
ECON 211	Principles of Economics II	3
BSAD 153	General Ledger Accounting Systems, PC	3
BSAD 154	Managerial Accounting <b>or</b>	
BSAD 201	Cost Accounting	3
BSAD 155	Accounting Problems–Spreadsheet	3
BSAD 178	Business Communications <b>or</b>	
BSAD 220	Business Letters and Reports	3
BSAD 202	Intermediate Accounting I	3
BSAD 240	Accounting Capstone Course	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II <b>or</b>	
BSAD 270	Legal Environment of Business	3
BSAD 252	Individual Income Tax	3
BSAD 256	Accounting Internship	3
CSIS 115	Intro to Microcomputer Applications	3

*9 hours from courses listed below*

BSAD	100*, 105, 120, 135, 150, 151, 154, 201, 203, 205, 254, 255	
ECON	210, 211	

\*May be used as an elective if taken prior to BSAD 101

**Total Credit Hours Required 66**

### Accounting Assistant Certificate

Specific Program Requirements		
BSAD 101	Accounting Principles I	3
BSAD 113	Special Problems in Business (Time Management)	1
CSIS 115	Intro to Microcomputer Applications	3
MATH 100	Mathematics for Business	3
BSAD 220	Business Letters and Reports	3
SPDR 103	Interpersonal Communication	3
<b>Total Credit Hours Required</b>		<b>16</b>

### Accounting Clerk Certificate

General Education Requirements		
ENGL 101	Composition and Reading I <b>or</b>	
BSAD 103	Business English ✕	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra <b>or</b>	
MATH 120	College Algebra	3
Specific Program Requirements		
BSAD 101	Accounting Principles I	3
BSAD 102	Accounting Principles II	3
BSAD 153	General Ledger Accounting Systems, PC	3
BSAD 150	Business Essentials	3
BSAD 155	Accounting Problems – Spreadsheet	3
BSAD 220	Business Letters and Reports	3
CSIS 115	Intro to Microcomputer Applications or equivalent CSIS courses	3

*One of the following:*

BSAD 100*, 109, 120, 135, 151, 154, 201, 202, 204, 205, 252, 254, 255, 270	3
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\*May be used as an elective if taken prior to BSAD 101

**Total Credit Hours Required 30**

### Computerized Accounting Certificate

Specific Program Requirements		
BSAD 101	Accounting Principles I	3
BSAD 120	Human Relations in Business	3
BSAD 150	Business Essentials	3
BSAD 153	General Ledger Accounting Systems, PC	3
BSAD 155	Accounting Problems – Spreadsheet	3
BSAD 178	Business Communications	3
CSIS 115	Intro to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>21</b>

## General Business

A.A.S. General Business.....	63 Credits
Entrepreneurial Studies Certificate.....	15 Credits
Supervision Certificate .....	30 Credits
Supply Chain Logistics Certificate.....	15 Credits

*Offered at all colleges*

This program offers an Associate in Applied Science degree and three certificates of completion.

### A.A.S. General Business

General Education Requirements		
ECON 210	Principles of Economics I–Macroeconomics	3
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
MATH 110	Intermediate Algebra <b>or</b>	
MATH 119	College Mathematics <b>or</b>	
MATH 120	College Algebra	3
PSYC 140	General Psychology	3
SPDR 100	Fundamentals of Speech	3

<b>Specific Program Requirements</b>		
BSAD 101	Accounting Principles I	3
BSAD 102	Accounting Principles II	3
BSAD 120	Human Relations in Business	3
BSAD 150	Business Essentials	3
BSAD 178	Business Communications	3
BSAD 204	Business Management	3
BSAD 205	Marketing	3
BSAD 254	Business Law I <i>or</i>	
BSAD 255	Business Law II <i>or</i>	
BSAD 270	Legal Environment of Business	3
CSIS 110	Technology and Information Management	3
CSIS 115	Intro to Microcomputer Applications	3
	Electives: Any course from BSAD, CSIS, CSOF, ECON	12
<b>Total Credit Hours Required</b>		<b>63</b>

### Entrepreneurial Studies Certificate

This program is designed for students who have a strong interest in exploring what it takes to own a successful business. It also provides insights to those working in companies, both large and small, who want to become better at what they currently do.

<b>Specific Program Requirements</b>		
BSAD 127	Management Internship I	3
BSAD 135	Entrepreneurship	3
BSAD 150	Business Essentials	3
BSAD 178	Business Communications	3
CSIS 115	Introduction to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>15</b>

### Supervision Certificate

This program prepares new students for supervisory jobs and improves the performance of those already working as supervisors.

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
PSYC 140	General Psychology	3
SPDR 100	Fundamentals of Speech	3
<b>Specific Program Requirements</b>		
BSAD 100	Introduction to Accounting <i>or</i>	
BSAD 101	Accounting Principles I	3
BSAD 109	Principles of Supervision	3
BSAD 204	Business Management	3
BSAD 220	Business Letters and Reports	3
CSIS/CSOF	Elective	3
	Electives: BSAD, CSIS, CSOF, ECON or MATH 100	6
<b>Total Credit Hours Required</b>		<b>30</b>

### Supply Chain Logistics Certificate

Logistics plan, implement and control the efficient, effective flow and storage of goods, services, and information between the point of origin and the point of consumption in order to meet customer's requirements. This program is designed for those already in the field, for anyone interested in making a career change in logistics.

<b>Specific Program Requirements</b>		
BSAD 210	Logistics Management	3
BSAD 211	Operations Management	3
BSAD 212	Transportation Operations and Management	3
BSAD 213	Warehousing and Distribution Centers	3

Electives: Must choose from the following disciplines: BSAD, CSIS, ECON, GEOG, SPDR 100, 102 or 103 3

**Total Credit Hours Required 15**

## Management

A.A.S. Management - Accounting	63 Credits
A.A.S. Management - Construction Management	66 Credits
A.A.S. Management - CSIS	63 Credits
A.A.S. Management - Environmental Health & Safety Technology	63 Credits
A.A.S. Management - Office Management	63 Credits
Administrative Assistant Cert.	30 Credits
A.A.S. Management - Marketing & Retailing	63 Credits

*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.

### A.A.S. Management - Accounting Specialty

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <i>or</i>	
MATH 110	Intermediate Algebra	3
SPDR 100	Fundamentals of Speech	3
	Electives	6

<b>Specific Program Requirements</b>		
BSAD 100	Introduction to Accounting <i>or</i>	
BSAD 101	Accounting Principles I	3
BSAD 102	Accounting Principles II	3
BSAD 109	Principles of Supervision <i>or</i>	
BSAD 120	Human Relations in Business	3
BSAD 127	Management Internship I	3
BSAD 128	Management Internship II	3
BSAD 129	Management Internship III	3
BSAD 135	Entrepreneurship <i>or</i>	
BSAD 204	Business Management	3
BSAD 153	General Ledger Accounting Systems, PC <i>or</i>	
CSIS 115	Intro to Microcomputer Applications <i>or</i>	
CSIS	Any Programming Language Course	3
BSAD 154	Managerial Accounting	3
BSAD 201	Cost Accounting	3
BSAD 202	Intermediate Accounting I <i>or</i>	
BSAD 203	Intermediate Accounting II	3
BSAD 205	Marketing	3
BSAD 220	Business Letters and Reports	3
BSAD 252	Individual Income Tax	3
BSAD 254	Business Law I <i>or</i>	
BSAD 255	Business Law II <i>or</i>	
BSAD 270	Legal Environment of Business	3
<b>Total Credit Hours Required</b>		<b>63</b>

## A.A.S. Management - Construction Management Specialty

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra	3
SPDR 100	Fundamentals of Speech Electives	3 6
Specific Program Requirements		
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3
BSAD 109	Principles of Supervision <b>or</b>	
BSAD 120	Human Relations in Business	3
BSAD 127	Management Internship I	3
BSAD 128	Management Internship II	3
BSAD 129	Management Internship III	3
BSAD 135	Entrepreneurship <b>or</b>	
BSAD 204	Business Management	3
BSAD 153	General Ledger Accounting Systems, PC <b>or</b>	
CSIS 115	Intro to Microcomputer Applications <b>or</b>	
CSIS	Any Programming Language Course	3
BSAD 205	Marketing	3
BSAD 220	Business Letters and Reports	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II <b>or</b>	
BSAD 270	Legal Environment of Business	3
CSMG 110	Problem Solving/Decision Making	1
CSMG 120	OSHA and Site Security	1
CSMG 130	Cost Awareness/Production Control	1
CSMG 140	Beginning Print Reading	2
CSMG 205	Intermediate Print Reading	2
CSMG 210	Accident Prevention and Loss Control	1
CSMG 220	Construction Planning and Scheduling	2
CSMG 230	Productivity Improvement	2
CSMG 250	Construction Estimating	2
CSMG 260	Contract Documents	2
CSMG 270	Advanced Print Reading	2
<b>Total Credit Hours Required</b>		<b>66</b>

## A.A.S. Management - Computer Science/Information Systems Specialty

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra	3
SPDR 100	Fundamentals of Speech Electives	3 6
Specific Program Requirements		
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3

BSAD 109	Principles of Supervision <b>or</b>	
BSAD 120	Human Relations in Business	3
BSAD 127	Management Internship I	3
BSAD 128	Management Internship II	3
BSAD 129	Management Internship III	3
BSAD 135	Entrepreneurship <b>or</b>	
BSAD 204	Business Management	3
BSAD 153	General Ledger Accounting Systems, PC <b>or</b>	
CSIS 115	Intro to Microcomputer Applications <b>or</b>	
CSIS	Any Programming Language Course	3
BSAD 205	Marketing	3
BSAD 220	Business Letters and Reports	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II <b>or</b>	
BSAD 270	Legal Environment of Business	3
CSIS 125	Visual BASIC Programming	3
CSIS 130	PASCAL Programming	3
CSIS 140	COBOL Programming	3
CSIS 225	Advanced Visual BASIC Programming	3
CSIS 240	Advanced COBOL Programming	3
<b>Total Credit Hours Required</b>		<b>63</b>

## A.A.S. Management - Environmental Health and Safety Technology Specialty

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra	3
SPDR 100	Fundamentals of Speech Electives*	3 6
Specific Program Requirements		
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3
BSAD 109	Principles of Supervision <b>or</b>	
BSAD 120	Human Relations in Business	3
BSAD 127	Management Internship I	3
BSAD 128	Management Internship II	3
BSAD 129	Management Internship III	3
BSAD 135	Entrepreneurship <b>or</b>	
BSAD 204	Business Management	3
BSAD 153	General Ledger Accounting Systems, PC <b>or</b>	
CSIS 115	Intro to Microcomputer Applications <b>or</b>	
CSIS	Any Programming Language Course	3
BSAD 205	Marketing	3
BSAD 220	Business Letters and Reports	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II <b>or</b>	
BSAD 270	Legal Environment of Business	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 210	Incident and Accident Investigation <b>or</b>	
EHSS 211	Workers Compensation Legislation for EHS <b>or</b>	

EHSS 217	Concepts of Waste Minimization, Recycling and Pollution Prevention <b>or</b>	
EHSS 218	Industrial Processes and Hazard Control	3
EHSS 213	EHS Program Development and Management	3
<b>Total Credit Hours Required</b>		<b>63</b>

### A.A.S. Management- Office Management

This degree is being revised. Please check with the division chair for the most recent information or go to the CatalogLIVE at [www.kcmetro.edu](http://www.kcmetro.edu) as updates occur.

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
MATH 100	Mathematics for Business	3
SPDR 100	Fundamentals of Speech <b>or</b>	
SPDR 102	Fundamentals of Human Communications	3
<i>Select 2 General Elective Courses from the following list:</i>		
ART 102	Computers in Design I	
ECON 210	Macroeconomics	
ECON 211	Principles of Economics II-Microeconomics	
PSYC 140	General Psychology	
PSYC 146	Industrial and Organizational Psychology	
SOCI 160	Sociology	
SPAN 101	Elementary Spanish	
SPDR 101	Advanced Speech	6-8
Specific Program Requirements		
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3
BSAD 103	Business English 	3
BSAD 105	Personnel Management <b>or</b>	
BSAD 109	Principles of Supervision	3
BSAD 120	Human Relations in Business	3
BSAD 127	Management Internship I	3
BSAD 150	Business Essentials	3
BSAD 161	Professional Development	3
BSAD 178	Business Communications	3
BSAD 190	Office Management	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II	3
CSIS 104	Document Processing II 	3
CSIS 115	Introduction to Microcomputer Applications	3
CSIS 116	Introduction to Desktop Publishing 	3
	Electives: BSAD or CSIS	6
<b>Total Credit Hours Required</b>		<b>63-65</b>

### Administrative Assistant Certificate

This degree is being revised. Please check with the division chair for the most recent information or go to the CatalogLIVE at [www.kcmetro.edu](http://www.kcmetro.edu) as updates occur.

Specific Program Requirements		
BSAD 103	Business English 	3
BSAD 161	Professional Development 	3
CSIS 103	Document Processing I 	3
CSIS 104	Document Processing II 	3
CSIS 162	Introduction to Multimedia	3
BSAD 178	Business Communications	3
BSAD 150	Business Essentials	3
CSIS 115	Introduction to Microcomputer Applications	3
CSIS 215	Advanced Microcomputer Applications	3

CSIS 116	Introduction to Desktop Publishing 	3
<b>Total Credit Hours Required</b>		<b>30</b>

### A.A.S. Management - Marketing and Retailing Specialty

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business <b>or</b>	
MATH 110	Intermediate Algebra	3
SPDR 100	Fundamentals of Speech Electives	3 6
Specific Program Requirements		
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3
BSAD 104	Principles of Advertising	3
BSAD 106	Principles of Salesmanship	3
BSAD 109	Principles of Supervision <b>or</b>	
BSAD 120	Human Relations in Business	3
BSAD 112	Retailing Principles	3
BSAD 127	Management Internship I	3
BSAD 128	Management Internship II	3
BSAD 129	Management Internship III	3
BSAD 135	Entrepreneurship <b>or</b>	
BSAD 204	Business Management	3
BSAD 152	Fashion Merchandising	3
BSAD 153	General Ledger Accounting Systems, PC <b>or</b>	
CSIS 115	Intro to Microcomputer Applications <b>or</b>	
CSIS	Any Programming Language Course	3
BSAD 205	Marketing	3
BSAD 220	Business Letters and Reports	3
BSAD 237	Merchandising Problems and Practices	3
BSAD 254	Business Law I <b>or</b>	
BSAD 255	Business Law II <b>or</b>	
BSAD 270	Legal Environment of Business	3
<b>Total Credit Hours Required</b>		<b>63</b>

# COMPUTERS

## Computer Science and Information Systems ✕

A.A.S. Computer Science and Information Systems.....	63 Credits
A.A.S. CSIS Database Emphasis.....	63 Credits
A.A.S. CSIS Networking Emphasis.....	63 Credits
A.A.S. CSIS Programming Emphasis.....	63 Credits
A.A.S. CSIS Technical Support Emphasis.....	63 Credits
A.A.S. CSIS Web Applications Emphasis.....	63 Credits
A.A.S. CSIS Cisco.....	68 Credits
Cisco Academy Certificate.....	20 Credits
Cisco and Technology Certificate.....	32 Credits

*Offered at all colleges*

The Associate in Applied Science in Computer Science and Information Systems degree programs are intended to qualify individuals for entry level positions in computer-related industry; the different emphasis areas are programming, database, networking, technical support, and web and multimedia. The curriculum leading to certificates of proficiency in computer information systems programming, database, networking, technical support, and web and multimedia are designed to provide the technical knowledge about computer technology for persons who have a degree in another area. **This degree and certificates are being revised. Please check with the division office to talk with the campus CSIS coordinator for the most recent information or go to the CatalogLIVE at [www.kcmetro.edu](http://www.kcmetro.edu) as updates occur.**

## A.A.S. Computer Science and Information Systems ✕

General Education Requirements	
ENGL 101	Composition and Reading I 3
HIST 120	American History I or
HIST 121	American History II 3
MATH 110	Intermediate Algebra or
	Higher mathematics course 3
SPDR 100	Fundamentals of Speech or
SPDR 102	Fundamentals of Human Communications 3
<i>Two courses from the following list:</i>	
ART 102	Computers in Design I
ECON 210	Macroeconomics
ECON 211	Principles of Economics II – Microeconomics
ENGL 175	Technical Writing
MATH 115	Statistics
PHIL 200	Logic
PHIL 203	Ethics
PSYC 140	General Psychology
SPDR 101	Advanced Speech 6
	Total for general education requirements 18
Business Core:	
<i>All of the following:</i>	
BSAD 120	Human Relations in Business 3
BSAD 178	Business Communications 3
CSIS 110	Technology and Information
	Management ✕ 3
CSIS 151	Microcomputer Operating Systems Concepts 3
CSIS 115	Introduction to Microcomputer Applications 3
	15
<i>Five of the following: (15 credit hours)</i>	
BSAD 150	Business Essentials
CSIS 111	Microcomputer Hardware Concepts
CSIS 112	Internetworking Fundamentals: CISCO
CSIS 121	Programming Fundamentals ✕

CSIS 161	Telecommunications and Network Fundamentals	
CSIS 128	Web Development or	
CSIS 162	Introduction to Multimedia	
CSIS 144	Introduction to SQL with Oracle or	
CSIS 177	Database Applications	
CSIS 181	Applications Support Technologies	
CSIS 191	Computer Support Practicum	
	Total	15
	15 credit hours from the area of emphasis	15
	<b>Total Credit Hours Required</b>	<b>63</b>

**The A.A.S. in Computer Science and Information Systems is offered with five areas of emphasis, including certificates in each area. These are being revised.**

Areas of Emphasis:

- Database - Emphasis and Certificate
- Networking - Emphasis and Certificate
- Programming - Emphasis and Certificate
- Technical Support - Emphasis and Certificate
- Web and Multimedia - Emphasis and Certificate

## A.A.S. CSIS Cisco

*Offered at the Business & Technology College*

General Education Requirements	
ENGL 101	Composition and Reading I 3
SPDR 100	Fundamentals of Speech 3
HIST 120	American History I <b>or</b>
HIST 121	American History II <b>or</b>
POLS 135	Introduction to Political Science <b>or</b>
POLS 136	Introduction to American National Politics <b>or</b>
POLS 137	Introduction to State and Local Politics <b>or</b>
SOSC 151	Foundations of the Social Sciences II 3
MATH 110	Intermediate Algebra or Above 3
	General Education Electives 6
Specific Program Requirements	
BSAD 120	Human Relations in Business 3
BSAD 178	Business Communications 3
CSIS 110	Technology and Information Management ✕ 3
CSIS 115	Intro to Microcomputer Applications 3
CSIS 151	Microcomputer Operating Systems Concepts 3
<i>Five of the following:</i>	
BSAD 150, CSIS 111, CSIS 161, CSIS 162, CSIS 177, CSIS 181, CSIS 191,	
CSIS: Beginning Programming Course	15
CSIS 112	Internetworking Fundamentals - Cisco 5
CSIS 113	Router and Routing Fundamentals - Cisco 5
CSIS 212	Advanced Routing and Switching - Cisco 5
CSIS 213	WAN Design and Support - Cisco 5
	<b>Total Credit Hours Required 68</b>

## Cisco Academy

Specific Program Requirements	
CSIS 112	Internetworking Fundamentals - Cisco 5
CSIS 113	Router and Routing Fundamentals - Cisco 5
CSIS 212	Advanced Routing and Switching - Cisco 5
CSIS 213	WAN Design and Support - Cisco 5
	<b>Total Credit Hours Required 20</b>

## Cisco and Technology Certificate

Specific Program Requirements		
BSAD 120	Human Relations in Business <i>or</i>	
BSAD 178	Business Communications	3
CSIS 110	Technology and Information Management <i>✂ or</i>	
CSIS 111	Microcomputer Hardware Concepts	3
CSIS 112	Internetworking Fundamentals - Cisco	5
CSIS 113	Router and Routing Fundamentals - Cisco	5
CSIS 115	Intro to Microcomputer Applications	3
CSIS 181	Application Support Technologies	3
CSIS 212	Advanced Routing and Switching - Cisco	5
CSIS 213	WAN Design and Support - Cisco	5
<b>Total Credit Hours Required</b>		<b>32</b>

## Telecommunications Technology

A.A.S. Telecommunications Technology.....	62-65 Credits
Telecommunications Technician I Cert. ....	17 Credits
Telecommunications Technician II Cert. ....	46-47 Credits
<i>Offered at the Business &amp; Technology College</i>	

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.

### A.A.S. Telecommunications Technology

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
MATH 120	College Algebra <i>and</i>	
MATH 130	Trigonometry <i>or</i>	
MATH 150	Precalculus	5-6
SPDR 100	Fundamentals of Speech	3
	Electives General Education	6

Specific Program Requirements		
BSAD 109	Principles of Supervision <i>or</i>	
BSAD 120	Human Relations in Business	3
	Elective: BSAD, CSIS, ELTE	1-3
CSIS 110	Technology and Information Management <i>✂ or</i>	
CSIS 121	Programming Fundamentals <i>✂ or</i>	
CSIS 160	Introduction to Telecommunications Careers	3
CSIS 161	Telecommunications and Network Fundamentals	3
CSIS 164	Basic Telecommunications Theory	5
CSIS 165	Telecommunications Instrumentation	3
CSIS 168	Telecommunications Technology I	3
CSIS 261	Telecommunications and Networks II	3
CSIS 264	Optical and Broadband Transmission Systems	3
CSIS 266	Switching Techniques <i>or</i>	
CSIS 267	FCC Commercial License Preparation	3
CSIS 268	Telecommunications Technology II	3
CSIS 295	Telecommunications Internship	3
ELTE 130	Digital Electronics	3
<b>Total Credit Hours Required</b>		<b>62-65</b>

## Telecommunications Technician I Certificate

Specific Program Requirements		
CSIS 110	Technology and Information Management <i>✂ or</i>	
CSIS 121	Programming Fundamentals <i>✂</i>	3
CSIS 160	Introduction to Telecommunication Careers	3
CSIS 164	Basic Telecommunications Theory	5
CSIS 165	Telecommunications Instrumentation	3
CSIS 168	Telecommunications Technology I	3
<b>Total Credit Hours Required</b>		<b>17</b>

## Telecommunications Technician II Certificate

Specific Program Requirements		
BSAD 109	Principles of Supervision <i>or</i>	
BSAD 120	Human Relations in Business	3
CSIS 110	Technology and Information Management <i>✂ or</i>	
CSIS 121	Programming Fundamentals <i>✂</i>	3
CSIS 160	Introduction to Telecommunication Careers	3
CSIS 161	Telecommunications and Networks Fundamentals	3
CSIS 164	Basic Telecommunications Theory	5
CSIS 165	Telecommunications Instrumentation	3
CSIS 168	Telecommunications Technology I	3
CSIS 261	Telecommunications and Networks II	3
CSIS 264	Optical and Broadband Transmission Systems	3
CSIS 266	Switching Techniques <i>or</i>	
CSIS 267	FCC Commercial License Preparation	3
CSIS 268	Telecommunications Technology II	3
CSIS 295	Telecommunications Internship	3
ELTE 130	Digital Electronics	3
MATH 120	College Algebra <i>and</i>	
MATH 130	Trigonometry <i>or</i>	
MATH 150	Precalculus	5-6
<b>Total Credit Hours Required</b>		<b>46-47</b>

# HEALTH

## Biotechnology

A.S. Biotechnology .....	78-82 Credits
A.A.S. Biotechnology.....	67-69 Credits
Biotechnology Certificate.....	37-39 Credits

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

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

The Biotechnology Associate in Applied Science degree program will prepare students to work in biotechnology laboratories associated with university medical centers, research institutions, and a variety of industrial applications. The biotechnology certificate is for students seeking employment in the biotechnology industry either in private or academic research laboratories. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

### A.S. Biotechnology

#### Specific Program Requirements

*Must be taken at one of the MCC Campuses*

CHEM 111	General College Chemistry I	5
CHEM 112	General College Chemistry II	5
CHEM 221	Organic Chemistry	5
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
MATH 115	Statistics	3
PHYS 130	General Physics I	5
PHYS 131	General Physics II	5
SPDR	Oral Communications Elective	3
HUMN	Electives	6
ECON/SOSC	Electives	6
PHED	Elective	1

*Must be taken at Johnson County Community College*

BIOL 135	Principles of Cell & Molecular Biology	4
BIOL 150	Biology of Organisms	5
BIOL 160	Introduction to Biotechnology	2
BIOL 165	Laboratory Safety	1
BIOL 205	General Genetics	4
BIOL 230	Microbiology	3
BIOL 260	Biotechnology Methods	5
CHEM 250	Biochemistry	4
BIOL 262	Biotechnology Internship (Optional)	4

**Total Credit Hours Required 78-82**

### A.A.S. Biotechnology

#### Specific Program Requirements

*Must be taken at one of the MCC campuses*

BIOL 109	Anatomy & Physiology	5
CHEM 105	Introductory Chemistry	5
CHEM 205	Organic Chemistry	5
CSIS 115	Introduction to Microcomputer Applications	3

ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
MATH 103	Technical Mathematics I (or higher)	3-5
HUMN	Elective	3
ECON/SOSC	Elective	3
PHED	Elective	1

#### Specific Program Requirements

*Must be taken at Johnson County Community College*

BIOL 135	Principles of Cell & Molecular Biology	4
BIOL 145	Human Anatomy and Physiology Dissection	1
BIOL 160	Introduction to Biotechnology	2
BIOL 165	Laboratory Safety	1
BIOL 205	General Genetics	4
BIOL 230	Microbiology	3
BIOL 260	Biotechnology Methods	5
BIOL 265	Biotechnology Internship	4
CHEM 250	Biochemistry	4
PHYS 133	Applied Physics	5

**Total Credit Hours Required 67-69**

### Biotechnology Certificate

#### Specific Program Requirements

*Must be taken at one of the MCC campuses*

CHEM 105	Introductory Chemistry	5
CHEM 205	Organic Chemistry	5
MATH 103	Technical Mathematics I (or higher)	3-5

#### Specific Program Requirements

*Must be taken at Johnson County Community College*

BIOL 135	Principles of Cell & Molecular Biology	4
BIOL 160	Introduction to Biotechnology	2
BIOL 165	Laboratory Safety	1
BIOL 230	Microbiology	3
BIOL 260	Biotechnology Methods	5
PHYS 133	Applied Physics	5
BIOL 265	Biotechnology Internship (Optional)	4

**Total Credit Hours Required 37-39**

## Dental Assisting

A.A.S. Dental Assisting.....	76 Credits
Dental Assisting Certificate.....	39 Credits

*Offered at Penn Valley*

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

### A.A.S. Dental Assisting

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
MATH 110	Intermediate Algebra (or higher)	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
	Humanities electives	9
<b>Specific Program Requirements</b>		
BIOL 109	Anatomy and Physiology	6
BIOL 208	Microbiology	5
CHEM 105	Introductory Chemistry	5
DENA 100	Developmental Dentistry	3
DENA 105	Dental Lab Procedures	2
DENA 110	Chairside Assisting I	5
DENA 115	Dental Radiology I	3
DENA 125	Clinical Practice I	2
DENA 126	Dental Assistant Seminar I	1
DENA 200	Body Structure and Function	2
DENA 205	Dental Biomaterials	2
DENA 210	Chairside Assisting II	2
DENA 215	Dental Radiology II	1
DENA 250	Clinical Practice II	4
DENA 225	Dental Office Management	2
DENA 260	Dental Assistant Seminar II	1
<b>Total Credit Hours Required</b>		<b>76</b>

### Dental Assisting Certificate

<b>Specific Program Requirements</b>		
DENA 100	Developmental Dentistry	3
DENA 105	Dental Laboratory Procedures	2
DENA 110	Chairside Assisting I	5
DENA 115	Dental Radiology	3
DENA 125	Clinical Practice I	2
DENA 126	Dental Assistant Seminar I	1
DENA 200	Body Structure and Function	2
DENA 205	Dental Biomaterials	2
DENA 210	Chairside Assisting II	2
DENA 215	Dental Radiology II	1
DENA 225	Dental Office Management	2
DENA 250	Clinical Practice II	4
DENA 260	Dental Assistant Seminar II	1
ENGL 101	Composition and Reading I	3
PSYC 140	General Psychology	3
SPDR 100	Fundamentals of Speech	3
<b>Total Credit Hours Required</b>		<b>39</b>

## Health Information Technology

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

*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.

### A.A.S. Health Information Technology

<b>General Education Requirements</b>		
BIOL 108	Intro to Anatomy and Physiology	5.0
BIOL 137	Intro to Pathology	4.0
ENGL 101	Composition and Reading I	3.0
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences I	3.0
SPDR 100	Fundamentals of Speech	3.0
ELECTIVE	(PSYC 140 Strongly Recommended)	3.0
<b>Specific Program Requirements</b>		
CSIS 115	Intro to Microcomputer Applications	3.0
<i>Three of the following:</i>		
	CSOF 102, 103, 104, 106, 108	3.0
HITE 101	Intro to the Medical Records Profession	2.0
HITE 102	Health Record Systems, Analysis/Control	3.5
HITE 103	Medical Terminology for Medical	3.0
HITE 106	Health Statistics	3.0
HITE 108	Legal Aspects of Medical Records	2.0
HITE 109	Directed Practice I	2.5
HITE 110	Pharmacology	1.5

HITE 111	Intro to Medical Insurance and Office Procedures	1.5
HITE 200	Intro to Classification Systems	1.0
HITE 201	Quality Management	3.0
HITE 202	Classification Systems, Nomenclatures, Indexes and Registers I	4.0
HITE 203	Directed Practice II	2.0
HITE 206	Specialized Health Records Systems	2.0
HITE 207	Classification Systems, Nomenclatures, Indexes and Registers II	3.0
HITE 208	Directed Practice III	2.0
HITE 210	Classification Systems and Nomenclatures for Ambulatory Care	3.0
HITE 211	Organization and Administration in Health Information	3.0
<b>Total Credit Hours Required</b>		<b>69.0</b>

### Coding Specialist Certificate

Specific Program Requirements		
BIOL 108	Introduction to Anatomy and Physiology	5.0
BIOL 137	Introduction to Pathology	4.0
CSIS 115	Introduction to Microcomputer Applications	3.0
HITE 103	Medical Terminology for Medical Records I	3.0
HITE 110	Pharmacology	1.5
HITE 111	Intro to Medical Insurance and Office Procedures	1.5
HITE 200	Introduction to Classification Systems	1.0
HITE 202	Classification Systems, Nomenclatures, Indexes, and Registers I	4.0
HITE 203	Directed Practice II	2.0
HITE 206	Specialized Health Records Systems	2.0
HITE 207	Classification Systems, Nomenclatures, Indexes, and Registers II	3.0
HITE 208	Directed Practice III	2.0
HITE 210	Classification Systems and Nomenclatures for Ambulatory Care	3.0
<b>Total Credit Hours Required</b>		<b>35.0</b>

## Medical Transcription

Medical Transcription Certificate .....30 Credits

*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.

**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.

## Medical Transcription Certificate

General Education Requirements		
ENGL 101	Composition and Reading I	3
Specific Program Requirements		
BIOL 108	Intro to Anatomy and Physiology	5
BSAD 161	Professional Development <b>or</b> BSAD, CSOF Elective	3
CSIS 115	Introduction to Microcomputer Applications	3
HITE 103	Medical Terminology for Medical Records I	3
MTRN 101	Medical Transcription I	5
MTRN 112	Medical Transcription II	5
MTRN 113	Medical Terminology for Medical Records II	3
<b>Total Credit Hours Required</b>		<b>30</b>

## Occupational Therapy Assistant

A.A.S. Occupational Therapy Assistant .....73 Credits

*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. The occupational therapy assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE's telephone number c/o AOTA is (301) 652-AOTA. Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT), 800 S. Frederick Ave., Suite 200, Gaithersburg, MD 20877-4150; phone, (301) 990-7979. After successful completion of the exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice, however, state licenses are usually based on the results of the NBCOT Certification Examination.

### 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.

## A.A.S. Occupational Therapy Assistant

General Education Requirements		
ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
Prerequisite Courses		
BIOL 100	Intro to Cell Biology	3
BIOL 150	Medical Terminology	2

Specific Program Requirements		
BIOL 109	Anatomy and Physiology	6
EMTP 102	Basic Emergency Patient Care	1.0
OTHA 100	Intro 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
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
OTHA 201	Mental Health	2.5
OTHA 202	Physical Dysfunction	3.0
OTHA 203	Gerontology	3.0
OTHA 208	Therapeutic Interventions II	2.0
OTHA 212	Level I Fieldwork III	2.0
OTHA 217	Fieldwork Seminar	3.0
OTHA 222	Level II Fieldwork	12.0
<b>Total Credit Hours Required</b>		<b>73</b>

## Emergency Medical Technician–Paramedic

A.A.S. EMT-Paramedic .....76 Credits  
 EMT-Paramedic Certificate .....51 Credits

*Offered at Penn Valley*

This program, which leads to either an Associate in Applied Science degree or a certificate of proficiency, prepares students to work in the emergency medical services field. Graduates are eligible to take the national registry exam for paramedics.

### Admission to the Paramedic Program

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

### 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.

## A.A.S. EMT-Paramedic

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 110	Intermediate Algebra	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BIOL 108	Introductory Anatomy and Physiology	5
BIOL 150	Medical Terminology	2
CHEM 105	Introductory Chemistry	5
EMTP 150	Emergency Medical Technician-Basic	8
EMTP 240	Intro to Paramedic Care	4
EMTP 241	Prehospital Assessment Techniques	4
EMTP 242	Medical Emergencies	3
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	Pediatric Advanced Life Support	1.0
<b>Total Credit Hours Required</b>		<b>76.0</b>

## EMT–Paramedic Certificate

Specific Program Requirements		
BIOL 108	Introductory Anatomy and Physiology	5
EMTP 150	Emergency Medical Technician-Basic	8
EMTP 240	Introduction to Paramedic Care	4
EMTP 241	Prehospital Assessment Techniques	4
EMTP 242	Medical Emergencies	3
EMTP 243	Paramedic Pharmacology	4.5
EMTP 244	Obstetrics, Pediatrics, and ACLS	2.5
EMTP 245	Trauma Management	2.5
EMTP 246	Prehospital Care Integration	2
EMTP 247	Paramedic Hospital Clinicals	9
EMTP 248	Field Internship	5.5
EMTP 249	Pediatric Advanced Life Support (PALS) Provider	1
<b>Total Credit Hours Required</b>		<b>51</b>

## Physical Therapist Assistant

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

*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

- Minimum grade point average of 2.5 in all courses required for the physical therapist assistant program.
- Minimum grade of C in all college biology courses attempted and in PTHA 151.
- Satisfactory performance on an examination in English language skills (Test of English as a Foreign Language for international students).
- Admission to Penn Valley.

#### Applications Procedure

- 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.
- Contact the Counseling Center to discuss enrollment in classes.
- Complete the following program prerequisites:
 

BIOL 100	Introduction to Cell Biology
BIOL 110	Human Anatomy
BIOL 150	Medical Terminology
PTHA 151	Introduction to Physical Therapy
- Call for an application to the program before or during the spring semester.
- Return completed application to the Program Coordinator by June 10.
- Applicants will be screened and the most qualified applicants will be selected to enter the program in the fall.

### A.A.S. Physical Therapist Assistant

#### General Education Requirements

ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3

#### Prerequisite Courses

BIOL 100	Intro to Cell Biology	3
BIOL 150	Medical Terminology	2
PTHA 151	Intro to Physical Therapy	2

#### Specific Program Requirements

BIOL 109	Anatomy and Physiology	6
EMTP 102	Basic Emergency Patient Care	1
PTHA 152	Physical Therapy Fundamentals I	4
PTHA 153	Kinesiology	4
PTHA 154	Applied Neurology	2
PTHA 155	Rehabilitation	4
PTHA 158	Therapeutic Exercise	4
PTHA 159	Orthopedic Pathology	2
PTHA 160	Medical Diseases	2
PTHA 161	Physical Therapy Fundamentals II	4
PTHA 162	Clinical Experience I	2
PTHA 164	Pediatrics and Gerontology	2
PTHA 170	Clinical Experience II	2
PTHA 171	Clinical Seminar	2
PTHA 172	Clinical Experience III	12

**Total Credit Hours Required 72**

## Practical Nursing

Practical Nursing Certificate .....43 Credits

*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

- Apply and be admitted to the Metropolitan Community Colleges.
- Participate in the ASSET testing program to demonstrate acceptable skill levels.
- Apply for admission to the practical nurse program.
- Complete the HOBET test at or above the acceptable level.
- International students must successfully complete the CEL-SA.

#### Specific Program Requirements

PNUR 100	Personal and Vocational Concepts	1.0
PNUR 102	Fundamentals of Practical Nursing I	1.5
PNUR 103	Fundamentals of Practical Nursing II	8.5
PNUR 104	Body Structure and Function	2.0
PNUR 110	Pharmacology	3.5
PNUR 128	Mental Health Nursing	2.5
PNUR 132	The Child Bearing Family	4.0
PNUR 138	Nursing of the Adult I	9.0
PNUR 144	Nursing of the Adult II	8.0
PNUR 146	Leadership	3.0

**Total Credit Hours Required 43.0**

## Professional Nursing

A.A.S. Professional Nursing ..... 70-72 Credits

LPN-ADN Bridge Program ..... 70-72 Credits

*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):

BIOL 100	Introduction to Cell Biology	<i>or</i>	
CHEM 105	Introductory Chemistry		3-5
PSYC 140	General Psychology		3

7. Science courses not older than five years.

#### 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.

### A.A.S. Professional Nursing

General Education Requirements			
ENGL 101	Composition and Reading I		3
SPDR 100	Fundamentals of Speech		3
HIST 120	American History I	<i>or</i>	
HIST 121	American History II	<i>or</i>	
POLS 135	Introduction to Political Science	<i>or</i>	
POLS 136	Introduction to American National Politics	<i>or</i>	
POLS 137	Introduction to State and Local Politics	<i>or</i>	
SOSC 151	Foundations of the Social Sciences II		3
Prerequisite Courses			
BIOL 100	Intro to Cell Biology	<i>or</i>	
CHEM 105	Introductory Chemistry		3-5
PSYC 140	General Psychology		3
Specific Program Requirements			
BIOL 109	Anatomy and Physiology		6
BIOL 208	Microbiology		5
PSYC 243	Human Lifespan Development		4
RNUR 126	Fundamentals of Professional Nursing		6
RNUR 131	Essential Nursing Concepts		2
RNUR 134	Mental Health Nursing		4
RNUR 138	Nursing Care of Women and Neonates		4
RNUR 141	Adult Nursing I		3
RNUR 230	Leadership/Management/Trends		2
RNUR 234	Child-Centered Nursing		4
RNUR 238	Adult Nursing II		5
RNUR 244	Adult Nursing III		7
SOCI 160	Sociology		3
<b>Total Credit Hours Required</b>			<b>70-72</b>

#### Estimated Costs of the Nursing Program

Tuition and Fees: See page 11

#### Approximate Costs\*

Nursing Supplies	\$500.00
Nursing Textbooks	\$1,000.00

\* 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.

- Achieve satisfactory scores on the ASSET and Nurse Entrance Tests.
- Complete the following prerequisite courses (6-8 credit hours):
 

BIOL 100	Introduction to Cell Biology <i>or</i>	
CHEM 105	Introductory Chemistry	3-5
PSYC 140	General Psychology	3
- Science courses not older than five years.
- 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.)
- 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.

#### Prerequisite Courses

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

RNUR 234	Child Centered Nursing	4
RNUR 238	Adult Nursing II	5
ENGL 101	Composition and Reading I	3
SOCI 160	Sociology	3
	<b>Total</b>	<b>15</b>
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 <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
	<b>Total</b>	<b>15</b>

**Total Credit Hours Required 70-72**

## Radiologic Technology

A.A.S. Radiologic Technology .....76 Credits

*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

- High school diploma or GED certificate.
- Grade Point average of 2.5 in all courses completed prior to program admission.

- 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.
- 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.
- Completion of RATE 150 with a minimum grade of C within the last 5 years.
- Admission to Penn Valley Community College.
- Completion of a screening interview with the program coordinator or RATE faculty.

#### Application Process

- Return the completed application for admission to the program coordinator.
- Submit an application for admission to Penn Valley Community College.
- Submit evidence of high school graduation or completed GED to the program coordinator.
- 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.

- Satisfy all requirements for admission to the program.
- Submit transcript of all completed or attempted radiologic technology course work to the program coordinator.
- Submit to the program coordinator a school catalog from the previously attended radiologic technology program.
- Submit to the program coordinator a letter of reference from the director of the previously attended radiologic technology program.
- 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 in 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.

## A.A.S. Radiologic Technology

#### General Education Requirements

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

HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
Specific Program Requirements		
BIOL 110	Human Anatomy	5
BIOL 150	Medical Terminology	2
RATE 150	Introduction to Radiologic Technology	1
RATE 160	Survey of Radiologic Technology	6
RATE 162	Image Processing	2
RATE 165	Patient Care	2
RATE 170	Radiologic Biology and Protection	3
RATE 171	Radiographic Exposures I	3
RATE 172	Radiographic Positioning I	3
RATE 173	Clinical Training I	3
RATE 174	Radiographic Exposures II	3
RATE 175	Clinical Training II	4
RATE 176	Radiographic Positioning II	3
RATE 178	Clinical Training III	4
RATE 278	Imaging Modalities and Pathology	3
RATE 279	Radiographic Positioning III	2
RATE 280	Clinical Training IV	4
RATE 281	Radiation Physics	3
RATE 282	Clinical Training V	4
RATE 283	Final Seminar	2
RATE 285	Special Procedures	2
<b>Total Credit Hours Required</b>		<b>76</b>

## Respiratory Care

A.A.S. Respiratory Care .....	75 Credits
A.A.S. Respiratory Care Transition .....	75 Credits

*Offered at Johnson County Community College  
Coordinated at Penn Valley*

This program, offered under the auspices of Johnson County Community College (JCCC), leads to an Associate in Applied Science degree and qualifies the student for the National Board for Respiratory Care examination process. Additional program information may be acquired from the counseling office at Penn Valley and from the academic director at JCCC. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

### Eligibility

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

### Admission to the Program

The number of MCC students admitted to the program is limited. In order to be certain that they will be considered for admission to the class which begins its specialized course work in June, an MCC student must complete the application process by the previous October 15. Applications are not considered until all required material has been submitted. If openings remain for MCC students after the initial applications have been reviewed, students who have missed the deadline will be considered if their applications are completed by February 15. Further information

is available in the counseling office at Penn Valley and from the academic director at JCCC.

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

**Note: All English, mathematics, and science courses must be completed successfully before the student is eligible for the clinical courses at JCCC. Students may make application, however, if coursework will be completed by the clinical year.**

## A.A.S. Respiratory Care

### Specific Program Requirements

*Must be taken at one of the MCC campuses*

BIOL 110	Human Anatomy*	5
BIOL 208	Microbiology*	5
BIOL 210	Human Physiology*	5
CHEM 105	Introductory Chemistry*	5
ENGL 101	Composition and Reading I*	3
MATH 110	Intermediate Algebra <b>or</b>	
MATH 120	College Algebra*	3
	Social Science Elective	3
	Communications Elective	3
	Humanities Elective	3

### Specific Program Requirements

*Must be taken at Johnson County Community College*

EMS 121	CPR I:Basic Life Support Healthcare Provider	1
RC 125	Beginning Principles of Respiratory Care	4
RC 130	Respiratory Care Equipment	4
RC 135	Cardiopulmonary Medicine I	1
RC 220	Clinical Cardiopulmonary Physiology	2
RC 230	Clinical Topics and Procedures I	4
RC 231	Clinical Topics and Procedures II	4
RC 233	Respiratory Care of Children	2
RC 235	Cardiopulmonary Medicine II	2
RC 236	Cardiopulmonary Medicine III	2
RC 240	Cardiopulmonary Pharmacology	2
RC 271	Clinical Practice I	6
RC 272	Clinical Practice II	6

**Total Credit Hours Required 75**

\* Prerequisite courses that must be completed prior to the clinic year at Johnson County Community College

**Social Science Elective** must be one of the following: ANTH 100, ECON 110, 210, 211, GEOG 105, 111, 112, 211, POLS 135, 136, 137, PSYC 140, 142, SOSC 150, 151, 172, SOCI 160, 162, 163, 170

**Communications Elective** must be one of the following: SPDR 100, 102, 103, ENGL 102, 175, BSAD 178

**Humanities Elective** must be one of the following: ART 108, 150, 151, 159, ENGL 120, 121, 122, 124, 125, 127, 128, 142, 150, 151, 158, 165, 167, 220, 221, 222, 223, SPDR 114, 128, FREN 203, GERM 203, SPAN 203, 204, HIST 120, 121, 133, 134, 135, 215, HUMN 133, 134, 135, 140, 160, MUSI 108, PHIL 100, 101, 200, 201, 203

## A.A.S. Respiratory Care Transition

### Specific Program Requirements

*Must be taken at one of the MCC campuses*

BIOL 110	Human Anatomy*	5
BIOL 208	Microbiology*	5
BIOL 210	Human Physiology*	5
CHEM 105	Introductory Chemistry*	5

ENGL 101	Composition and Reading I*	3
MATH 110	Intermediate Algebra <i>or</i>	
MATH 120	College Algebra*	3
	Social Science Elective	3
	Communications Elective	3
	Humanities Elective	3

#### Specific Program Requirements

*Must be taken at Johnson County Community College*

EMS 121	CPR I:Basic Life Support Healthcare Provider	1
RC 125	Beginning Principles of Respiratory Care	4
RC 130	Respiratory Care Equipment	4
RC 135	Cardiopulmonary Medicine I	1
RC 220	Clinical Cardiopulmonary Physiology	2
RC 230	Clinical Topics and Procedures I	4
RC 231	Clinical Topics and Procedures II	4
RC 233	Respiratory Care of Children	2
RC 235	Cardiopulmonary Medicine II	2
RC 236	Cardiopulmonary Medicine III	2
RC 240	Cardiopulmonary Pharmacology	2
RC 271	Clinical Practice I	6
RC 272	Clinical Practice II	6

**Total Credit Hours Required 75**

\* Prerequisite courses that must be completed prior to the clinic year at Johnson County Community College

**Social Science Elective** must be one of the following: ANTH 100, ECON 110, 210, 211, GEOG 105, 111, 112, POLS 135, 136, 137, PSYC 140, 142, SOSC 150, 151, 172, SOCI 160, 162, 163, 170

**Communications Elective** must be one of the following: SPDR 100, 102, 103, ENGL 102, 175, BSAD 178

**Humanities Elective** must be one of the following: Art 108, 150, 151, 159, ENGL 120, 121, 122, 124, 125, 128, 150, 151, 158, 165, 167, 220, 221, 222, 223, SPDR 114, 128, FREN 203, GERM 203, SPAN 203, SPAN 204, HIST 120, 121, 133, 134, 135, 215, HUMN 133, 134, 140, 160, MUSI 108, PHIL 100, 101, 200, 201, 203

## Surgical Technology

Surgical Technology Certificate .....43 Credits

*Offered at Penn Valley*

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

### Surgical Technology Certificate

#### Specific Program Requirements

STNU 100	Introduction to Surgical Technology	2
STNU 102	Fundamentals of Operating Techniques	11
STNU 104	Body Structure and Function	2
STNU 105	Pharmacology for the Surgical Technologist	2
STNU 106	Aseptic Technique for the Surgical Technologist	2
STNU 109	Principles of Surgical Procedures I	8
STNU 110	Principles of Surgical Procedures II	7
STNU 114	Principles of Surgical Procedures III	7
STNU 111	Career Development for the Surgical Technologist	2

**Total Credit Hours Required 43**

## Veterinary Technology

A.A.S. Veterinary Technology .....75 Credits

*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.

### A.A.S. Veterinary Technology

#### General Education Requirements

ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3

Specific Program Requirements		
BIOL 106	General Zoology (101 may also be used)	5
BIOL 208	Microbiology	5
CHEM 105	Introductory Chemistry	5
CSIS 115	Intro to Microcomputer Applications	3
MATH 108	Clinical Mathematics	1
VETT 100	Introduction to Veterinary Technology	2
VETT 101	Principles of Animal Science I	3
VETT 110	Principles of Animal Science II	3
VETT 111	Sanitation and Animal Care	2
VETT 200	Veterinary Hospital Technology I	3
VETT 201	Clinical Pathology Techniques	4
VETT 202	Veterinary Anatomy	5
VETT 203	Laboratory Animal Technology	2
VETT 209	Equine Medicine and Management	3
VETT 210	Animal Hospital Technology II	3
VETT 211	Clinical Pathology Techniques II	5
VETT 212	Large Animal Technology	4
VETT 213	Radiology and Electronic Procedures	2
VETT 214	Veterinary Technician Internship	6
<b>Total Credit Hours Required</b>		<b>75</b>

# HUMAN SCIENCES

## Child Growth and Development

A.A.S. CDCG Family Studies .....	67 Credits
A.A.S. CDCG Infant Toddler .....	67 Credits
A.A.S. CDCG Preschool .....	67 Credits
A.A.S. CDCG School Age Care .....	67 Credits
A.A.S. CDCG Special Needs .....	67 Credits
Child Growth & Development Certificate .....	40 Credits

*Offered at Penn Valley*

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:

1. Attend Child Growth and Development Orientation. Contact the Child Growth and Development Department for scheduled orientations.
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.

### A.A.S. CDCG Family Studies Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
PSYC 140	General Psychology	3
	General Education Electives	3

Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 118	Family Development	3
CDCG 130	Creative Experiences for Young Children	3
CDCG 200	Music and Movement For Children <b>or</b>	
CDCG 261	Parenting <b>or</b>	
HUSC 200	Entrepreneurship in Human Sciences	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 220	Child Care Management	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 234	Program Planning:Families	3
CDCG 248	Family Development Internship I <b>or</b>	
CDCG 249	Child Development Internship I	3
CDCG 254	Child Development Internship II: Families	3
CDCG 260	Education of the Exceptional Child	3

HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
HUSC 162	Marriage and the Family	3
<b>Total Credit Hours Required</b>		<b>67</b>

### A.A.S. CDCG Infant/Toddler Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
PSYC 140	General Psychology	3
	General Education Electives	3

Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 115	Child Growth and Development II: Infant/Toddler	3
CDCG 130	Creative Experiences for Young Children	3
CDCG 200	Music and Movement For Children <b>or</b>	
CDCG 261	Parenting <b>or</b>	
HUSC 200	Entrepreneurship in Human Sciences	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 220	Child Care Management	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 230	Program Planning:Infant/Toddler	3
CDCG 248	Family Development Internship I <b>or</b>	
CDCG 249	Child Development Internship I	3
CDCG 250	Child Development Internship II: Infant/Toddler	3
CDCG 260	Education of the Exceptional Child	3
HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
HUSC 162	Marriage and the Family	3
<b>Total Credit Hours Required</b>		<b>67</b>

### A.A.S. CDCG Preschool Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
PSYC 140	General Psychology	3
	General Education Electives	3

Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 116	Child Growth and Development II: Preschool	3

CDCG 130	Creative Experiences for Young Children	3
CDCG 200	Music and Movement For Children <b>or</b>	
CDCG 261	Parenting <b>or</b>	
HUSC 200	Entrepreneurship in Human Sciences	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 220	Child Care Management	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 231	Program Planning:Preschool	3
CDCG 248	Family Development Internship I <b>or</b>	
CDCG 249	Child Development Internship I	3
CDCG 251	Child Development Internship II: Preschool	3
CDCG 260	Education of the Exceptional Child	3
HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
HUSC 162	Marriage and the Family	3
<b>Total Credit Hours Required</b>		<b>67</b>

### A.A.S. CDCG School Age Care Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
PSYC 140	General Psychology	3
	General Education Electives	3
Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 117	Child Growth and Development II: School Age Care	3
CDCG 130	Creative Experiences for Young Children	3
CDCG 200	Music and Movement For Children <b>or</b>	
CDCG 261	Parenting <b>or</b>	
HUSC 200	Entrepreneurship in Human Sciences	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 220	Child Care Management	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 232	Program Planning:School Age Care	3
CDCG 248	Family Development Internship I <b>or</b>	
CDCG 249	Child Development Internship I	3
CDCG 252	Child Development Internship II: School Age Care	3
CDCG 260	Education of the Exceptional Child	3
HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
HUSC 162	Marriage and the Family	3
<b>Total Credit Hours Required</b>		<b>67</b>

### A.A.S. CDCG Special Needs Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
SPDR 100	Fundamentals of Speech	3

HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
PSYC 140	General Psychology	3
	General Education Electives	3
Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 119	Child Growth and Development II: Special Needs	3
CDCG 130	Creative Experiences for Young Children	3
CDCG 200	Music and Movement For Children <b>or</b>	
CDCG 261	Parenting <b>or</b>	
HUSC 200	Entrepreneurship in Human Sciences	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 220	Child Care Management	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 233	Program Planning:Special Needs	3
CDCG 248	Family Development Internship I <b>or</b>	
CDCG 249	Child Development Internship I	3
CDCG 253	Child Development Internship II: Special Needs	3
CDCG 260	Education of the Exceptional Child	3
HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
HUSC 162	Marriage and the Family	3
<b>Total Credit Hours Required</b>		<b>67</b>

### Child Growth and Development Certificate

Specific Program Requirements		
CDCG 113	Child Growth and Development I	3
CDCG 114	Child Development Observation	1
CDCG 115	Child Growth and Development II: Infant/Toddler <b>or</b>	
CDCG 116	Child Growth and Development II: Preschool <b>or</b>	
CDCG 117	Child Growth and Development II: School-Age Care	3
CDCG 130	Creative Experiences for Young Children	3
CDCG 201	Language Development	3
CDCG 216	Child Health and Safety	3
CDCG 217	Literature for Children	3
CDCG 221	Issues and Theories in Child Growth and Development	3
CDCG 249	Child Development Internship I	3
CDCG 260	Education of the Exceptional Child	3
CDCG 261	Parenting	3
ENGL 101	Composition and Reading I	3
HUSC 100	Careers in Human Sciences	3
HUSC 108	Nutrition	3
<b>Total Credit Hours Required</b>		<b>40</b>

### Fashion Design

A.A.S. Fashion Design .....63 Credits

*Offered at Penn Valley*

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

## A.A.S. Fashion Design

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
MATH 100	Mathematics for Business	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
ART 110	Basic Drawing I	3
ART 130	Fashion Illustration I	3
ART 131	Fashion Illustration II	3
BSAD 152	Fashion Merchandising	3
FASH 111	Fashion and Clothing Selection	3
FASH 112	Clothing Construction	3
FASH 118	Costume History	3
FASH 119	Fashion Promotion	3
FASH 211	Flat Pattern Design	3
FASH 212	Fashion and Household Fabrics	3
FASH 213	Advanced Clothing Construction	3
FASH 214	Fashion Design Portfolio	3
FASH 250	Computer Aided Fashion Design	3
FASH 251	Apparel Design Promotion	3
HUSC 200	Entrepreneurship in Human Sciences	3
<b>Total Credit Hours Required</b>		<b>63</b>

## Fashion Merchandising

A.A.S. Fashion Merchandising .....63 Credits

*Offered at Penn Valley*

This program leads to an Associate in Applied Science degree and prepares students for jobs in fashion merchandising.

### A.A.S. Fashion Merchandising

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
MATH 100	Mathematics for Business	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 150	Business Essentials	3
BSAD 152	Fashion Merchandising	3
BSAD 205	Marketing	3
CSIS 115	Introduction to Microcomputer Applications	3
FASH 110	Fashion Products	3
FASH 111	Fashion and Clothing Selection	3
FASH 112	Clothing Construction	3
FASH 118	Costume History	3
FASH 119	Fashion Promotion	3
FASH 212	Fashion and Household Fabrics	3
FASH 213	Advanced Clothing Construction	3
FASH 218	Fashion Field Experience I	3

FASH 219	Fashion Field Experience II	3
HUSC 200	Entrepreneurship in Human Sciences	3
	Elective	3
<b>Total Credit Hours Required</b>		<b>63</b>

## Interior Design

A.A.S. Interior Design .....	67 Credits
A.A.S. Interior Entrepreneurship .....	67 Credits
A.A.S. Interior Merchandising .....	67 Credits
Interior Design Retail Sales/Manufacturers Representative Certificate .....	32 Credits
Interior Products Sales Representative Certificate .....	17 Credits

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

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

### A.A.S. Interior Design Emphasis

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
ART 150	History of Art I	3
BSAD 178	Business Communications	3
ECON 110	Introduction to Economics <i>or</i>	
ECON 210	Principles of Economics I– Macroeconomics	3
ENGL 101	Composition and Reading I	3
MATH 100	Mathematics for Business	3
Elective:	Physical Education or Health	1
Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
DRAF 261	Graphic Communications I for Interior Design	3
DRAF 264	CAD:Interior Design	3
DRAF 266	Graphic Communications II for Interior Design	3
FASH 135	Image Management <i>or</i>	
ITMD 180	Leadership Design	1
ITMD 121	Interior Design I	3
ITMD 122	Interior Design II	3
ITMD 125	Interior Textiles	3
ITMD 132	Interior Products	3
ITMD 133	Furniture and Ornamentation/Antiquity to Renaissance	3
ITMD 140	Draperies, Treatment and Construction	1
ITMD 145	Upholstery Construction	1
ITMD 147	Lighting Design and Planning	1
ITMD 148	Furniture and Ornamentation/Oriental	3
ITMD 150	Asian Rugs and Carpets	1
ITMD 223	Contract Design	3
ITMD 231	Furniture and Ornamentation/Renaissance to 20th Century	3
ITMD 234	Kitchen and Bath:Planning and Design	3
ITMD 239	Capstone:Portfolio and Presentation	2
ITMD 273	Seminar: Business Practices and Procedures	2
ITMD 275	Seminar:Budgeting and Estimating	2
ITMD 282	Interiors Internship I	1

ITMD 284	Interiors Internship II	1
MKT 134	Creative Retail Selling	3
<b>Total Credit Hours Required</b>		<b>67</b>

**\*Recommended JCCC Electives:**

ITMD 127	Floral Design	
ITMD 175	Advanced Floral Design	
ITMD 250	20th Century Designers	
ITMD 295	Field Study: Design and Merchandising	
ITMD 296	Interior Design: The Orient (Travel for Credit)	

### A.A.S. Interior Design Entrepreneurship Emphasis

Specific Program Requirements

*Must be taken at one of the MCC campuses*

ART 150	History of Art I	3
BSAD 178	Business Communications	3
ECON 110	Introduction to Economics <b>or</b>	
ECON 210	Macroeconomics	3
ENGL 101	Composition and Reading I	3
MATH 100	Mathematics for Business	3
Elective:	Physical Education or Health	1
Business/Marketing Electives **		9

**\*\*Recommended MCC Electives:**

BSAD 100	Small Business Accounting
BSAD 101	Accounting Principles I
BSAD 204	Business Management
BSAD 205	Marketing

Specific Program Requirements

*Must be taken at Johnson County Community College*

DRAF 261	Graphic Communications I for Interior Design	3
DRAF 264	CAD:Interior Design	3
FASH 135	Image Management	1
ITMD 121	Interior Design I	3
ITMD 122	Interior Design II	3
ITMD 125	Interior Textiles	3
ITMD 127	Floral Design	1
ITMD 132	Interior Products	3
ITMD 133	Furniture and Ornamentation/Antiquity to Renaissance	3
ITMD 223	Contract Design <b>or</b>	
ITMD 234	Kitchen and Bath: Planning and Design	3
ITMD 231	Furniture and Ornamentation/Renaissance to 20th Century	3
ITMD 239	Capstone:Portfolio and Presentation	2
ITMD 273	Seminar:Business Practices and Procedures	2
ITMD 275	Seminar:Budgeting and Estimating	2
ITMD 282	Interiors Internship I	1
ITMD 284	Interiors Internship II	1
MKT 134	Creative Retail Selling	3
ITMD	Electives*	3

**Total Credit Hours Required 67**

**\*Recommended JCCC Electives:**

ITMD 140	Draperies, Treatments, and Construction
BUSE 131	Financial Planning for Small Business
ITMD 145	Upholstery Construction
BUSE 140	FastTrack Feasibility Plan
ITMD 147	Lighting Design and Planning
BUSE 142	FastTrack Business Plan
ITMD 148	Furniture and Ornamentation:Oriental
BUSE 160	Legal Issues for Small Business
BUSE 141	Principles of Management
MKT 121	Retail Management
BUS 145	Small Business Management
MKT 221	Sales Management
BUS 230	Marketing

### A.A.S. Interior Design Merchandising Emphasis

Specific Program Requirements

*Must be taken at one of the MCC campuses*

ART 150	History of Art I	3
BSAD 178	Business Communications	3
ECON 110	Introduction to Economics <b>or</b>	
ECON 210	Macroeconomics	3
ENGL 101	Composition and Reading I	3
MATH 100	Mathematics for Business	3
Elective Physical Education or Health		1

Specific Program Requirements

*Must be taken at Johnson County Community College*

DRAF 261	Graphic Communications I for Interior Design	3
DRAF 264	CAD:Interior Design	3
FASH 125	Visual Merchandising	3
FASH 135	Image Management	1
ITMD 180	Leadership Design	1
ITMD 121	Interior Design I	3
ITMD 122	Interior Design II	3
ITMD 125	Interior Textiles	3
ITMD 132	Interior Products	3
ITMD 133	Furniture and Ornamentation/Antiquity to Renaissance	3
ITMD 231	Furniture and Ornamentation/Renaissance to 20th Century	3
ITMD 239	Capstone:Portfolio and Presentation	2
ITMD 273	Seminar:Business Practices and Procedures	2
ITMD 275	Seminar:Budgeting and Estimating	2
ITMD 282	Interiors Internship I	1
ITMD 284	Interiors Internship II	1
MKT 134	Creative Retail Selling	3
ITMD:	Electives*	6
Business/Marketing Electives*		6

**Total Credit Hours Required 67**

**\*Recommended JCCC Electives:**

ITMD 127	Floral Design
BUS 141	Prn of Management
TMD 140	Draperies, Treatments, and Construction
BUS 145	Small Business Management
ITMD 145	Upholstery Construction
BUS 230	Marketing
ITMD 147	Lighting Design and Planning
MKT 121	Retail Management
ITMD 148	Furniture and Ornamentation:Oriental
MKT 221	Sales Management
ITMD 223	Contract Design
ITMD 234	Kitchen and Bath Planning and Design

**\*\*Recommended MCC Electives:**

BSAD 204	Business Management
BSAD 205	Marketing

### Interior Design Retail Sales/Manufacturers Representative Certificate

Specific Program Requirements

*Must be taken at one of the MCC campuses*

BSAD 120	Human Relations in Business <b>or</b>	
SPDR 103	Interpersonal Communications	3
MATH 100	Mathematics for Business or higher	3

Specific Program Requirement

*Must be taken at Johnson County Community College*

FASH 125	Visual Merchandising	3
FASH 135	Image Management	1
ITMD 121	Interior Design I	3
ITMD 125	Interior Textiles	3

ITMD 132	Interior Products	3
ITMD 275	Seminar:Budgeting and Estimating	2
ITMD 282	Interiors Internship I	1
ITMD 284	Interiors Internship II	1
MKT 121	Retail Management	3
MKT 134	Creative Retail Selling	3
ITMD:	Electives*	3
<b>Total Credit Hours Required</b>		<b>32</b>

**\*Recommended Electives:**

ITMD 127:	Floral Design	
ITMD 147:	Lighting Design and Planning	
ITMD 140:	Draperies, Treatments and Construction	
ITMD 231:	Furniture and Ornamentation: Renaissance–20th Century	
ITMD 145:	Upholstery Construction	
ITMD 273:	Seminar:Business Practices and Procedures	

### **Interior Products Sales Representative Certificate**

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Specific Program Requirements

*Must be taken at one of the MCC campuses*

MATH 100	Mathematics for Business or higher	3
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Specific Program Requirement

*Must be taken at Johnson County Community College*

FASH 135	Image Management	1
ITMD 121	Interior Design I	3
ITMD 125	Interior Textiles	3
ITMD 132	Interior Products	3
ITMD 282	Interiors Internship I	1
MKT 134	Creative Retail Selling	3

**Total Credit Hours Required 17**

# INDUSTRIAL/TECHNICAL

## Audio Engineering

A.A.S. Audio Engineering .....68 Credits

*Offered at Kansas City Kansas Community College  
Coordinated at MCC at all locations.*

This is a terminal degree program for students who wish to find employment in a recording-related aspect of the music business or who wish to transfer to another school and pursue a bachelor's degree in a field such as music composition or music technology. Because requirements differ by institution, students wishing to transfer should check with the music faculty or the transfer institution regarding variations in this degree program. Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements.

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

### A.A.S. Audio Engineering

#### Specific Program Requirements

*Must be taken at one of the MCC campuses*

ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
MATH 110	Intermediate Algebra	3
PSYC 140	General Psychology <b>or</b>	
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Humanities Core Elective: Choose one of the following:		
	Literature, Philosophy, ART 108, MUSI 108, HIST/HUMN 133 or HIST/HUMN 134	3
ELTE 114	DC Circuit Analysis	3
ELTE 118	AC Circuit Analysis	3

#### Specific Program Requirements

*Must be taken at Kansas City Kansas Community College*

HUDV 101	Strategies for Academic Excellence/Lifelong Learning	2
MUSC 102	Music Literature	3
MUSC 106	Music Applications for Computer	3
MUSC 111	Music Theory I	4
MUSC 112	Music Theory II	4
MUSC 136	Introduction to the Music Business	3
MUSC 240	Sound Editing & Synthesis	3
MUSC 250	Audio & Recording Techniques	3
MUSC 260	Advanced Recording Techniques I	3
MUSC 261	Advanced Recording Techniques II	3
MUSC 262	Recording Practicum	2
MUSC 263	Recording Portfolio	1
MUSC ____	Performance Groups	1
MUSC ____	Performance Groups	1
MUSC ____	Piano or Applied Lessons	1
MUSC ____	Piano or Applied Lessons	1
Electives: 6 credit hours from the following:		
ELCT 102	Semiconductor Electronics (3)	
ELCT 211	Digital Electronics (3)	
MUSC 107	Advanced Music Computing (3)	
MUSC 206	Music Composition (1)	
MUSC 207	Music Composition (1)	
MUSC 230	Music and Multimedia (3)	
MUSC 233	Music Video Practicum (3)	6

**Total Credit Hours Required 68**

## Automotive Technology

A.A.S. Automotive Collision Repair Technology 71-72	Credits
Collision Repair Technology Certificate	40
A.A.S. Automotive Ford/ASSET	88
A.A.S. Automotive General Motors/ASEP	88
A.A.S. Automotive Mechanical	73
A.A.S. Automotive Merchandising	67
Automotive Technology Certificate	49

*Offered at Longview*

Automotive Technology programs can lead to an Associate in Applied Science degree, but many students take classes for job enhancement or personal interest. Either way, our automotive classes prepare students for jobs in the automotive industry. Two options open to all qualified students are the Mechanical and Merchandising options. 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 an assistant service manager, automotive service center trainee, automotive salesperson, factory service representative, parts counterperson, or service salesperson. The *Collision Repair Technology Option*, which includes courses offered by participating articulation agreement schools, prepares students to work as collision repair technicians.

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

The Automotive Technology Department also offers two certificate programs, which include *Automotive Technology Certificate Program* and the *Collision Repair Technology Certificate Program*.

### A.A.S. Automotive Collision Repair Technology

#### General Education Requirements

ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
SPDR 100	Fundamentals of Speech	3
MATH 100	Mathematics for Business	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PHSC 101	Physical Science I <b>or</b>	
PHSC 107	Foundations of Physical Science <b>or</b>	
PHYS 101	Introductory Physics	4-5

#### Specific Program Requirements

BSAD 100	Introduction to Accounting	3
BSAD 109	Principles of Supervision	3
CSIS 115	Intro to Microcomputer Applications	3
EHSS 100	Intro to Environmental Health and Safety	3

#### Specific Program Requirements

*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

Specific Program Requirements		
AUTO 166	Automotive Electrical Systems	6
AUTO 172	Automotive Suspension and Steering	4
AUTO 264	Air Conditioning	4
<b>Total Credit Hours Required</b>		<b>71-72</b>

### Collision Repair Technology Certificate

Specific Program Requirements		
<i>Provided by participating articulation agreement schools</i>		
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
Specific Program Requirements		
AUTO 166	Automotive Electrical Systems	6
AUTO 172	Automotive Suspension and Steering	4
AUTO 264	Air Conditioning	4
<b>Total Credit Hours Required</b>		<b>40</b>

### A.A.S. Automotive Ford/ASSET

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
SPDR 100	Fundamentals of Speech	3
MATH 100	Mathematics for Business	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
Specific Program Requirements		
AUTO 105	Cooperative Work Experience I	3
AUTO 106	Cooperative Work Experience II	3
AUTO 107	Cooperative Work Experience III	3
AUTO 108	Cooperative Work Experience IV	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 172	Automotive Suspension and Steering	4
AUTO 174	Automotive Power Trains	4
AUTO 176	Emissions and Fuel Control Systems	6
AUTO 260	Advanced Diagnosis	6
AUTO 264	Air Conditioning	4
AUTO 272	Automatic Transmissions	6
AUTO 278	Electronic Engine Control	6
CSIS 115	Intro to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>88</b>

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

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
SPDR 100	Fundamentals of Speech	3
MATH 100	Mathematics for Business	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	

POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
Specific Program Requirements		
AUTO 105	Cooperative Work Experience I	3
AUTO 106	Cooperative Work Experience II	3
AUTO 107	Cooperative Work Experience III	3
AUTO 108	Cooperative Work Experience IV	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 172	Automotive Suspension and Steering	4
AUTO 174	Automotive Power Trains	4
AUTO 176	Emissions and Fuel Control Systems	6
AUTO 260	Advanced Diagnosis	6
AUTO 264	Air Conditioning	4
AUTO 272	Automatic Transmissions	6
AUTO 277	Specialized Electronics Training	6
CSIS 115	Intro to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>88</b>

### A.A.S. Automotive Mechanical

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
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 264	Air Conditioning	4
AUTO 272	Automatic Transmissions	6
AUTO 279	Automotive Electronic Systems	6
BSAD 109	Principles of Supervision	3
BSAD 135	Entrepreneurship <b>or</b>	
CSIS 115	Intro to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>73</b>

### A.A.S. Automotive Merchandising

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
MATH 100	Mathematics for Business	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
AUTO 100	Automotive Internship I <b>or</b>	

BSAD 127	Management Internship I	3
AUTO 101	Automotive Internship II <b>or</b>	
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
BSAD 100	Introduction to Accounting <b>or</b>	
BSAD 101	Accounting Principles I	3
BSAD 106	Principles of Salesmanship	3
BSAD 109	Principles of Supervision	3
BSAD 112	Retailing Principles	3
BSAD 135	Entrepreneurship	3
BSAD 205	Marketing	3
BSAD	Elective	3
<b>Total Credit Hours Required</b>		<b>67</b>

### Automotive Technology Certificate

Specific Program Requirements		
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	Emission and Fuel Control Systems	6
AUTO 264	Air Conditioning	4
AUTO 272	Automatic Transmissions	6
BSAD 135	Entrepreneurship <b>or</b>	
CSIS 115	Introduction to Microcomputer Applications	3
<b>Total Credit Hours Required</b>		<b>49</b>

## Computer Aided Drafting and Design Technology

A.A.S. Computer Aided Drafting & Design Technology - General Option.....	62 Credits
A.A.S. Computer Aided Drafting & Design Technology - Civil Option.....	62 Credits

*Offered at the Business & Technology College*

This program leads to the Associate in Applied Science degree and gives students basic skills necessary for industrial jobs.

### A.A.S. Computer Aided Drafting and Design Technology- General Option

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
MATH 103	Technical Math I <b>and</b>	
MATH 104	Technical Math II <b>or</b>	
MATH 120	College Algebra <b>and</b>	
MATH 130	Trigonometry <b>or</b>	
MATH 150	Precalculus	5-6

PHYS 130	General Physics I <b>or</b>	
PHYS 112	Technical Physics	5
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
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 265	Civil Drafting	3
DRAF 268	Structural Design	3
DRAF 269	Computer Aided Design II	4
DRAF 270	Parametric Modeling	3
DRAF	Drafting Electives	4-5
MATE 130	Machining for Mechanical Drafting Electives*	5 3-4
<b>Total Credit Hours Required</b>		<b>62</b>

\* Must be from the following disciplines: ART, BSAD, CSIS, CSOF, DRAF, ENGR, MATE, MATH, PHYS.

### A.A.S. Computer Aided Drafting and Design Technology- Civil Option

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics	3
MATH 103	Technical Math I <b>and</b>	
MATH 104	Technical Math II <b>or</b>	
MATH 120	College Algebra <b>and</b>	
MATH 130	Trigonometry <b>or</b>	
MATH 150	Precalculus	5-6
PHYS 130	General Physics I <b>or</b>	
PHYS 112	Technical Physics	5
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
DRAF 152	Engineering Graphics and CADD I	5
DRAF 153	Descriptive Geometry	3
DRAF 155	Architectural Drafting	3
DRAF 262	Technical Illustration	3
DRAF 265	Civil Drafting	3
DRAF 268	Structural Design	3
DRAF 269	Computer Aided Design II	4
DRAF	Electives	3
GEOG 120	Introduction to Geographic Information Systems	3
SRVY 135	Elementary Surveying	3
	Electives*	5-6
<b>Total Credit Hours Required</b>		<b>62</b>

\* Must be from the following disciplines: DRAF, GEOG, GEOL, SRVY.

# Environmental Health and Safety Technology

A.A.S. Envir. Health & Safety Technology .....	63-64 Credits
Envir. Health & Safety Technology Cert. ....	33 Credits
A.A.S. Health & Safety .....	64 Credits
Health & Safety Specialist Certificate .....	30 Credits
A.A.S. Environmental .....	65-66 Credits
Environmental Specialist Certificate .....	33 Credits

*Offered at the Business & Technology College*

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.

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

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BIOL 109	Anatomy and Physiology <i>or</i>	
BIOL 101	General Biology <i>or</i>	
BIOL 117	Life and the Environment	5-6
BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 111	General College Chemistry I	5
CHEM 205	Organic Chemistry <i>or</i>	
CHEM 221	Organic Chemistry I	5
EHSS 101	Hazardous Material Management and Emergency Response	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning	3
EHSS 205	Principles of Industrial Hygiene <i>or</i>	
EHSS 218	Industrial Processes and Hazard Control	3
EHSS 210	Incident and Accident Investigation <i>or</i>	
EHSS 211	Workers Compensation Legislation for EHS	3
EHSS 213	EHS Program Development and Management	3
EHSS 217	Concepts of Waste Minimization, Recycling and Pollution Prevention	3
EHSS 230	Waste Management	3
GEOL 103	Environmental Geology	3
MATH 103	Technical Math I	3
<b>Total Credit Hours Required</b>		<b>63-64</b>

## Environmental Health and Safety Technology Certificate

Specific Program Requirements		
BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
EHSS 101	Hazardous Material Management and Emergency Response Operations	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning	3
EHSS 205	Principles of Industrial Hygiene	3
EHSS 210	Incident and Accident Investigation <i>or</i>	
EHSS 211	Workers Compensation Legislation for EHS	3
EHSS 213	EHS Program Development and Management	3
EHSS 217	Concepts of Waste Minimization, Recycling, and Pollution Prevention <i>or</i>	
EHSS 230	Waste Management	3
<b>Total Credit Hours Required</b>		<b>33</b>

## A.A.S. EHSS Health and Safety Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BIOL 109	Anatomy and Physiology	6
BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 111	General College Chemistry I	5
CHEM 205	Organic Chemistry <i>or</i>	
CHEM 221	Organic Chemistry I	5
EHSS 101	Hazardous Material Management and Emergency Response	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning	3
EHSS 205	Principles of Industrial Hygiene	3
EHSS 210	Incident and Accident Investigation	3
EHSS 211	Workers Compensation Legislation for EHS	3
EHSS 213	EHS Program Development and Management	3

EHSS 217	Concepts of Waste Minimization, Recycling and Pollution Prevention	3
GEOL 103	Environmental Geology	3
MATH 103	Technical Math I	3
<b>Total Credit Hours Required</b>		<b>64</b>

### Health and Safety Specialist Certificate

#### Specific Program Requirements

BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
EHSS 101	Hazardous Material Management and Emergency Response Operations	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning	3
EHSS 205	Principles of Industrial Hygiene <i>or</i>	
EHSS 218	Industrial Processes and Hazard Control	3
EHSS 210	Incident and Accident Investigation <i>or</i>	
EHSS 211	Workers Compensation Legislation for EHS	3
EHSS 213	EHS Program Development and Management	3
<b>Total Credit Hours Required</b>		<b>30</b>

### A.A.S. EHSS Environmental Emphasis

#### General Education Requirements

ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
SPDR 100	Fundamentals of Speech	3

#### Specific Program Requirements

BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 111	General College Chemistry I	5
CHEM 205	Organic Chemistry <i>or</i>	
CHEM 221	Organic Chemistry I	5
GEOL 103	Environmental Geology	3
PHYS 112	Technical Physics <i>or</i>	
BIOL 101	General Biology <i>or</i>	
BIOL 117	Life and the Environment	5
EHSS 101	Hazardous Material Management and Emergency Response	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning	3
EHSS 213	EHS Program Development and Management	3
EHSS 217	Concepts of Waste Minimization, Recycling Pollution Prevention <i>or</i>	

EHSS 230	Waste Management	3
EHSS 220	Air Quality Management	3
EHSS 225	Water Quality Management	3
MATH 103	Technical Math I <i>and</i>	
MATH 104	Technical Math II	
<i>or</i>		
MATH 106	Technical Algebra and Trigonometry	5-6
<b>Total Credit Hours Required</b>		<b>65-66</b>

### Environmental Specialist Certificate

#### Specific Program Requirements

BSAD 178	Business Communications <i>or</i>	
BSAD 220	Business Letters and Reports <i>or</i>	
ENGL 119	Introduction to Report Writing <i>or</i>	
ENGL 175	Technical Writing	3
EHSS 101	Hazardous Material Management and Emergency Response Operations	3
EHSS 110	Properties and Hazards of Hazardous Materials	3
EHSS 200	Safety and Health Regulations and Standards	3
EHSS 202	Transportation and Storage of Hazardous Materials	3
EHSS 203	Environmental Regulations	3
EHSS 204	Emergency Preparedness and Planning <i>or</i>	
EHSS 217	Concepts of Waste Minimization, Recycling, and Pollution Prevention <i>or</i>	
EHSS 230	Waste Management	3
EHSS 213	EHS Program Development and Management	3
EHSS 220	Air Quality Management	3
EHSS 225	Water Quality Management	3
<b>Total Credit Hours Required</b>		<b>33</b>

## Grounds and Turf Management

A.A.S. Grounds & Turf Management	64 Credits
Grounds Maintenance Certificate	18 Credits
Horticulture Certificate (JCCC)	30 Credits

*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. The Horticultural certificate is offered through Johnson County Community College. Students must be accepted into the program by both MCC and JCCC. The student is awarded the certificate from JCCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment in the Horticultural certificate program.

### A.A.S. Grounds & Turf Management

#### General Education Requirements

ECON 110	Introduction to Economics	3
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
MATH 100	Mathematics for Business	3

PHED 117	Golf I	1
PSYC 140	General Psychology	3
SPDR 100	Fundamentals of Speech	3
<b>Specific Program Requirements</b>		
AGBS 100	Introduction to Urban Agribusiness	3
AGBS 106	Landscape Design and Maintenance	3
AGBS 107	Deciduous Trees and Shrubs	3
AGBS 109	Pest Management/Turf and Ornamental	3
AGBS 115	Soil Fertility and Fertilizers	3
AGBS 135	Turfgrass Management I	3
AGBS 145	Irrigation and Installation	3
<i>9 hours from the courses listed below:</i>		
AGBS 108	Evergreens and Herbaceous Plants	
AGBS 140	Turfgrass Management II	
AGBS 151	Special Topics in Horticulture I	
AGBS 152	Special Topics in Horticulture II	
AGBS 153	Special Topics in Horticulture III	
AGBS 200	Occupational Internship	
AGBS 206	Advanced Landscape Design and Maintenance	9
BIOL 104	General Botany	5
BIOL 202	Ecology	5
CHEM 105	Introductory Chemistry	5
<b>Total Credit Hours Required</b>		<b>64</b>

### Grounds Maintenance Certificate

<b>Specific Program Requirements</b>		
AGBS 100	Introduction to Urban Agribusiness	3
AGBS 106	Landscape Design and Maintenance	3
AGBS 107	Deciduous Trees and Shrubs	3
AGBS 115	Soil Fertility and Fertilizers	3
AGBS 135	Turfgrass Management I	3
AGBS	Elective	3
<b>Total Credit Hours Required</b>		<b>18</b>

### Horticulture Certificate

*Offered at Johnson County Community College  
Coordinated through Longview*

<b>Specific Program Requirements</b>		
<i>Must be taken at Longview</i>		
AGBS 106	Landscape Design and Maintenance	3
AGBS 107	Deciduous Trees and Shrubs	3
AGBS 135	Turfgrass Management I	3
<b>Specific Program Requirement</b>		
<i>Must be taken at Johnson County Community College</i>		
BUS 145	Small Business Management	3
HORT 150	Vegetables, Fruits and Herbs	2
HORT 160	Garden Center Operations	3
HORT 215	Woody Plants II	3
HORT 220	Herbaceous Plants	3
HORT 225	Plant Problems	3
HORT 230	Landscape Maintenance Techniques	4
<b>Total Credit Hours Required</b>		<b>30</b>

## Industrial Technologies

A.A.S. Indus. Tech. Bricklayer	65 Credits
A.A.S. Indus. Tech Construction Carpentry	65 Credits
A.A.S. Indus. Tech Construction Cement Masons	65 Credits
A.A.S. Indus. Tech Construction Ironworking	65 Credits
A.A.S. Indus. Tech Construction Laborer	65 Credits
A.A.S. Indus. Tech Electronics Engineering	63-65 Credits
A.A.S. Indus. Tech Electronics Technology	64-65 Credits
A.A.S. Indus. Tech Glaziers	65 Credits
A.A.S. Indus. Tech HVAC	62 Credits
HVAC Certificate	33 Credits
HVAC Job Ready Certificate	23 Credits
A.A.S. Indus. Tech. Industrial Electrical	63 Credits
Industrial Electrical Certificate	33 Credits
A.A.S. Indus. Tech. Industrial Maintenance	63 Credits
Indus. Tech. Industrial Maintenance Certificate	31 Credits
A.A.S. Indus. Tech. Inside Wiring	62 Credits
A.A.S. Indus. Tech. Millwright	63 Credits
Millwright Certificate	31 Credits
A.A.S. Indus. Tech. Painter	65 Credits
A.A.S. Indus. Tech. Stationary Engineer	66 Credits
Stationary Engineer Certificate	33 Credits

*Offered at the Business & Technology College*

This program offers degree and certificate options leading to occupational careers in Industrial Technology.

### A.A.S. Indus. Tech. Bricklayer Emphasis

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
<b>Specific Program Requirements</b>		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 151	Industrial Rigging <b>or</b>	
SRVY 135	Elementary Surveying	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
Bricklaying Apprenticeship (Credit by Certification*)		30
<b>Total Credit Hours Required</b>		<b>65</b>

\* Federally approved bricklaying apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 4000 clock hours of on-the-job training

### A.A.S. Indus. Tech. Construction Carpentry Emphasis

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	

HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management <del>X</del>	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 151	Industrial Rigging	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
	Carpentry Apprenticeship (Credit by Certification*)	30
<b>Total Credit Hours Required</b>		<b>65</b>

\* Federally approved carpentry apprenticeship program that contains a minimum 540 clock hours of classroom instruction and 4000 clock hours of on-the-job training.

### A.A.S. Indus. Tech. Construction Cement Masons Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management <del>X</del>	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
SVRY 135	Elementary Surveying	3
	Cement Masons Apprenticeship (Credit by Certification*)	30
<b>Total Credit Hours Required</b>		<b>65</b>

\* Federally approved cement masons apprenticeship program that contains a minimum 540 clock hours of classroom instruction and 4000 clock hours of on-the-job training

### A.A.S. Indus. Tech. Construction Ironworking Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	

POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management <del>X</del>	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
MATE 201	Basic Metallurgy	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
	Ironworking Apprenticeship (Credit by Certification*)	30
<b>Total Credit Hours Required</b>		<b>65</b>

### A.A.S. Indus. Tech. Construction Laborer Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management <del>X</del>	3
DRAF 169	Computer Aided Design I	3
EHSS 205	Principles of Industrial Hygiene	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
SRVY 135	Elementary Surveying	3
	Construction Laborer Apprenticeship (Credit by Certification*)	30
<b>Total Credit Hours Required</b>		<b>65</b>

\* Federally approved ironworking apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 4000 clock hours of on-the-job training

### A.A.S. Indus. Tech. Electronics Engineering Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3

Specific Program Requirements			
CHEM 105	Introductory Chemistry <i>or</i>		
CHEM 107	Preparatory General Chemistry	5	
CSIS 125	Visual Basic Programming <i>or</i>		
CSIS 135	FORTRAN Programming <i>or</i>		
CSIS 155	C++ Programming	3	
DRAF 169	Computer Aided Design I	3	
EHSS 100	Introduction to Environmental Health and Safety		
		3	
ELTE 110	Basic Electronics	3	
ELTE 114	DC Circuit Analysis	3	
ELTE 118	AC Circuit Analysis	3	
ELTE 120	Analog Devices I	3	
ELTE 130	Digital Electronics	3	
ELTE 150	Operational Amplifiers	3	
ELTE 220	Analog Devices II	3	
ELTE 230	Microcomputer Architecture	3	
ELTE 260	Communications Electronics <i>or</i>		
ELTE 270	Industrial Electronics	3	
MATH 103	Technical Mathematics I <i>and</i>		
MATH 104	Technical Mathematics II <i>or</i>		
MATH 106	Technical Algebra and Trigonometry	5-6	
MATH 175	Calculus for Business and Social Science <i>or</i>		
MATH 206	Technical Analytic Geometry and Applied Calculus	3-4	
PHYS 112	Technical Physics	5	
<b>Total Credit Hours Required</b>		<b>63-65</b>	

### A.A.S. Indus. Tech. Electronics Technology Emphasis

General Education Requirements			
ENGL 101	Composition and Reading I	3	
HIST 120	American History I <i>or</i>		
HIST 121	American History II <i>or</i>		
POLS 135	Introduction to Political Science <i>or</i>		
POLS 136	Introduction to American National Politics <i>or</i>		
POLS 137	Introduction to State and Local Politics <i>or</i>		
SOSC 151	Foundations of the Social Sciences II	3	
SPDR 100	Fundamentals of Speech	3	
Specific Program Requirements			
CHEM 105	Introductory Chemistry <i>or</i>		
CHEM 107	Preparatory General Chemistry <i>or</i>		
PHYS 112	Technical Physics	5	
CSIS 125	Visual Basic Programming <i>or</i>		
CSIS 135	FORTRAN Programming <i>or</i>		
CSIS 155	C++ Programming	3	
DRAF 169	Computer Aided Design I	3	
EHSS 100	Introduction to Environmental Health and Safety		
		3	
ELTE 110	Basic Electronics	3	
ELTE 114	DC Circuit Analysis	3	
ELTE 118	AC Circuit Analysis	3	
ELTE 120	Analog Devices I	3	
ELTE 130	Digital Electronics	3	
ELTE 150	Operational Amplifiers	3	
ELTE 220	Analog Devices II	3	
ELTE 230	Microcomputer Architecture	3	
ELTE 240	Build Project	3	
ELTE 260	Communications Electronics	3	
ELTE 270	Industrial Electronics	3	
MATH 103	Technical Mathematics I <i>and</i>		
MATH 104	Technical Mathematics II <i>or</i>		
MATH 106	Technical Algebra and Trigonometry	5-6	
INTE 271	Programmable Logic Controllers	3	
<b>Total Credit Hours Required</b>		<b>64-65</b>	

### A.A.S. Indus. Tech. Glaziers Emphasis

General Education Requirements			
ENGL 101	Composition and Reading I	3	
HIST 120	American History I <i>or</i>		
HIST 121	American History II <i>or</i>		
POLS 135	Introduction to Political Science <i>or</i>		
POLS 136	Introduction to American National Politics <i>or</i>		
POLS 137	Introduction to State and Local Politics <i>or</i>		
SOSC 151	Foundations of the Social Sciences II	3	
SPDR 100	Fundamentals of Speech	3	
Specific Program Requirements			
BSAD 109	Principles of Supervision	3	
CHEM 105	Introductory Chemistry <i>or</i>		
CHEM 107	Preparatory General Chemistry <i>or</i>		
PHYS 112	Technical Physics	5	
CSIS 110	Technology and Information Management <del>X</del>	3	
DRAF 169	Computer Aided Design I	3	
EHSS 100	Introduction to Environmental Health and Safety		
		3	
SRVY 135	Elementary Surveying	3	
MATH 103	Technical Mathematics I	3	
MATH 104	Technical Mathematics II	3	
	Glazer Apprenticeship (Credit by Certification*)	30	
<b>Total Credit Hours Required</b>		<b>65</b>	

\* Federally approved glazer apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 4000 clock hours of on-the-job training

### A.A.S. Indus. Tech. Heating, Ventilation and Air Conditioning Emphasis

General Education Requirements			
ENGL 101	Composition and Reading I	3	
HIST 120	American History I <i>or</i>		
HIST 121	American History II <i>or</i>		
POLS 135	Introduction to Political Science <i>or</i>		
POLS 136	Introduction to American National Politics <i>or</i>		
POLS 137	Introduction to State and Local Politics <i>or</i>		
SOSC 151	Foundations of the Social Sciences II	3	
SPDR 100	Fundamentals of Speech	3	
Specific Program Requirements			
CHEM 105	Introductory Chemistry <i>or</i>		
CHEM 107	General Preparatory Chemistry <i>or</i>		
PHYS 112	Technical Physics	5	
HVAC 109	Electricity for HVAC/R Technicians	4	
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3	
HVAC 120	Fundamentals of Refrigeration	4	
HVAC 135	Residential Heating and Air Conditioning I	4	
HVAC 136	Residential Heating and Air Conditioning II	4	
HVAC 211	Design and Estimating	3	
HVAC 221	Commercial Refrigeration	4	
HVAC 230	Sheet Metal Layout and Fabrication	4	
	Electives	7-8	
INTE 110	Industrial Electrical Principles	3	
MATE 115	Blueprint Reading for Manufacturing Trades	2	
MATH 103	Technical Mathematics I <i>and</i>		
MATH 104	Technical Mathematics II <i>or</i>		
MATH 106	Technical Algebra and Trigonometry	5-6	
<b>Total Credit Hours Required</b>		<b>62</b>	

## Heating, Ventilation and Air Conditioning Certificate

Specific Program Requirements		
HVAC 109	Electricity for HVAC/R Technicians	4
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3
HVAC 120	Fundamentals of Refrigeration	4
HVAC 135	Residential Heating and Air Conditioning I	4
HVAC 136	Residential Heating and Air Conditioning II	4
HVAC 221	Commercial Refrigeration	4
HVAC 230	Sheet Metal Layout and Fabrication	4
INTE 110	Industrial Electrical Principles	3
MATH 103	Technical Mathematics I	3
<b>Total Credit Hours Required</b>		<b>33</b>

## Heating, Ventilation and Air Conditioning – Job Ready Certificate

Specific Program Requirements		
HVAC 109	Electricity for HVAC/R Technicians	4
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3
HVAC 120	Fundamentals of Refrigeration	4
HVAC 135	Residential Heating and Air Conditioning I	4
HVAC 136	Residential Heating and Air Conditioning II	4
HVAC 230	Sheet Metal Layout and Fabrication	4
<b>Total Credit Hours Required</b>		<b>23</b>

## A.A.S. Indus. Tech. Industrial Electrical Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 107	Preparatory General Chemistry <i>or</i>	
PHYS 112	Technical Physics	5
	Electives: CHEM, CSIS, INTE, PHYS	10
CSIS 110	Technology and Information Management 	3
DRAF 109	Blueprint Reading, Electrical	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 110	Industrial Electrical Principles	3
INTE 142	National Electric Code	3
INTE 175	Electric Motor Control I	3
INTE 271	Programmable Logic Controllers	3
INTE 273	Variable Speed Motor Drives and Controllers	3
INTE 275	Electric Motor Controls II	3
INTE 276	Electrical Troubleshooting	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
<b>Total Credit Hours Required</b>		<b>63</b>

## Industrial Electrical Certificate

Specific Program Requirements		
CSIS 110	Technology and Information Management 	3
	Electives: CHEM, CSIS, INTE, PHYS	6
DRAF 109	Blueprint Reading, Electrical	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 110	Industrial Electrical Principles	3
INTE 142	National Electric Code	3
INTE 175	Electric Motor Controls I	3
INTE 271	Programmable Logic Controllers	3
INTE 273	Variable Speed Drives and Controls	3
INTE 275	Electric Motor Controls II	3
<b>Total Credit Hours Required</b>		<b>33</b>

## A.A.S. Indus. Tech. Industrial Maintenance Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 107	Preparatory General Chemistry <i>or</i>	
PHYS 112	Technical Physics	5
	Electives: CHEM, CSIS, INTE, PHYS	6
CSIS 110	Technology and Information Management 	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 110	Industrial Electrical Principles	3
INTE 122	Layout and Fabrication	3
INTE 140	Fundamentals of Industrial Maintenance	3
INTE 142	National Electric Code	3
INTE 150	Introduction to Fluid Power	3
INTE 151	Industrial Rigging	3
INTE 167	Welding I SMAW	3
INTE 175	Electric Motor Control I	3
MATE 115	Blueprint Reading for Manufacturing Trades	2
MATE 116	Geometric Dimensioning and Tolerancing Printreading	2
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
<b>Total Credit Hours Required</b>		<b>63</b>

## Indus. Tech. Industrial Maintenance Certificate

EHSS 100	Introduction to Environmental Health & Safety	3
INTE 110	Industrial Electrical Principles	3
INTE 122	Layout & Fabrication	3
INTE 140	Fundamentals of Industrial Maintenance	3
INTE 142	National Electric Code	3
INTE 150	Introduction to Fluid Power	3
INTE 151	Industrial Rigging	3
INTE 167	Welding I, SMAW	3
INTE 175	Electric Motor Controls I	3

MATE 115	Blueprinting Reading for Manufacturing Trades	2
MATE 116	Geometric Dimensioning & Tolerancing Printreading	2
<b>Total Credit Hours Required</b>		<b>31</b>

### A.A.S. Indus. Tech. Inside Wiring Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	General Preparatory Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3
DRAF 109	Blueprint Reading, Electrical	3
EHSS 100	Introduction to Environmental Health and Safety	3
ELEC 115	Inside Wiring I	3
ELEC 116	Inside Wiring II	3
ELEC 117	Inside Wiring III	3
ELEC 215	Inside Wiring IV	3
ELEC 216	Inside Wiring V	3
INTE 110	Industrial Electrical Principles	3
INTE 142	National Electric Code	3
INTE 175	Electric Motor Control I	3
INTE 271	Programmable Logic Controllers	3
INTE 275	Electric Motor Controls II	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
	Electives	3
<b>Total Credit Hours Required</b>		<b>62</b>

### A.A.S. Indus. Tech. Millwright Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 110	Industrial Electrical Principles	3
INTE 122	Layout and Fabrication	3

INTE 140	Fundamentals of Industrial Maintenance	3
INTE 150	Introduction to Fluid Power	3
INTE 151	Industrial Rigging	3
INTE 167	Welding I, SMAW	3
INTE 168	Welding II, SMAW	3
INTE 260	Pipe Fitting Fundamentals	3
MATE 115	Blueprint Reading for Manufacturing Trades	2
MATE 116	Geometric Dimensioning and Tolerancing	2
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
<b>Total Credit Hours Required</b>		<b>63</b>

### Millwright Certificate

Specific Program Requirements		
CSIS 110	Technology and Information Management	3
INTE 110	Industrial Electrical Principles	3
INTE 122	Layout and Fabrication	3
INTE 140	Fundamentals of Industrial Maintenance	3
INTE 150	Introduction to Fluid Power	3
INTE 151	Industrial Rigging	3
INTE 167	Welding I, SMAW	3
INTE 168	Welding II, SMAW	3
INTE 260	Pipe Fitting Fundamentals	3
MATE 115	Blueprint Reading for Manufacturing Trades	2
MATE 116	Geometric Dimensioning and Tolerancing Printreading	2
<b>Total Credit Hours Required</b>		<b>31</b>

### A.A.S. Indus. Tech. Painter Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3
DRAF 106	Blueprint Reading and Construction Technology	3
EHSS 100	Introduction to Environmental Health and Safety	3
INTE 151	Industrial Rigging	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
	Painter Apprenticeship (Credit by Certification*)	30
<b>Total Credit Hours Required</b>		<b>65</b>

\* Federally approved painter apprenticeship program that contains a minimum 450 clock hours of classroom instruction and 4000 clock hours of on-the-job training

### A.A.S. Indus. Tech. Stationary Engineer Emphasis

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	

HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
SPDR 100	Fundamentals of Speech	3
<b>Specific Program Requirements</b>		
CHEM 105	Introductory Chemistry <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3
DRAF 109	Blueprint Reading, Electrical	3
DRAF 169	Computer Aided Design I	3
EHSS 100	Introduction to Environmental Health and Safety	3
HVAC 109	Electricity for HVAC/R Technicians	4
HVAC 111	Principles of heating, Ventilation and Air Conditioning	3
HVAC 120	Fundamentals of Refrigeration	4
HVAC 201	Stationary Engineering	3
HVAC 221	Commercial Refrigeration	4
HVAC 230	Sheet Metal Layout and Fabrication	4
INTE 110	Industrial Electrical Principles	3
INTE 150	Introduction to Fluid Power	3
INTE 175	Electric Motor Controls I	3
INTE 271	Programmable Logic Controllers	3
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
<b>Total Credit Hours Required</b>		<b>66</b>

### Stationary Engineer Certificate

<b>Specific Program Requirements</b>		
DRAF 109	Blueprint Reading, Electrical	3
HVAC 109	Electricity for HVAC/R Technicians	4
HVAC 111	Principles of Heating, Ventilation and Air Conditioning	3
HVAC 120	Fundamentals of Refrigeration	4
HVAC 201	Stationary Engineering	3
HVAC 221	Commercial Refrigeration	4
INTE 110	Industrial Electrical Principles	3
INTE 150	Introduction to Fluid Power	3
INTE 175	Electric Motor Controls I	3
INTE 271	Programmable Logic Controllers	3
<b>Total Credit Hours Required</b>		<b>33</b>

## Land Surveying

A.A.S. Land Surveying	66 Credits
Land Surveying Certificate	26 Credits

*Offered at Longview*

This program leads to an Associate in Applied Science degree or certificate and provides students with the experience and knowledge they need to take the exam to become a land surveyor.

### A.A.S. Land Surveying

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
ENGL 175	Technical Writing	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>and either</b>	
ECON 110	Intro to Economics <b>or</b>	

ECON 210	Macroeconomics (6)	
<b>or</b>		
SOSC 150	Foundations of Social Science I <b>and</b>	
SOSC 151	Foundations of Social Science II (6)	
<b>or</b>		
<i>Two of the following:</i>		
POLS 135	Introduction to Political Science	
POLS 136	Introduction to American National Politics	
POLS 137	Introduction to State and Local Politics	6
<b>Specific Program Requirements</b>		
BSAD 135	Entrepreneurship	3
DRAF 152	Engineering Graphics and CADD I	5
GEOL 101	Physical Geology <b>or</b>	
PHYS 106	General Astronomy	5
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
MATH 115	Statistics	3
PHYS 112	Technical Physics	5
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
<b>Total Credit Hours Required</b>		<b>66</b>

### Land Surveying Certificate

This certificate prepares an individual to take the state-licensing exam to become a Registered Land Surveyor with the state of Missouri.

<b>Specific Program Requirements</b>		
DRAF 152	Engineering Graphics and CADD I	5
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
SRVY 135	Elementary Surveying	3
SRVY 137	Subdivision Planning and Layout <b>or</b>	
SRVY 139	Route and Construction Surveying	3
SRVY 235	Advanced Surveying	3
SRVY 236	Legal Aspects of Surveying	3
SRVY 237	Land Surveying	3
<b>Total Credit Hours Required</b>		<b>26</b>

## Occupational Education

A.A.S. Occupational Education .....65 Credits

This program, which prepares students to become vocational educators, leads to an Associate in Applied Science degree. The program is a collaborative effort between 12 community colleges and four 4-year institutions.

### A.A.S. Occupational Education

<b>General Education Requirements</b>		
BIOL 101	General Biology <b>or</b>	
CHEM 107	Preparatory General Chemistry <b>or</b>	
PHYS 112	Technical Physics	5
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>and</b>	
HIST 121	American History II	
<b>or</b>		
SOSC 150	Foundations of Social Science I <b>and</b>	
SOSC 151	Foundations of Social Science II	
<b>or</b>		

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
MATH 119	College Mathematics <i>or</i>	
MATH 120	College Algebra	3
SPDR 100	Fundamentals of Speech	3
	General Education Elective	3

Specific Program Requirements

**Technical Education:**

Must focus on a specific occupational area (Any combination of formal college coursework, occupational certification or CBEX) 24

Professional Education:*		
New Teacher Institute		3
Development and Assessments of Vocational/Technical Curriculum		3
Principles of Teaching Technology and Industrial Education		3

Three of the following:

Occupational Analysis		
Coordination of Cooperative Education		
Vocational Guidance		
Vocational Education for Handicapped Students		
Philosophy of Vocational Education		
Educational Psychology		9

**Total Credit Hours Required 65**

\* Must be taken at one of the four-year teacher education institutions

## Manufacturing Technology

A.A.S. Manufacturing Technology	.....73 Credits
Manufacturing Technology Certificate	.....36 Credits
Manufacturing Technology CNC Certificate	...18 Credits
Manufacturing Technology Pre-Apprenticeship	.....21 Credits

*Offered at the Business & Technology College*

This Manufacturing Technology 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 Manufacturing Technology degree, the Manufacturing Pre-Apprenticeship certificate, the Manufacturing Technology certificate, and Manufacturing Technology CNC certificate 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 Association requirements, they will not be journeymen when they graduate. Therefore, a student with only a degree may be required by an employer to serve a full apprenticeship.

### A.A.S. Manufacturing Technology

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics <i>or</i>	
SOSC 151	Foundations of the Social Sciences II	3

SPDR 100	Fundamentals of Speech <i>or</i>	
SPDR 102	Fundamentals of Human Communication	3

Specific Program Requirements

BSAD 109	Principles of Supervision <i>or</i>	
BSAD 135	Entrepreneurship <i>or</i>	
BSAD 204	Business Management	3
CHEM 105	Introductory Chemistry <i>or</i>	
CHEM 107	General Preparatory Chemistry <i>or</i>	
PHYS 112	Technical Physics	5
CSIS 110	Technology and Information Management	3

EHSS 100	Introduction to Environmental Health and Safety	3
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MATE 100	Introduction to Manufacturing Technology	2
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MATE 101	Machining and Tooling I	5
MATE 102	Machining and Tooling II	5

MATE 103	Machining and Tooling III <i>and</i>	
MATE 104	Machining and Tooling IV <i>or</i>	

MATE 105	Manufacturing Technology Internship I <i>and</i>	
MATE 205	Manufacturing Technology Internship II	6

MATE 107	Machinery's Handbook	3
MATE 114	Metrology	2

MATE 115	Blueprint Reading for Manufacturing Trades	2
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MATE 116	Geometric Dimensioning and Tolerancing Printreading	2
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MATE 131	NIMS Level I Credentials in Job Planning, Benchwork, etc. <i>and</i>	
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MATE 132	NIMS Level I Credentials Milling <i>and</i>	
MATE 133	NIMS Level I Credentials Lathe-Chucking <i>and</i>	

MATE 134	NIMS Level I Credentials Lathe-Turning <i>and</i>	
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MATE 135	NIMS Level I Credentials Surface Grinding	
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MATE	Electives	5
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MATE 201	Basic Metallurgy	3
MATE 203	Process Planning and Production Problems	3

MATE 210	Computerized Numerical Control-Lathe	3
MATE 215	Computerized Numerical Control-Mill	3

MATH 103	Technical Math I	3
MATH 104	Technical Math II	3

**Total Credit Hours Required 73**

### Manufacturing Technology Certificate

General Education Requirements

ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech <i>or</i>	
SPDR 102	Fundamentals of Human Communication	3

Specific Program Requirements

MATE 100	Introduction to Manufacturing Technology	2
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MATE 101	Machining and Tooling I	5
MATE 102	Machining and Tooling II	5

MATE 103	Machining and Tooling III <i>and</i>	
MATE 104	Machining and Tooling IV <i>or</i>	

MATE 105	Manufacturing Technology Internship I <i>and</i>	
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MATE 205	Manufacturing Technology Internship II	6
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MATE 114	Metrology	2
MATE 115	Blueprint Reading for Manufacturing Trades	2

MATE 116	Geometric Dimensioning and Tolerancing Printreading	2
MATH 103	Technical Mathematics I	3
MATH 104	Technical Mathematics II	3
<b>Total Credit Hours Required</b>		<b>36</b>

### Manufacturing Technology CNC Certificate

Specific Program Requirements		
MATE 210	Computerized Numerical Control-Lathe	3
MATE 215	Computerized Numerical Control-Mill	3
MATE 220	Adv Computerized Numerical Control-Lathe/Mill	3
MATE 225	Mastercam I	3
MATE 226	Mastercam II	3
MATH 227	Mastercam III	3
<b>Total Credit Hours Required</b>		<b>18</b>

### Manufacturing Technology Pre-Apprenticeship

Specific Program Requirements		
INTE 124	Employment Strategies for Industrial Technology <b>and</b>	
READ 124	Study Skills	
	<b>or</b>	
	Electives	2
MATE 100	Introduction to Manufacturing Technology	2
MATE 101	Machining and Tooling I	5
MATE 102	Machining and Tooling II	5
MATE 114	Metrology	2
MATE 115	Blueprint Reading for Manufacturing Trades	2
MATH 103	Technical Mathematics I	3
<b>Total Credit Hours Required</b>		<b>21</b>

### Music Technology

A.A.S. Music Technology .....68 Credits

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

This program leads to a program of Associate in General Studies with an emphasis in Music Technology. The degree is for students wishing to pursue employment in a technology-related aspect of the music business. Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

#### A.A.S. Music Technology

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
MATH 120	College Algebra	3
PSYC 140	General Psychology <b>or</b>	
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Humanities Core Elective: Choose one of the following:		
	Literature, Philosophy, ART 108, History	3
Specific Program Requirements		
<i>Must be taken at Kansas City Kansas Community College</i>		
HUDV 101	Strategies for Academic Excellence/Lifelong Learning	2
MUSC 102	Music Literature	3

MUSC 106	Music Applications for Computer	3
MUSC 107	Advanced Music Computing	3
MUSC 111	Music Theory I	4
MUSC 112	Music Theory II	4
MUSC 206	Music Composition	1
MUSC 207	Music Composition	1
MUSC 213	Music Theory III	4
MUSC 214	Music Theory IV	4
MUSC 230	Music and Multimedia	3
MUSC 240	Sound Editing and Synthesis	3
MUSC 250	Audio Recording Techniques	3
MUSC _____	Performance Groups (4 semesters of enrollment to be chosen from major ensembles at KCKCC)	4
MUSC _____	Piano - either Piano Class or Applied (4 semesters of enrollment)	4
MUSC _____	Applied Lessons (4 semesters of enrollment)	*4
<b>Total Credit Hours Required</b>		<b>68</b>

\* If Applied Piano is used to satisfy piano requirement, a different instrument must be chosen from courses listed in Applied Music - Individual Study.

### Power Plant Technology

A.A.S. Power Plant Technology .....65 Credits

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

The power plant program provides students with the practical knowledge and skill competencies needed to obtain an entry-level position in the electric power generation industry. The program provides an overview of the power generation industry with emphasis on coal-fired plants, that use steam turbines. The program offers two options: an Associate in Applied Science degree or a vocational certificate. Graduates will be able to find entry-level career opportunities with either option. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

#### A.A.S. Power Plant Technology

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
CSIS 105	Computer Survival	3
DRAF 109	Blueprint Reading/Electrical	3
EHSS 100	Intro. to Environmental Health & Safety	3
INTE 110	Industrial Electrical Principles	3
EMTP 102	Basic Emergency Patient Care	1
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
GUID 152	Employment Strategies	1
INTE 150	Introduction to Fluid Power	3
MATH 120	College Algebra	3
PHYS 112	Technical Physics	5
SPDR 103	Interpersonal Communication	3
Technical Elective: _____ 3		
ECON/SOSC: _____ 3		
Humanities Elective: Art, Literature, Foreign Language, History, Humanities, Mass Communication, Music, Philosophy, Speech 3		
Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
ELEC 131	Introduction to Sensors & Actuators	3
PPT 140	Generating Plant Fundamentals	3
PPT 230	Introduction to Water Chemistry/Treatment	3
PPT 250	Introduction to Combustion/Exhaust	3
PPT 251	Introduction to Power Plant Steam/Water Cycle	3

PPT 271:	Power Plant Internship	3
PPT 280:	Power Plant Operations/Process Controls	3
Technical Electives (to total 65 hours)		
<i>That may be taken at MCC</i>		
BSAD 109	Principles of Supervision(3)	
BSAD 190	Office Management (3)	
CHEM 105	Introductory Chemistry (5)	
EMTP 110	First Responder (3)	
INTE 271	Programmable Logic Controllers (3)	
POLS 137	Intro. to State & National Politics (3)	
<i>That may be taken at JCCC</i>		
BIOL 130	Environmental Science (3)	
BIOL 131	Environmental Science Lab (1)	
ELTE 205	Industrial Electrical Wiring (4)	
ENGL 210	Technical Writing II (3)	
HVAC 146	Plumbing Systems Applications (3)	
<b>Total Credit Hours Required</b>		<b>65</b>

## Quality Assurance Technology

A.A.S. Quality Assurance Technology .....62 Credits  
 Quality Assurance Technology Certificate ....`32 Credits

*Offered at the Business & Technology College*

This program leads to either an Associate in 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.

### A.A.S. Quality Assurance Technology

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
HIST 120	American History I <i>or</i>	
HIST 121	American History II <i>or</i>	
POLS 135	Introduction to Political Science <i>or</i>	
POLS 136	Introduction to American National Politics <i>or</i>	
POLS 137	Introduction to State and Local Politics	3
MATH 103	Technical Math I <i>and</i>	
MATH 104	Technical Math II <i>or</i>	
MATH 120	College Algebra <i>and</i>	
MATH 130	Trigonometry	6
MATH 115	Statistics	3
PHYS 112	Technical Physics	5
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
BSAD 109	Principles of Supervision	3
BSAD 120	Human Relations in Business	3
Electives: 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, MATH 100 or above, MATH 120 or above, PHYS 190 or above		
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 and Metrology	3
QCAT 281	Design and Analysis of Experiments	3
<b>Total Credit Hours Required</b>		<b>62</b>

## Quality Assurance Technology Certificate

Specific Program Requirements		
MATH 115	Statistics	3
MATH 103	Technical Math I <i>and</i>	
MATH 104	Technical Math II <i>or</i>	
MATH 120	College Algebra <i>and</i>	
MATH 130	Trigonometry	6
PHYS 112	Technical Physics	5
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 and Metrology	3
QCAT 281	Design and Analysis of Experiments	3
<b>Total Credit Hours Required</b>		<b>32</b>

## Railroad Operations Technology

A.A.S. Railroad Op. Tech. Railroad Conductor.....69 Credits

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

This program leads to an Associate in Applied Science degree in Railroad Conductor. Students must be accepted into the program by both MCC and JCCC. The student is awarded the degree from JCCC upon successful completion of all requirements.

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

### A.A.S. Railroad Op. Tech. Railroad Conductor

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
BSAD 150	Business Essentials	3
CSOF 100	Introduction to Personal Computing	1
CSOF 101	Introduction to Word Processing	1
CSOF 102	Introduction to Spreadsheet Applications	1
ECON 110	Introduction to Economics	3
ENGL 101	Composition and Reading I	3
ENGL 175	Technical Writing	3
MATH 103	Technical Mathematics I	3
PHED	Elective	1
PHIL 200	Logic	3
PHYS 112	Technical Physics	5
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
MATH 134	Technical Mathematics II	5
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
RRTC 123	Introduction to Conductor Service	4
RRTC 175	Conductor Mechanical Operations	2
RRTC 261	Conductor Service	2
RRTC 263	General Code of Operating Rules	4
RRTC 265	Conductor Field Application	9
<b>Total Credit Hours Required</b>		<b>69</b>

# SOCIAL SERVICES

## Correctional Science

A.A.S. Correctional Science Drug Addiction Services .....	63-64 Credits
A.A.S. Correctional Science Juvenile Services	63-64 Credits
A.A.S. Correctional Science Mental Health Services .....	63-64 Credits
Correctional Science Certificate .....	30 Credits

*Offered at Longview and Penn Valley*

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

### A.A.S. Correctional Science Drug Addiction Services Emphasis

General Education Requirements	
ENGL 101	Composition and Reading I 3
HIST 120	American History I <b>or</b>
HIST 121	American History II <b>or</b>
POLS 135	Introduction to Political Science <b>or</b>
POLS 136	Introduction to American National Politics <b>or</b>
POLS 137	Introduction to State and Local Politics <b>or</b>
SOSC 151	Foundations of the Social Sciences II 3
PSYC 140	General Psychology 3
SOCI 160	Sociology 3
SPDR 100	Fundamentals of Speech 3
Specific Program Requirements	
CRJU 101	Intro to Criminal Justice 3
CRJU/	HUMS 105 Principles of Corrections 3
CRJU 118	Legal Aspects of Corrections 3
CRJU/	HUMS 126 Corrections and the Community 3
CRJU/	PSYC 162 Correctional Psychology 3
CRJU/	SOCI 165 Criminology 3
CRJU/	SOCI 169 Family Violence and Sexual Abuse 3
CRJU 201	Criminal Justice Practicum <b>or</b>
HUMS 201	Human Services Practicum <b>and</b>
HUMS 203	Colloquia I 3-4
CRJU 233	Principles of Management in Criminal Justice Systems <b>or</b>
CRJU/	HUMS 236 Correctional Administration 3
CRJU 244	Group and Individual Counseling <b>or</b>
PSYC 210	Interviewing and Interpersonal Communications 3
	Electives 6
Specific Emphasis Requirements	
CRJU/	HUMS 275 Alcohol and Drug Addiction 3
CRJU/	Addiction Counseling with Special People 3
CRJU/	HUMS 280 Special People 3
CRJU/	HUMS 285 Addiction Client Management 3
PSYC 148	Group Processes 3
<b>Total Credit Hours Required</b>	<b>63-64</b>

## A.A.S. Correctional Science Juvenile Services Emphasis

General Education Requirements	
ENGL 101	Composition and Reading I 3
HIST 120	American History I <b>or</b>
HIST 121	American History II <b>or</b>
POLS 135	Introduction to Political Science <b>or</b>
POLS 136	Introduction to American National Politics <b>or</b>
POLS 137	Introduction to State and Local Politics <b>or</b>
SOSC 151	Foundations of the Social Sciences II 3
PSYC 140	General Psychology 3
SOCI 160	Sociology 3
SPDR 100	Fundamentals of Speech 3
Specific Program Requirements	
CRJU 101	Intro to Criminal Justice 3
CRJU/	HUMS 105 Principles of Corrections 3
CRJU 118	Legal Aspects of Corrections 3
CRJU/	HUMS 126 Corrections and the Community 3
CRJU/	PSYC 162 Correctional Psychology 3
CRJU/	SOCI 165 Criminology 3
CRJU/	SOCI 169 Family Violence and Sexual Abuse 3
CRJU 201	Criminal Justice Practicum <b>or</b>
HUMS 201	Human Services Practicum <b>and</b>
HUMS 203	Colloquia I 3-4
CRJU 233	Principles of Management in Criminal Justice Systems <b>or</b>
CRJU/	HUMS 236 Correctional Administration 3
CRJU 244	Group and Individual Counseling <b>or</b>
PSYC 210	Interviewing and Interpersonal Communications 3
	Electives 6
Specific Emphasis Requirements	
CRJU/	SOCI 168 Juvenile Delinquency 3
CRJU/	HUMS 166 Behavior Management 3
CRJU/	HUMS 275 Alcohol and Drug Addiction 3
PSYC 245	Adolescent Psychology 3
<b>Total Credit Hours Required</b>	<b>63-64</b>

## A.A.S. Correctional Science Mental Health Services Emphasis

General Education Requirements	
ENGL 101	Composition and Reading I 3
HIST 120	American History I <b>or</b>
HIST 121	American History II <b>or</b>
POLS 135	Introduction to Political Science <b>or</b>
POLS 136	Introduction to American National Politics <b>or</b>
POLS 137	Introduction to State and Local Politics <b>or</b>
SOSC 151	Foundations of the Social Sciences II 3
PSYC 140	General Psychology 3
SOCI 160	Sociology 3
SPDR 100	Fundamentals of Speech 3

Specific Program Requirements		
CRJU 101	Intro to Criminal Justice	3
CRJU/		
HUMS 105	Principles of Corrections	3
CRJU 118	Legal Aspects of Corrections	3
CRJU/		
HUMS 126	Corrections and the Community	3
CRJU/		
PSYC 162	Correctional Psychology	3
CRJU/		
SOCI 165	Criminology	3
CRJU/		
SOCI 169	Family Violence and Sexual Abuse	3
CRJU 201	Criminal Justice Practicum	
	<b>or</b>	
HUMS 201	Human Services Practicum <b>and</b>	
HUMS 203	Colloquia I	3-4
CRJU 233	Principles of Management in Criminal Justice Systems <b>or</b>	
CRJU/		
HUMS 236	Correctional Administration	3
CRJU 244	Group and Individual Counseling <b>or</b>	
PSYC 210	Interviewing and Interpersonal Communications	3
	Electives	6
Specific Emphasis Requirements		
CRJU/		
HUMS 275	Alcohol and Drug Addiction	3
HUMS 190	Community Mental Health	3
HUMS/		
PSYC 270	Social Psychology of Aging	3
PSYC 148	Group Processes	3
<b>Total Credit Hours Required</b>		<b>63-64</b>

### Correctional Science Certificate

Specific Program Requirements		
CRJU/		
HUMS 105	Principles of Corrections	3
CRJU 118	Legal Aspects of Corrections	3
CRJU/		
HUMS 126	Corrections and the Community	3
CRJU/		
PSYC 162	Correctional Psychology	3
CRJU 233	Principles of Management in Criminal Justice System <b>or</b>	
CRJU/		
HUMS 236	Correctional Administration	3
ENGL 101	Composition and Reading I	3
HUMS/		
PSYC 210	Interviewing and Interpersonal Communications	3
CRJU/HUMS/SOCI	Electives	9
<b>Total Credit Hours Required</b>		<b>30</b>

## 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

A.A.S. Police Science.....	63 Credits
Police Science Certificate.....	30 Credits

*Offered at Blue River*

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.

### A.A.S. Police Science

General Education Requirements		
ENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CRJU 101	Introduction to Criminal Justice	3
CRJU 122	Procedural Law	3
CRJU 132	Community Relations	3
CRJU 165	Criminology	3
CRJU 169	Family Violence and Sexual Abuse	3
CRJU 203	Criminal Investigation I <b>or</b>	
CRJU 204	Criminal Investigation II	3
CRJU 223	Criminal Law I <b>or</b>	
CRJU 230	Missouri Criminal Law	3
HUMS/		
PSYC 210	Interviewing and Interpersonal Communications	3
CRJU:	Electives	15
	Electives: EMTP, PHED, PSYC, SOC	9
<b>Total Credit Hours Required</b>		<b>63</b>

### Police Science Certificate

Specific Program Requirements		
CRJU 101	Introduction to Criminal Justice	3
CRJU 111	Police Operational Procedures	3
CRJU 112	Traffic Control and Investigation	3
CRJU 122	Procedural Law	3
CRJU 203	Criminal Investigation I	3
CRJU 230	Missouri Criminal Law	3
CRJU	Electives	6
	Electives EMTP, PHED*, PSYC, SOCI	6
<b>Total Credit Hours Required</b>		<b>30</b>

\* Limit of 4 credit hours in PHED

## Fire Academy

Most metropolitan fire departments require FFI and FFII certification prior to employment.

The Western Missouri Regional Fire Academy of the Blue River Community College satisfies all requirements for FFI and FFII as well as CPAT, Haz-Mat awareness, Haz-Mat operations, and EMT. The Academy offers two levels of firefighting training. Full-time day and part-time night classes are available.

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

# Fire Science Technology

A.A.S. Fire Science Technology .....66 Credits  
 Fire Science Certificate .....24 Credits

*Offered at Blue River*

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

## A.A.S. Fire Science Technology

General Education Requirements		
ENGL 101	Composition and Reading I	3
<i>Two of the following:</i>		
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	6
MATH 100	Mathematics for Business or any MATH course above 100	3
PSYC 140	General Psychology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
EMTP 150	Emergency Medical Technician-Basic	8
FSTE 169	Fire Prevention	3
FSTE 170	Hazardous Materials Awareness and Operations	3
FSTE 172	Fire Department Tactical Operations	3
FSTE 179	Firefighter I	4
FSTE 183	Incident and Disaster Management	3
FSTE 189	Firefighter II	3
FSTE 192	Suppression and Detection Systems	3
FSTE 193	Fire Service Law	3
FSTE 200	Fire Service Supervision	3
FSTE 201	The Fire Service Manager	3
FSTE 202	Fire Service Administration	3
FSTE 203	Managing in Today's Fire Service	3
PHED 107	Physical Fitness I	1
PHED 108	Physical Fitness II	1
PHED 109	Physical Fitness III	1
<b>Total Credit Hours Required</b>		<b>66</b>

## Fire Science Certificate

Specific Program Requirements		
EMTP 150	Emergency Medical Technician-Basic	8
FSTE 169	Fire Prevention	3
FSTE 170	Hazardous Materials Awareness and Operations	3
FSTE 179	Firefighter I	4
FSTE 189	Firefighter II	3
PHED 107	Physical Fitness I	1
PHED 108	Physical Fitness II	1
PHED 109	Physical Fitness III	1
<b>Total Credit Hours Required</b>		<b>24</b>

# Forensic Chemistry

A.A.S. Forensic Chemistry ..... 62-64 Credits

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

There are two goals for this program: 1) direct placement into a crime or chemistry related laboratory, or 2) continuation

of degree in forensics, chemistry, dentistry, pre-law, pre-med, environmental science, etc. Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

## A.A.S. Forensic Chemistry

Specific Program Requirements

*Must be taken at one of the MCC campuses*

BIOL ____	Any Biology courses except BIOL 204	4-5
CHEM 111	College Chemistry I	5
CHEM 112	College Chemistry II	5
CHEM 221	Organic Chemistry I	5
CHEM 222	Organic Chemistry II	5
CRJU 165	Criminology	3
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
MATH 180	Calculus and Analytical Geometry I	5
PHYS ____	Physics Electives	4-5
SPDR 100	Fundamentals of Speech	3
Humanities Core Elective: Choose two of the following: Literature, Philosophy, ART 108, MUSI 108, HIST/HUMN 133, or HIST/HUMN 134		
Social Science Core Elective: Choose from the following PSYC 140, SOCI 160, or ANTH 100		3

Specific Program Requirements

*Must be taken at Kansas City Kansas Community College*

CHEM 101	Introduction to Forensic Science	5
CHEM 201	Forensic Science Analytical Techniques	3

**Total Credit Hours Required 62-64**

# Hospitality Management

A.A.S. Hospitality Mgmt. Chef Apprenticeship .....74 Credits  
 A.A.S. Hospitality Mgmt. Food and Beverage .....65 Credits  
 A.A.S. Hospitality Mgmt. Hotel/Motel .....68 Credits

*Offered at Johnson County Community College  
 Coordinated at 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. 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 or advisor before enrollment.

## A.A.S. Hospitality Mgmt. Chef Apprenticeship

Specific Program Requirements

*Must be taken at one of the MCC campuses*

CSOF 100	Introduction to Personal Computing	1
ENGL 101	Composition and Reading I	3
HUMN ____	Humanities Elective	3
MATH 100	Mathematics for Business	3
PSYC 140	General Psychology	3
SPDR 102	Fundamentals of Human Communication <b>or</b>	
SPDR 103	Interpersonal Communications	3

Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
HMEC 151	Nutrition and Meal Planning	3
HMG 121	Hospitality Management Fundamentals	3
HMG 123	Basic Food Preparation	3
HMG 128	Supervisory Management	3
HMG 130	Hospitality Law	3
HMG 145	Food Production Specialties	3
HMG 223	Fundamentals of Baking	3
HMG 226	Garde-Manger	3
HMG 228	Advanced Hospitality Management	3
HMG 230	Intermediate Food Preparation	3
HMG 231	Advanced Food Preparation	4
HMG 271	Seminar in Hospitality Management: Purchasing	3
HMG 273	Seminar in Hospitality Management: Accounting	3
HMG 277	Seminar in Menu Planning and Sales Promotion	3
HMG 279	Beverage Control	3
HMG 281	Culinary Arts Practicum I	2
HMG 282	Culinary Arts Practicum II	2
HMG 285	Culinary Arts Practicum III	2
HMG 286	Culinary Arts Practicum IV	2
HMG 287	Culinary Arts Practicum V	2
HMG 288	Culinary Arts Practicum VI	2
<b>Total Credit Hours Required</b>		<b>74</b>

MATH 100	Mathematics for Business	3
PSYC 140	General Psychology	3
SPDR 102	Fundamentals of Human Communication <b>or</b>	
SPDR 103	Interpersonal Communications	3
Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
HMEC 151	Nutrition and Meal Planning	3
HMG 121	Hospitality Management Fundamentals	3
HMG 123	Basic Food Preparation	3
HMG 126	Food Management	4
HMG 128	Supervisory Management	3
HMG 130	Hospitality Law	3
HMG 132	Seminar in Housekeeping Operations	3
HMG 145	Food Production Specialties	3
HMG 203	Hotel Sales and Marketing	3
HMG 228	Advanced Hospitality Management	3
HMG 230	Intermediate Food Preparation	3
HMG 265	Front Office Management	3
HMG 268	Hotel Accounting	3
HMG 271	Seminar in Hospitality Management: Purchasing	3
HMG 273	Seminar in Hospitality Management: Accounting	3
HMG 275	Seminar in Hospitality Management: Internship	3
HMG 279	Beverage Control	3
<b>Total Credit Hours Required</b>		<b>68</b>

### A.A.S. Hospitality Mgmt. Food and Beverage

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
CSOF 100	Introduction to Personal Computing	1
ENGL 101	Composition and Reading I	3
HUMN _____	Humanities Elective	3
MATH 100	Mathematics for Business	3
PSYC 140	General Psychology	3
SPDR 102	Fundamentals of Human Communication <b>or</b>	
SPDR 103	Interpersonal Communications	3
Specific Program Requirements		
<i>Must be taken at Johnson County Community College</i>		
HMEC 151	Nutrition and Meal Planning	3
HMG 121	Hospitality Management Fundamentals	3
HMG 123	Basic Food Preparation	3
HMG 126	Food Management	4
HMG 128	Supervisory Management	3
HMG 130	Hospitality Law	3
HMG 145	Food Production Specialties	3
HMG 221	Design Techniques	3
HMG 228	Advanced Hospitality Management	3
HMG 230	Intermediate Food Preparation	3
HMG 250	Introduction to Catering	3
HMG 271	Seminar in Hospitality Management: Purchasing	3
HMG 273	Seminar in Hospitality Management: Accounting	3
HMG 275	Seminar in Hospitality Management: Internship	3
HMG 277	Seminar in Menu Planning and Sales Promotion	3
HMG 279	Beverage Control	3
<b>Total Credit Hours Required</b>		<b>65</b>

### A.A.S. Hospitality Mgmt. Hotel/Motel

Specific Program Requirements		
<i>Must be taken at one of the MCC campuses</i>		
CSOF 100	Introduction to Personal Computing	1
ENGL 101	Composition and Reading I	3
HUMN _____	Humanities Elective	3

## Human Services

A.A.S. Human Svcs. Correctional Services.....	60-62 Credits
A.A.S. Human Svcs. Drug Addiction Svcs.....	65-67 Credits
A.A.S. Human Svcs. Mental Health Svcs.....	64-66 Credits
Drug Addiction Services Certificate .....	30 Credits
Mental Health Technician Certificate .....	23 Credits
A.A.S. Human Svcs. Youth Care Services .....	63-65 Credits
Workers in Developmental Disabilities Cert. ....	25 Credits
Youth Development Worker Certificate ....	12-14 Credits
Youth Work Certificate .....	33 Credits

*Offered at Longview and Penn Valley*

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

### A.A.S. Human Services Correctional Services Emphasis

General Education Requirements		
BIOL 101	General Biology <b>or</b>	
BIOL 132	Human Nutrition	3-5
CSIS 110	Technology and Information Management <b>X or</b>	
CSOF 105	Computer Survival	3
VENGL 101	Composition and Reading I	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
PSYC 162	Correctional Psychology	3
SOCI 160	Sociology	3
SOSC 171	Comparative Ethnic and Cultural Studies	3
SPDR 100	Fundamentals of Speech	3

<b>Specific Program Requirements</b>			
CRJU 118	Legal Aspects of Corrections <b>or</b>		
CRJU 203	Criminal Investigation I	3	
CRJU/			
HUMS 126	Corrections in the Community	3	
CRJU/			
HUMS 236	Correctional Administration	3	
HUMS 100	Introduction to Human Services	3	
HUMS 105	Principles of Corrections	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	Human Services Colloquia I	1	
HUMS 204	Human Services Colloquia II	1	
HUMS/			
PSYC 210	Interviewing and Interpersonal Communications	3	
HUMS 220	Social Welfare	3	
<b>Total Credit Hours Required</b>		<b>60-62</b>	

### A.A.S. Human Services Drug Addiction Services Emphasis

<b>General Education Requirements</b>			
BIOL 101	General Biology <b>or</b>		
BIOL 132	Human Nutrition	3-5	
CSIS 110	Technology and Information Management <del>X</del> <b>or</b>		
CSOF 105	Computer Survival	3	
ENGL 101	Composition and Reading I	3	
HIST 120	American History I <b>or</b>		
HIST 121	American History II <b>or</b>		
POLS 135	Introduction to Political Science <b>or</b>		
POLS 136	Introduction to American National Politics <b>or</b>		
POLS 137	Introduction to State and Local Politics <b>or</b>		
SOSC 151	Foundations of the Social Sciences II	3	
PSYC 140	General Psychology	3	
PSYC 162	Correctional Psychology	3	
SOCI 160	Sociology	3	
SOSC 171	Comparative Ethnic and Cultural Studies	3	
SPDR 100	Fundamentals of Speech	3	
<b>Specific Program Requirements</b>			
CRJU/			
HUMS 275	Alcohol and Drug Addiction	3	
CRJU/			
HUMS 280	Addiction Counseling with Special Populations	3	
CRJU/			
HUMS 285	Addiction Client Management	3	
HUMS 100	Introduction to Human Services	3	
HUMS 163	Therapeutic Activities and Recreation	3	
HUMS 168	Introduction to Practicum I	1	
HUMS 172	Aging, Alcoholism and Medications	1	
HUMS 175	Spirituality in Addiction Recovery	1	
HUMS 176	Addiction Management	1	
HUMS 177	Positive Dependency	1	
HUMS 178	Women's Issues in Addiction	1	
HUMS 201	Human Services Practicum I	3	
HUMS 202	Human Services Practicum II	3	
HUMS 203	Human Services Colloquia I	1	
HUMS 204	Human Services Colloquia II	1	
HUMS/			
PSYC 210	Interviewing and Interpersonal Communications	3	
HUMS 220	Social Welfare	3	
PSYC 148	Group Processes	3	
<b>Total Credit Hours Required</b>		<b>65-67</b>	

### Drug Addiction Services Certificate

<b>Specific Program Requirements</b>			
ENGL 101	Composition and Reading I	3	
PSYC 140	General Psychology	3	
SOCI 160	Sociology	3	
CRJU/			
PSYC 162	Correctional Psychology	3	
CRJU/			
HUMS 275	Alcohol and Drug Addiction	3	
CRJU/			
HUMS 280	Addiction Counseling with Special Populations	3	
CRJU/			
HUMS 285	Addiction Client Management	3	
HUMS 100	Introduction to Human Services	3	
HUMS 168	Introduction to Practicum	1	
HUMS 172	Aging, Alcoholism and Medications <b>or</b>		
HUMS 175	Spirituality in Addiction Recovery <b>or</b>		
HUMS 176	Addiction Management <b>or</b>		
HUMS 177	Positive Dependency <b>or</b>		
HUMS 178	Women's Issues in Addiction	1	
HUMS 201	Human Services Practicum I	3	
HUMS 203	Human Services Colloquia I	1	
<b>Total Credit Hours Required</b>		<b>30</b>	

### A.A.S. Human Services Mental Health Services Emphasis

<b>General Education Requirements</b>			
BIOL 101	General Biology <b>or</b>		
BIOL 132	Human Nutrition	3-5	
CSIS 110	Technology and Information Management <del>X</del> <b>or</b>		
CSOF 105	Computer Survival	3	
ENGL 101	Composition and Reading I	3	
HIST 120	American History I <b>or</b>		
HIST 121	American History II <b>or</b>		
POLS 135	Introduction to Political Science <b>or</b>		
POLS 136	Introduction to American National Politics <b>or</b>		
POLS 137	Introduction to State and Local Politics <b>or</b>		
SOSC 151	Foundations of the Social Sciences II	3	
PSYC 140	General Psychology	3	
PSYC 162	Correctional Psychology	3	
SOCI 160	Sociology	3	
SOSC 171	Comparative Ethnic and Cultural Studies	3	
SPDR 100	Fundamentals of Speech	3	
<b>Specific Program Requirements</b>			
CRJU/			
SOCI 169	Family Violence and Sexual Abuse	3	
CRJU 230	Criminal Law II	3	
HUMS 100	Introduction to Human Services	3	
HUMS 163	Therapeutic Activities and Recreation	3	
HUMS 168	Introduction to Practicum I	1	
HUMS 171	Crisis Intervention	1	
HUMS 190	Community Mental Health	3	
HUMS 201	Human Services Practicum I	3	
HUMS 202	Human Services Practicum II	3	
HUMS 203	Human Services Colloquia I	1	
HUMS 204	Human Services Colloquia II	1	
HUMS/			
PSYC 210	Interviewing and Interpersonal Communications	3	
HUMS 220	Social Welfare	3	
HUMS/			
CRJU 275	Alcohol and Drug Addiction	3	
PSYC 148	Group Processes	3	
<b>Total Credit Hours Required</b>		<b>64-66</b>	

## Mental Health Technician Certificate

Specific Program Requirements			
CRJU/			
PSYC 162	Correctional Psychology	<i>or</i>	
HUMS/			
PSYC 210	Interviewing and Interpersonal Communications		3
HUMS 100	Introduction to Human Services		3
HUMS 168	Introduction to Practicum		1
HUMS 190	Community Mental Health		3
HUMS 201	Human Services Practicum I		3
HUMS 203	Human Services Colloquia I		1
PSYC 140	General Psychology		3
READ 108	College Success Skills		3
SOCI 160	Sociology		3
<b>Total Credit Hours Required</b>			<b>23</b>

## A.A.S. Human Services Youth Care Services Emphasis

General Education Requirements			
BIOL 101	General Biology	<i>or</i>	
BIOL 132	Human Nutrition		3-5
CSIS 110	Technology and Information Management	<del>X</del> <i>or</i>	
CSOF 105	Computer Survival		3
ENGL 101	Composition and Reading I		3
HIST 120	American History I	<i>or</i>	
HIST 121	American History II	<i>or</i>	
POLS 135	Introduction to Political Science	<i>or</i>	
POLS 136	Introduction to American National Politics	<i>or</i>	
POLS 137	Introduction to State and Local Politics	<i>or</i>	
SOSC 151	Foundations of the Social Sciences II		3
PSYC 140	General Psychology		3
PSYC 162	Correctional Psychology		3
SOCI 160	Sociology		3
SOSC 171	Comparative Ethnic and Cultural Studies		3
SPDR 100	Fundamentals of Speech		3
Specific Program Requirements			
CRJU/			
SOCI 168	Juvenile Delinquency		3
HUMS 100	Introduction to Human Services		3
HUMS 160	Principles of Youth Work		3
HUMS 163	Therapeutic Activities and Recreation		3
HUMS 166	Behavior Management Techniques for Children/Youths		3
HUMS 168	Introduction to Practicum I		1
HUMS 201	Human Services Practicum I		3
HUMS 202	Human Services Practicum II		3
HUMS 203	Human Services Colloquia I		1
HUMS 204	Human Services Colloquia II		1
HUMS/			
PSYC 210	Interviewing and Interpersonal Communications		3
HUMS 220	Social Welfare		3
PSYC 240	Child Development		3
PSYC 245	Adolescent Psychology		3
<b>Total Credit Hours Required</b>			<b>63-65</b>

## Workers in Developmental Disabilities Certificate

General Education Requirements			
ENGL 101	Composition and Reading I		3
PSYC 140	General Psychology		3
PSYC 243	Human Lifespan Development		4
READ 108	College Success Skills		3

Specific Program Requirements			
HUMS 100	Introduction to Human Services		3
HUMS 168	Introduction to Practicum		1
HUMS 201	Human Services Practicum I		3
HUMS 203	Human Services Colloquia I		1
HUMS 215	Developmental Disabilities		4
<b>Total Credit Hours Required</b>			<b>25</b>

## Youth Development Worker Certificate

Specific Program Requirements			
HUMS 100	Introduction to Human Services		3
HUMS 160	Principles of Youth Work		3
HUMS 168	Introduction to Practicum		1
HUMS 199	Human Services Seminar		1-3
HUMS 201	Human Services Practicum I		3
HUMS 203	Human Services Colloquia I		1
<b>Total Credit Hours Required</b>			<b>12-14</b>

## Youth Work Certificate

General Education Requirements			
ENGL 101	Composition and Reading I		3
POLS 136	Introduction to American National Politics		3
PSYC 140	General Psychology		3
PSYC 245	Adolescent Psychology		3
SOCI 160	Sociology		3
SPDR 100	Fundamentals of Speech		3
Specific Program Requirements			
CSIS 110	Technology and Information Management	<del>X</del> <i>or</i>	
CSIS 115	Introduction to Microcomputer Applications		3
HUMS 100	Introduction to Human Services		3
HUMS 160	Principles of Youth Work		3
HUMS 168	Introduction to Practicum		1
HUMS 191	Youth Development Seminar		1
HUMS 201	Human Services Practicum I		3
HUMS 203	Human Services Colloquia I		1
<b>Total Credit Hours Required</b>			<b>33</b>

## Mortuary Science

A.A.S. Mortuary Science .....75 Credits

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

This program leads to an Associate in Applied Science degree that seeks to prepare students to function as practitioners in the field of funeral service. Students must be accepted into the program by both MCC and KCKCC. The student is awarded the degree from KCKCC upon successful completion of all requirements. It is the student's responsibility to check with an MCC counselor or advisor before enrollment.

## A.A.S. Mortuary Science

Specific Program Requirements			
<i>Must be taken at one of the MCC campuses</i>			
BIOL 101	General Biology		5
BIOL 110	Human Anatomy		5
BIOL 208	Microbiology		5
BSAD 101	Accounting Principles I		3
CSIS 115	Intro. to Microcomputer Applications		3
ENGL 101	Composition and Reading I		3
ENGL 102	Composition and Reading II		3
PHIL	Ethics or Philosophy		3
PSYC 140	General Psychology		3
SPDR 100	Fundamentals of Speech		3

Specific Program Requirements		
<i>Must be taken at Kansas City Kansas Community College</i>		
HUDV 101	Strategies for Academic Excellence/Lifelong Learning	2
MTSC 101	Orientation to Funeral Service	2
MTSC 105	Mortuary Law	3
MTSC 108	Mortuary Chemistry	3
MTSC 110	Restorative Art	4
MTSC 201	Pathology	3
MTSC 205	Embalming Theory	4
MTSC 210	Mortuary Management	3
MTSC 212	Funeral Service Merchandising	3
MTSC 225	Funeral Service Counseling	3
MTSC 240	Mortuary Science Practicum I	3
MTSC 241	Mortuary Science Practicum II	3
PSYC 115	The Grieving Process	3
<b>Total Credit Hours Required</b>		<b>75</b>

## Paralegal Technology

A.A.S. Paralegal Technology	63 Credits
Paralegal Technology Certificate	33 Credits

*Offered at Penn Valley and Longview*

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.

### A.A.S. Paralegal Technology

General Education Requirements		
ENGL 101	Composition and Reading I	3
ENGL 102	Composition and Reading II	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
PSYC 140	General Psychology	3
SOCI 160	Sociology	3
SPDR 100	Fundamentals of Speech	3
Specific Program Requirements		
CSIS 110	Technology and Information Management <b>or</b>	
CSIS 115	Introduction to Microcomputer Applications	3
PARA 122	Procedural Law	3
PARA 171	Introduction to Legal Technology	3
PARA 176	Legal Research	3
PARA 177	Legal Writing	3
PARA 185	Ethics for the Paralegal	3
PARA 290	Internship in Paralegal Technology	3
PARA:	Electives	18
	Electives	6
<b>Total Credit Hours Required</b>		<b>63</b>

### Paralegal Technology Certificate

Specific Program Requirements		
ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech	3
PARA 122	Procedural Law	3
PARA 171	Introduction to Legal Technology	3
PARA 176	Legal Research	3
PARA 177	Legal Writing	3

PARA 185	Ethics for the Paralegal	3
PARA:	Electives	12
<b>Total Credit Hours Required</b>		<b>33</b>

## Sign Language Interpreting

A.A.S. Sign Language Interpreting	75 Credits
Deaf Studies Certificate	20 Credits

*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. The application packet is due in Admissions prior to June 30th.

### 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. 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. Summer students enrolled in SIGN 102 may use a midterm assessment and may be accepted on a condition of a B or better.

### A.A.S. Sign Language Interpreting

General Education Requirements		
ENGL 101	Composition and Reading I	3
SPDR 100	Fundamentals of Speech	3
HIST 120	American History I <b>or</b>	
HIST 121	American History II <b>or</b>	
POLS 135	Introduction to Political Science <b>or</b>	
POLS 136	Introduction to American National Politics <b>or</b>	
POLS 137	Introduction to State and Local Politics <b>or</b>	
SOSC 151	Foundations of the Social Sciences II	3
	Electives	9
Specific Program Requirements		
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
<b>Total Credit Hours Required</b>		<b>75</b>

### **Deaf Studies Certificate**

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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.

<b>General Education Requirements</b>		
ENGL 101	Composition and Reading I	3
<b>Specific Program Requirements</b>		
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
<b>Total Credit Hours Required</b>		<b>20</b>

# CONTINUING & COMMUNITY PROGRAMS

## The Business & Technology College Education

The Business & Technology College is the largest and most comprehensive business solutions and technical training facility in the Midwest.

Many business solutions and technical training options are available through the BTC. Training can be delivered at the client's location/business or on campus. As part of the consulting services used to improve organizational performance, the BTC offers customized programs/services for which curricula and course materials can be designed specifically to meet training and job performance objectives. Some of the programs/services offered:

- Performance Consulting
- Organizational and Employee Assessments
- Technical Writing and Process Documentation
- ISO 9000 Registration
- ISO Certified Quality Management System
- Call Center Start-Up Package
- PeopleSoft Authorized Training Center
- Management and Professional Development Training
- Technical and Skilled Trade—welding, hydraulics, metal fabrication, pneumatics, etc.
- Microsoft Certified Partner—computer skills training on the most popular business software
- Microsoft Office User Specialist (MOUS) Testing Center
- Customer service training in our state-of-the-art, award-winning call center.
- Environmental Health and Safety (EHS) and Occupational Health and Safety (OSHA) consulting and training
- State-of-the-Industry Confined Space Trainer
- AutoCAD at our authorized Autodesk Training Center
- Basic skills training (reading, math, and writing) in the Workforce Skills computer lab equipped with self-directed educational programs geared to each student's skill level
- Distance Learning Programs on the Internet through PLATO or American College Testing (ACT) whereby employers can assess the needs and design a training program for employees.

The BTC is also ISO 9001:2000 registered and is the first division of a community college in the United States to have earned the coveted registration. This ensures that the BTC consistently delivers quality products and services to the Kansas City area business community.

### Funding Programs for Training

Besides sources of funds from direct-bill contract clients and open enrollment revenue, additional BTC revenue sources include the State of Missouri Customized Training and New Jobs Training programs. Both programs provide our clients access to either direct funding for MCC–BTC training and services or using external sources. These funding 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 programs.

The goals of the BTC are to develop partnerships with businesses and agencies; to deliver training for real, high-paying, and rewarding jobs; and to strengthen MCC's role in the economic and resource development of the entire metropolitan area.

The BTC vision: to be recognized as the single source solution provider for meeting customers' multiple training and technical service needs.

The BTC Quality Policy: Our services are innovative and practical. We continuously improve to reach and maintain the highest level of customer satisfaction.

## Health Care Continuing Education at Penn Valley

Noncredit seminars for healthcare professionals and training for entry-level employment in health occupations such as certified nurse aide and phlebotomy technician are offered at Penn Valley. Classes are also developed and provided off-site as requested by hospitals and other health care facilities.

Workshops are held monthly during the spring and fall semesters for licensed professionals to obtain continuing education contact hours to improve their performance and to maintain licensure. Penn Valley Community College is approved as a provider of continuing education in nursing by the Missouri Nurses Association, which is accredited as an approver of continuing education in nursing by the American Nurses Credentialing Center Commission on Accreditation. Partnerships are also developed to provide approved contact hours for various professional groups, both on and off-site.

Information about specific offerings, schedules, and policies is available from the continuing education office at Penn Valley.

## 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
- Maple Woods (816) 437-3011

# COURSE DESCRIPTIONS

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

 This symbol denotes courses that are currently being revised. Check with the division chair or an academic advisor for an updated course description and more information.

 This symbol denotes courses which meet the Human Diversity requirement. Please see an academic advisor for details.

## Agribusiness/Grounds and Turf Management

*Offered at Longview*

### AGBS 100 Introduction to Urban Agribusiness

3 credits. 3 hours. (Lecture 3 hours.)  
Survey of arboricultural, floricultural, and ornamental horticulture occupations in the greens industry.

### AGBS 106 Landscape Design and Maintenance

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
Principles of landscape design and required maintenance procedures. Introduction of computer aided design software program.

### AGBS 107 Deciduous Trees and Shrubs

3 credits. 3 hours. (Lecture 3 hours.)  
A practical study of woody plants, shade trees, ornamental and flowering trees, and deciduous and flowering shrubs indigenous to the Midwest designed for the practitioner in agribusiness. Course provides an in-depth study of environmental adaptability, cultural practices, diseases, pests, and seasonal effects in the Midwest.

### AGBS 108 Evergreens and Herbaceous Plants

3 credits. 3 hours. (Lecture 3 hours.)  
A practical study of coniferous evergreens, broadleaf evergreens, reliable low-maintenance perennials, and bedding annuals indigenous to the Midwest. Designed for the practitioner in agribusiness. Discussion of diseases, pests, and seasonal effects in the Midwest.

### AGBS 109 Pest Management/Turf and Ornamental

3 credits. 3 hours. (Lecture 3 hours.)  
Environmental, safety, and regulatory considerations of turf and ornamental pest control.

### AGBS 115 Soil Fertility and Fertilizers

3 credits. 3 hours. (Lecture 3 hours.)  
Types of fertilizers for soil and crops. Fertilizers: their components, their formulation, and their application. Investigating aspects of the nature and properties of soils.

### AGBS 135 Turfgrass Management I

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
An introduction to the basics of turfgrass management. Emphasis on plant growth, identification, and characteristics of the major cold and warm season turf grasses such as blue grasses, ryegrasses, bentgrass, fescues, bermuda grass, and zoysia grass. Establishment procedures and mowing practices will be covered.

### AGBS 140 Turfgrass Management II

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
More specific information provided on turfgrass management. Topics such as green construction, topdressing, sprayer calibration, management programs (i.e., setting up a lawn care program), and the influence environment has on turfgrass growth.

### AGBS 145 Irrigation and Installation

3 credits. 3 hours. (Lecture 3 hours.)  
Study design, operations, and maintenance of modern golf courses and landscape facilities, including water requirements, supply, and distribution.

### **AGBS 151 Special Topics in Horticulture I**

1 credit. 1 hour. (Lecture 1 hour.)  
This course will cover current topics relevant to horticulture practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.

### **AGBS 152 Special Topics in Horticulture II**

2 credits. 2 hours. (Lecture 2 hours.)  
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.

### **AGBS 153 Special Topics in Horticulture III**

3 credits. 3 hours. (Lecture 3 hours.)  
This course will cover current topics relevant to horticultural practices in the areas of ornamental horticulture, arboriculture, and turfgrass science.

### **AGBS 200 Occupational Internship**

3 credits. 15 hours. (Field Studies 15 hours.)  
On-the-job training in agribusiness.

### **AGBS 206 Advanced Landscape Design and Maintenance**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* AGBS 106.  
Planning and landscape design. Installation and maintenance of various plants. The commercial process of bidding and contracting. Advanced utilization of computer aided design software program.

## ◆ Anthropology

### **ANTH 100 General Anthropology**

3 credits. 3 hours. (Lecture 3 hours.)  
Survey of physical and cultural anthropology. Human evolution and archaeology. Social institutions and organization: religion, economy, politics, and family. Concept of culture.

### **ANTH 110 Cultural Anthropology** 🌐

3 credits. 3 hours. (Lecture 3 hours.)  
Survey of cultural anthropology. Concentrates on concepts of culture, social institutions and organization: economy, politics, family, religion, law, language, kinship, and contemporary applications of anthropological methods.

## ◆ Art

#### **Longview**

D. Kim Lindaberry  
James Smith

#### **Maple Woods**

Jennie Frederick

#### **Blue River**

#### **Penn Valley**

Mary Beth Moley  
Robert Morris

Bernadette Torres

### **ART 100 Art Fundamentals I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
Introduction to the elements and principles of art in two and three dimensional design. Exploration and use of various materials and methods of expression in studio applications.

### **ART 101 Art Fundamentals II**

3 credits. 6 hours. (Laboratory 6 hours.)  
Use of the plastic elements of art and principles of design in studio application. Emphasis on study of art styles, techniques, and media.

### **ART 102 Computers in Design I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
Introduction to the computer as a design tool utilizing basic graphics software. Design, layout, typography and color theory will be stressed in the production of graphic design projects.

### **ART 108 Survey of Art**

3 credits. 3 hours. (Lecture 3 hours.)  
A brief history of the visual arts, including painting drawing, sculpture and architecture. Global cultures from prehistoric times through present day will be covered.

### **ART 110 Drawing I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
Development of fundamental drawing skills and techniques using various media. Observation and compositional aspects of drawing.

### **ART 111 Drawing II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
*Prerequisite:* ART 110.  
Drawing skills in various techniques while developing various styles of expression through a variety of media and subject matter.

### **ART 112 Drawing III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
*Prerequisite:* ART 111.  
Individual projects to help students strengthen their styles and techniques. Introduction of new media for exploration. Increased observation and compositional aspects of drawing.

### **ART 113 Drawing IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)  
*Prerequisite:* ART 112.  
Exploration of a variety of subject matter for personally expressive and compositional aspects of drawing. Individual projects.

### **ART 115 Orientation to Graphic Communications**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
Study of the graphic communications industry and production methods from design through bindery. Emphasis on current trends for the professional preparation for careers in graphic communications.

### **ART 130 Fashion Illustration I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 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. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 130.

Principles of fashion drawing with emphasis on media and reproduction techniques.

**ART 139 Photography I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

Use of cameras and basic processes and principles of black and white photography. Introduction to the use of photographic equipment, dark room procedures, and materials. Students introduced to historical and contemporary developments in photography. (Students furnish their own 35mm camera.)

**ART 140 Metal/Silversmithing I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 100.

This course is a basic introduction to the terms, tools, and techniques involved in creating jewelry and other wearables as they relate to the human form. Fabrication, construction, and casting will be explored. This course will introduce the student to non-ferrous metals, tool usage, and application in metalworking. Students will learn about the properties of various metals, tool usage, and techniques/processes and apply this knowledge to the construction/fabrication of wearable and sculptural forms relating to the body. This includes applying basic technical skills to 3D design problems, introduction to metal history and safety are integrated into the course subject matter.

**ART 142 Fiber**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

A variety of techniques within the discipline of fiber. Historical examples as well as contemporary techniques will be explored.

**ART 147 Metal/Silversmithing II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 141.

This course builds upon the basic techniques taught in Metal/Silversmithing I. Students will be taught advanced techniques in wax carving, mold making, fabrication, construction, and metals manipulation. Students will develop an intermediate level of complexity in skill and mastery of execution.

**ART 150 History of Art I**

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

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

**ART 151 History of Art II**

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

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

**ART 159 American Art History**

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

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

**ART 160 Graphic Design I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 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 164 Lettering**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

The evolution of letter forms. Hand-lettering techniques with pen, brush, and marker as well as mechanically produced letter forms.

**ART 165 Cartooning**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

Fundamentals of drawing styles and techniques. Advertising, gag, editorial, caricature, and greeting card cartoons.

**ART 166 Calligraphy**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

Execution of different styles. Use of tools and inks. Creative designing of type. Matting and framing of finished work.

**ART 170 Ceramics I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

Students will be introduced to the fundamental principles, styles and forms of ceramics. Primarily working with hand-building techniques, students will learn the importance of texture, form, and unity of design. Students will also be introduced to rudimentary pottery wheel techniques.

**ART 171 Ceramics II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 170.

Advanced synthesis of form and development of skills and techniques in ceramics including decoration and glazing. Studio experience concentration in pottery wheel techniques and glazing.

**ART 172 Ceramics III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 171.

Advanced and individual projects exploring the problems, methods and techniques of production ceramic ware. Emphasis on skill building, research in slip casting processes and glazing techniques. Individual skill building on wheel-thrown and/or hand-building procedures.

**ART 173 Ceramics IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 172.

Advanced and individual projects under the direction of the instructor. Emphasis on skill building, research in glazing techniques, and knowledge of kiln firing. Individual skill building in wheel-thrown and/or hand-building and/or slip-casting procedures.

**ART 200 Design**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 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 202 Computers in Design II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 102 or approval of instructor.

The computer and advanced graphic design software are the primary tools utilized in this course. Advanced design, layout, typography and color theory will be developed in the production of multi-faceted illustration and graphic design projects.

**ART 205 Pre-Hispanic Art History**

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

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

**ART 212 Life Drawing I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 110 or equivalent.

In this course, students will explore the human form using live models. Assignments will cover a variety of drawing styles and media.

**ART 213 Life Drawing II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 212.

Further study of the figure with emphasis on proportion and action using a knowledge of basic anatomical structure. Development of skills in various media.

**ART 214 Life Drawing III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 213.

Advanced study of drawing the figure from models. Introduction to new media and the study of various styles for the improvement of the student's own style. More emphasis on portraiture.

**ART 215 Watercolor Painting**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 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 Portraiture IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 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. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 110 or equivalent.

This course will introduce basic principles of design and pictorial composition. Students will execute a series of paintings on various themes.

**ART 221 Painting II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 220.

Advanced study of painting styles, pictorial composition, design and color theory through the production of a series of exercises and paintings.

**ART 222 Painting III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 221.

Advanced color theory, use of media, and pictorial composition will be exhibited through a self directed plan of study and production of paintings.

**ART 223 Painting IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 222.

Self directed projects geared to enhance creative awareness and expression. Projects will concentrate on developing advanced skills in composition, handling media, tools and color.

**ART 230 Sculpture I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

Introduction to the principles and styles of three-dimensional forms. Exploration of natural, abstract and synthetic sculptural forms through the use of traditional materials including clay, plaster, wood, fiber, plastic, and metal. Students will be introduced to the conceptual sculptural methods of addition, reduction, and substitution.

**ART 231 Sculpture II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 230.

Advanced exploration of sculptural methods and techniques. Emphasis on exploring sculptural materials, forms, and imagery as a means of self-expression and communication.

**ART 232 Sculpture III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 231.

Advanced exploration of sculptural processes and forms through the study of traditional and contemporary concepts, media, and techniques. Projects will involve working with a variety of issues from figure modeling to environmental or site-specific aspects of sculpture.

**ART 233 Sculpture IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 232.

Development of aesthetic judgment and creative skills through individual selection of creative projects using student's choice of media under guidance of instructor.

**ART 239 Photography II**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 139.

Development of advanced photographic techniques in black and white photography. Optional introduction to color processes. Increased emphasis on formal issues of image making in relation to content.

**ART 242 Photography III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 239.

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

**ART 243 Photography IV**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisite:* ART 242.

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

**ART 244 Digital Photography**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisites:* ART 102 and ART 139.

Exploration of photographic techniques and themes using the computer, digital camera, and scanners. Photoshop will be the primary software utilized.

**ART 245 Web Design**

3 credits. 6 hours. (Lecture 1 hour. 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 250 Printmaking I**

3 credits. 6 hours. (Lecture 1 hour. 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 254 Silk Screen Printing I**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 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. (Lecture 1 hour. 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. (Lecture 1 hour. 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. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisites:* ART 102, ART 160.

Advanced problems in graphic design, which may include newspaper, magazine package, and trademark designs.

**ART 261 Graphic Design III**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisites:* ART 102, and 202, and 260.

Advanced problems in advertising and editorial layout. Theory and design for effective composition of verbal and visual communication designed for publication.

**ART 263 Art Portfolio**

3 credits. 6 hours. (Laboratory 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. (Lecture 1 hour. Laboratory 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 270 Illustration**

3 credits. 6 hours. (Lecture 1 hour. Laboratory 5 hours.)

*Prerequisites: ART 100, 110, 200, or approval of the instructor.*

Illustration techniques involving research and visual problem solving utilizing a variety of mediums.

### **ART 280 Special Studies**

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

*Prerequisites: ART 102 and ART 115.*

Introduction to the digital prepress process that follows a digital file from creation through output and contract proof. Emphasis on using proper techniques and workflows to ensure successful file output and printing.

### **ART 282 Image Input**

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

*Prerequisite: ART 202 and ART 281. Prerequisites may be waived with approval of the 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite: ART 115, ART 202, ART 281 and ART 282 or approval of instructor.*

Analysis of digital prepress files for proper output. Emphasis on preventative file preparation, preflighting, troubleshooting problem files, trapping and imposition with a large concentration on file output.

### **ART 284 Prepress Internship**

3 credits. 14 hours. (Field Studies 14 hours.)

*Prerequisite: ART 282 and ART 283.*

Prerequisites may be waived with approval of the program coordinator. Cooperative work experience in digital prepress.

## **Automotive Technology**

### *Offered at Longview*

John Arnold  
Paul Damminga

William Fairbanks  
Gary McDaniel  
David Patience

Rory Perrodin  
Edward Schaffler

### **AUTO 100 Automotive Internship I**

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

*Prerequisite: 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. (Field Studies 15 hours.)

*Prerequisite: AUTO 100 and approval of the automotive coordinator.* Cooperative on-the-job training.

### **AUTO 105 Cooperative Work Experience I**

3 credits. 40 hours. (Field Studies 40 hours.)

*Prerequisite: Approval of the automotive coordinator.* Cooperative on-the-job training.

### **AUTO 106 Cooperative Work Experience II**

3 credits. 40 hours. (Field Studies 40 hours.)

*Prerequisite: Approval of the automotive coordinator.* Cooperative on-the-job training.

### **AUTO 107 Cooperative Work Experience III**

3 credits. 40 hours. (Field Studies 40 hours.)

*Prerequisite: Approval of the automotive coordinator.* Cooperative on-the-job training.

### **AUTO 108 Cooperative Work Experience IV**

3 credits. 40 hours. (Field Studies 40 hours.)

*Prerequisite: Approval of the automotive coordinator.* Cooperative on-the-job training.

### **AUTO 120 MIG and Structural Welding**

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

*Prerequisite: Accepted into the articulation program for Auto Collision Repair.*

Welding of metal in modern automobiles including oxyacetylene, and GMAW (MIG).

### **AUTO 125 Structural Analysis and Damage Repair**

6 credits. 12 hours. (Lecture 3 hours. Laboratory 9 hours.)

*Prerequisite: Accepted into the articulation program for Auto Collision Repair.*

The analysis, measurement, and repair of frames and unibody structures of automobiles and light trucks.

**AUTO 130 Nonstructural Analysis and Damage Repair**

6 credits. 12.5 hours. (Lecture 3 hours. Laboratory 9.5 hours.)

*Prerequisite:* Accepted into the articulation program for Auto Collision Repair.

The analysis of the condition and the repair or replacement of nonstructural components of automobiles and light trucks.

**AUTO 135 Plastics and Adhesives**

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

*Prerequisite:* Accepted into the articulation program for Auto Collision Repair.

Analysis and repair of panels and structures using plastic fillers, fiberglass, structural adhesives, and bonding agents.

**AUTO 140 Automotive Painting**

4 credits. 10 hours. (Lecture 1 hour. Laboratory 9 hours.)

*Prerequisite:* 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. (Lecture 1 hour. Laboratory 9 hours.)

*Prerequisite:* Accepted into the articulation program for Auto Collision Repair.

Analysis, preparation, and performance of paint repair and refinishing applications on modern automobiles and light trucks.

**AUTO 150 Automotive Power Plants**

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

History, theory of operation, diagnosis, and repair of automotive gasoline and diesel engines. Covers the basic and special tools required to properly overhaul or rebuild. Includes head and valve service, piston and ring service, block and bearing service. Special emphasis on measuring and diagnosis.

**AUTO 160 Diagnosis and Repair**

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

An in-depth consideration of modern electrical systems and use of meters in troubleshooting 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. (Lecture 2 hours. Laboratory 4 hours.)

History, theory of operation, and current service procedures on drum and disc brake systems. Includes vacuum and hydraulic power assist and anti-lock brake systems.

**AUTO 172 Automotive Suspension and Steering**

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

History, theory and service of front and rear suspension and steering systems. Includes control arm, strut types and air ride, steering gear boxes, rack and pinion steering, power assist, and spring installation. Extensive coverage of four-wheel alignment, tire and wheel balance and vibration analysis. Also covers automatic ride control.

**AUTO 174 Automotive Power Trains**

4 credits. 6 hours. (Lecture 2 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 & Fuel Control System**

6 credits. 9 hours. (Lecture 3 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. (Lecture 3 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 ASE 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. (Lecture 2 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. (Lecture 3 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. (Lecture 3 hours. Laboratory 6 hours.)

*Prerequisites:* AUTO 166 and admission to GM ASEP.

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. (Lecture 3 hours. Laboratory 6 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. (Lecture 4 hours. Laboratory 4 hours.)

*Prerequisite:* AUTO 166.

Solid-state electronic principles and applications on devices as utilized on late model computer-equipped automobiles.

## ◆ Basic Skills

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**BASK 13 Spelling**

2-3 credits. 2-3 hours. (Lecture 2-3 hours.)

The student will identify auditory and visual-centered spelling problems and become proficient in spelling skills.

**BASK 19 Punctuation**

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

Rules and use of punctuation. Self-paced instruction.

**BASK 20 Just Grammar**

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

Topics in this course include parts of speech and sentences; clauses, phrases, agreement and correct usage. Self-study.

**BASK 21 Just Sentences**

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

This course is designed to include sentence fundamentals, verb recognition, sentence elements, sentence types, sentence errors and corrections. Self-study.

**BASK 22 Just Spelling**

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

This course deals with correcting common spelling errors by study of consonant and vowel sounds and spelling rules. A/V materials, workbooks, and tutorial assistance are available in this self-study course.

**BASK 24 College Entrance Skills**

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

Introduction to basic study skills, college resources and college procedures.

**BASK 26 Solving Word Problems**

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

Interpretation and solution of word problems in basic mathematics.

**BASK 37 Basic Algebraic Concepts**

2 credits. 2 hours. (Lecture 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. (Lecture 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. (Lecture 1-3 hours.)

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

**BASK 40 Mathematic Skills/Special Topics**

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

Various topics in basic arithmetic based on student needs. Will include fractions, decimals, ration and proportion, critical thinking and geometric concepts.

## ◆ Biology

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**Longview**

Eugene Fenster  
Keet Kopecky  
Greg Loftin  
Brian Mitchell  
Patricia Munn

Stephen Reinbold

**Maple Woods**

Paramjit K. Duggal  
Daniel Mark  
Larry Reichard

**Blue River**

Shari Harden  
Todd Martin

**Penn Valley**

Todd Bowdish  
Gene Cota  
Terrence Davin  
Nancy Harrington  
Sandra Landuyt  
Steven Lewis

**BIOL 100 Introduction to Cell Biology**

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

*Prerequisite:* MATH 20 with a minimum grade of C or score on the placement test above the cutoff point for MATH 20.

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.

**BIOL 101 General Biology**

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

Biological principles applied to selected groups of plants and animals.

**BIOL 104 General Botany**

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

Biological principles and their application to the plant kingdom. Microscopic and gross examination of anatomy of plants. Life cycles and ecological relationships.

**BIOL 106 General Zoology**

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

Systematic survey of the major animal phyla. Microscopic and gross examination of representative animal types. Anatomy and physiology, natural history, life cycles, ecological relationships, and genetics.

**BIOL 108 Introductory Anatomy and Physiology**

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

Gross and microanatomy and physiology of each organ system. Correlation of the organ systems in the functioning of the human body.

**BIOL 109 Anatomy and Physiology**

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

*Prerequisites: BIOL 100 or CHEM 105 with a minimum grade of C.*

Gross anatomy, histology, and physiology of each system of the human body. Homeostatic mechanisms and correlation of structure and function.

**BIOL 110 Human Anatomy**

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

Gross and microscopic structure of each system of the human body. Integration of the systems within the entire body.

**BIOL 117 Life and the Environment**

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

General principles of biology and environmental science. Problems in human ecology such as population growth, resource utilization, and pollution. Field trips.

**BIOL 118 Introduction to Biology**

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

Basic structure of life. Cell structure. Plant and animal systems. Relationship of human beings to other living things and the interaction of biological and physical systems. Part of the instruction given by videotape.

**BIOL 121 Directed Project**

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

*Prerequisite: Approval of instructor.*

Supervised introductory study of a topic in biology.

**BIOL 132 Human Nutrition**

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

Nutrients. Functions and factors affecting utilization. Four sources, dietary allowances, and food habits. Special needs in the life cycle. Current issues in nutrition. Dietary calculation and evaluation.

**BIOL 137 Introduction to Pathology**

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

*Prerequisite: BIOL 108.*

Causes, signs, symptoms, and pathological changes in structure and function of the human body in common diseases. Selected diagnostic and treatment procedures. Some general public health aspects.

**BIOL 150 Medical Terminology**

2 credits. 2 hours. (Lecture 2 hours.)

Basic vocabulary of medical terms stressing prefixes, suffixes, and roots, with application to each system of the body.

**BIOL 202 Ecology**

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

*Prerequisites: 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. (Lecture 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. (Lecture 3 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. (Lecture 4 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. (Lecture 3 hours. Laboratory 4 hours.)

*Prerequisites: 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**

1-5 credits. 2-10 hours. (Laboratory 2-10 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.

### **BIOL 238 International Human Ecology**

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

Study of international human diversity with a focus on problem-solving by selected cultures. Students will visit villages, schools, and homes over a period of at least 18 days at selected international destinations acquiring knowledge and appreciation of local solutions to traditional and contemporary environmental challenges. Consent of instructor required

### **BIOL 239 International Field Biology**

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

*Prerequisites: BIOL 101, BIOL 104, or BIOL 106 with a minimum grade of C.*

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

## **Business Administration**

### ***Penn Valley***

Diane Enkleman  
Randy Kidd

### ***Longview***

Theodore Dinges  
Stephanie Masquelier  
James Weaver

### ***Maple Woods***

Lynda Clark  
Bruce Culley  
Linda Spotts  
Michael

### ***Blue River***

Robert Holman

### **BSAD 100 Introduction to Accounting**

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

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

### **BSAD 101 Accounting Principles I**

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

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

### **BSAD 102 Accounting Principles II**

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

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

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

### **BSAD 103 Business English**

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

*NOTE: This course is being revised. See page 82.*

**BSAD 104 Principles of Advertising**

3 credits. 3 hours. (Lecture 3 hours.)  
Survey of advertising principles and practices. Development of an advertising plan for a business organization. Consumer product and market analysis, media selection, and creating advertisements. Analysis of advertising campaign results.

**BSAD 105 Personnel Management**

3 credits. 3 hours. (Lecture 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 Salesmanship**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles of effective selling. Planning, prospecting, approaching, demonstrating, and dramatizing the sales. Field-tested techniques for handling sales resistance. Closing the sale.

**BSAD 109 Principles of Supervision**

3 credits. 3 hours. (Lecture 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 113 Special Problems in Business**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Independent study in business-related areas under the supervision of a faculty member.

**BSAD 120 Human Relations in Business**

3 credits. 3 hours. (Lecture 3 hours.)  
Course investigates the impact that individuals, groups, and organizational structures have on behavior in the workplace. The student will develop individual competencies with emphasis in business environments. The acquired competencies can be applied toward improving individual and organizational effectiveness.

**BSAD 127 Management Internship I**

3 credits. 15 hours. (Field Studies 15 hours.)  
*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. (Field Studies 15 hours.)  
*Prerequisite: 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. (Field Studies 15 hours.)  
*Prerequisite: 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. (Field Studies 15 hours.)  
*Prerequisite: BSAD 129 and approval of the instructor.*  
On-the-job training in a field directly related to the management program.

**BSAD 135 Entrepreneurship**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles and methods of identifying business opportunities, planning ways to address market needs, gathering resources and managing the process of building businesses. This course will include development of the entrepreneurial attitude that may be utilized in all areas of an individual's career.

**BSAD 150 Business Essentials**

3 credits. 3 hours. (Lecture 3 hours.)  
Overview of all phases of business, including ownership, marketing, personnel, finance, managerial controls, and the relationship of business to the social and economic environment in which it operates.

**BSAD 151 Personal Finance**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles of personal financial planning enabling the student to achieve personal economic satisfaction and long-term financial security. Topics will include career planning, taxes, banking, consumer strategies, housing, transportation, insurance, investments, retirement and estate planning.

**BSAD 152 Fashion Merchandising**

3 credits. 3 hours. (Lecture 3 hours.)  
The fashion industry and its relationship to retail merchandising.

**BSAD 153 General Ledger Accounting Systems, PC**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: BSAD 101.*  
Investigation, application, and utilization of accounting software packages in a computerized business accounting system.

**BSAD 154 Managerial Accounting**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: BSAD 101.*  
Interaction between the fields of accounting and management with emphasis on analysis of accounting records for aiding managerial decision making.

**BSAD 155 Accounting Applications Using Spreadsheets**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: BSAD 101.*  
The emphasis of this course is to teach the solving of accounting problems utilizing spreadsheet programs as a tool.

**BSAD 159 Accounting for Payroll and Benefits**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites:* BSAD 100 or BSAD 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 161 Professional Development and****Business Careers ✂**

3 credits. 3 hours. (Lecture 3 hours.)  
*NOTE:* This course is being revised. See page 82.

**BSAD 169 Business Machines**

3 credits. 3 hours. (Lecture 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. (Lecture 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 190 Office Management**

3 credits. 3 hours. (Lecture 3 hours.)  
Organization and control of administrative office operations. Leadership and human relations in office administration. Personnel practices and training. Job analysis and work measurement.

**BSAD 201 Cost Accounting**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* BSAD 102.  
Basic principles of cost accounting applied to job, process, and standard cost methods. Budget control and analysis of profits.

**BSAD 202 Intermediate Accounting I**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* BSAD 102.  
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. (Lecture 3 hours.)  
*Prerequisite:* BSAD 102.  
Stockholders' equity and financial statements analysis. Comprehensive study of accounting theory.

**BSAD 204 Business Management**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles and practices of business management developed around the framework of the functions of planning, organizing, and controlling. Communications, decision making, leadership and management styles, budgeting, productivity, and organizational effectiveness.

**BSAD 205 Marketing**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles and methods of product development, distribution, promotion, and pricing strategy. Consumer behavior, market research, and market segmentation.

**BSAD 207 Labor Management Relations**

3 credits. 3 hours. (Lecture 3 hours.)  
Current issues in the industrial and post-industrial society. Contract negotiations, arbitration policies, conflict theories, strategies for conflict resolution, and administering the collective bargaining agreement.

**BSAD 210 Logistics Management**

3 credits. 3 hours. (Lecture 3 hours.)  
Logistics management is an integrated system approach involving a variety of environments within a global marketplace. The course explores the logistic system from inbound movement of material and freight into the organization, through physical distribution of the completed product to the consumer. Hands-on applications, activities and simulations. IAW Council of Logistics management guidelines will be emphasized.

**BSAD 211 Operations Management**

3 credits. 3 hours. (Lecture 3 hours.)  
This course covers the central role and importance of the operations function in both service and product organizations. Strategy, design, scheduling, materials handling, inventory, production, MRP and distribution are covered.

**BSAD 212 Transportation Operations and Management**

3 credits. 3 hours. (Lecture 3 hours.)  
This course covers the significance of an integrated, well-organized, transportation system to a market-driven economy. The development of the transportation system to the U.S. from both historic and economic perspectives is included.

**BSAD 213 Warehouse and Distribution Centers**

3 credits. 3 hours. (Lecture 3 hours.)  
This is an integrated system approach involving a variety of environments within a global marketplace. The course covers the organization and operations of warehouses and distribution center. The major components are warehousing and distribution center paradigms, system design, locations, technology and financial dimensions.

**BSAD 220 Business Letters and Reports**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* ENGL 101.  
Principles of written communication as a foundation for composing effective business letters and reports.

**BSAD 235 Colloquia: Readings in Business**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
*Prerequisite:* Approval of instructor.  
Directed reading in a field chosen by the student with the advice and direction of the instructor.

### **BSAD 240 Accounting Capstone Course**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* Should be taken in the last semester of the student's accounting program.  
A survey course integrating students' knowledge in financial accounting, managerial/cost accounting, computer usage, business law, general ledger, and communication skills. By using the computer as a tool, students will analyze data and enhance their financial decision-making process. Students will participate in role playing, case studies and group work.

### **BSAD 252 Individual Income Tax**

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

### **BSAD 254 Business Law I**

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

### **BSAD 255 Business Law II**

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

### **BSAD 256 Accounting Internship**

3 credits. 15 hours. (Field Studies 15 hours.)  
*Prerequisite:* Approval of the instructor.  
Development of accounting skills through supervised on-the-job experience in the office of a cooperating firm.

### **BSAD 270 Legal Environment of Business**

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

## **Chemistry**

**Longview**  
Moira Frey  
Robert Smith

**Maple Woods**  
**Blue River**  
Donald Miller

**Penn Valley**  
Douglas Martin

### **CHEM 101 Survey of Chemistry**

5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)  
Survey of the principles of chemistry and the role and significance of chemistry in the modern world.

### **CHEM 105 Introductory Chemistry for Health Sciences**

5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)  
The principles of general, organic, and biological chemistry for health science students.

### **CHEM 107 Preparatory General Chemistry**

5 credits. 6 hours. (Lecture 4 hours. Laboratory 2 hours.)  
*Prerequisite:* MATH 110 (or equivalent score on placement test) or one unit of high school algebra with a minimum grade of C.  
Introduction to the elementary principles of chemistry with emphasis on chemical calculations.

### **CHEM 111 General College Chemistry I**

5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)  
*Prerequisites:* MATH 120 (or equivalent score on placement test) or two units of high school algebra with a minimum grade of C and CHEM 107 or high school chemistry 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. (Lecture 4 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 205 Organic Chemistry**

5 credits. 7 hours. (Lecture 3 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 221 Organic Chemistry I**

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

### **CHEM 222 Organic Chemistry II**

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

# ◆ Child Growth And Development

## Offered at Penn Valley

Linda Bell  
Victoria Hollwell

Helen Speed  
Mary Svoboda-Chollet

### **CDCG 113 Child Growth and Development I**

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

*Corequisite: CDCG 114.*

The student will develop an understanding of the principles of development from birth to age 12.

### **CDCG 114 Child Development Observation**

1 credit. 2 hours. (Lecture 1 hour. Laboratory 1 hour.)

*Corequisite: CDCG 113.*

The student will develop an understanding of methods of observing children from birth to age 12.

### **CDCG 115 Child Growth & Development II: Infant/Toddler**

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

*Prerequisite: 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.

### **CDCG 116 Child Growth and Development II: Preschool**

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

*Prerequisites: 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.

### **CDCG 117 Child Growth and Development II: School-Age Care**

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

*Prerequisites: CDCG 113 and 114.*

This course is designed to focus on the physical, social, emotional, cognitive and creative development of school-age children, five to twelve years. Emphasis will be placed on the needs and characteristics of the school-age children in out-of-school environments and provides the foundation and theory to school-age care programming.

### **CDCG 118 Family Development**

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

This course takes an in-depth look at the strategies, theories, and history supporting family development study.

### **CDCG 119 Child Growth and Development II: Special Needs**

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

*Prerequisites: CDCG 113, 114 and 260.*

Students will gain in-depth understanding of the physical, social, emotional, language and cognitive development of children from infancy to school age, including those with different types of special needs; as well as explore the importance of the caregiver, the environment and working with families.

### **CDCG 130 Creative Experiences for Young Children**

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

An introduction to a variety of creative learning materials suitable for use with children. The student will develop skills on how to use art, math, and science activities that are developmentally appropriate for children.

### **CDCG 200 Music and Movement for Children**

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

This course prepares students to include music and creative movement in early childhood and school age care curriculum. Emphasis will be placed on developing necessary knowledge, vocabulary and skills to create and implement music and movement with children. Students will learn how to provide a variety of listening, singing, instrumental, movement, improvisational, and rhythmic experiences. In addition, strategies will be introduced to plan, develop and evaluate music and creative movement curriculum.

### **CDCG 201 Language Development**

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

The student will receive in-depth study in the basic use of tools and materials that stimulate imagination, reasoning, concept formation, and communications through language development.

### **CDCG 216 Child Health and Safety**

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

Basic factors that affect child health including feeding and clothing habits, health routines, hygiene, childhood diseases, first aid, and safety.

### **CDCG 217 Literature for Children**

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

Overview of children's literature and its development. The classics through contemporary issues. Importance of literature for preschool children. Criteria for selecting books and stories. Techniques for reading and telling stories.

### **CDCG 220 Child Care Management**

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

*Prerequisite: Approval of the instructor.*

Survey of child care programs. Planning, developing, and operating a day care center. Licensing, curriculum, and parent involvement.

**CDCG 221 Issues and Theories in Child Growth and Development**

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

This course explores current topics having to do with educational approaches, training techniques, cultural traditions and practices, and general ages and stages of children birth through adolescence.

**CDCG 230 Program Planning: Infant/Toddler**

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

*Prerequisite:* CDCG 115.

Students will gain knowledge and hands-on experience with activities and methods to use while caring for children from birth through 36 months.

**CDCG 231 Program Planning: Preschool**

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

*Prerequisites:* CDCG 116 and CDCG 249.

The student will gain skills in program planning for the optimum development of preschoolers.

**CDCG 232 Program Planning: School-Age Children**

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

*Prerequisite:* CDCG 117.

This course will prepare the student to design, implement and administer environments and activities that promote the developmentally appropriate practice in school-age care programming for children 5-12 years.

**CDCG 233 Program Planning: Special Needs**

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

*Prerequisites:* CDCG 119, 249, 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: Family**

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

*Prerequisites:* CDCG 118 and CDCG 250.

This course offers students an advanced look at strategies having to do with direct service to families.

**CDCG 248 Family Development Internship I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* CDCG 118.

This course gives the students the opportunity for hands-on experience, skills and practice in a systems model of working with families. Students also are in preparation for the portfolio and exam necessary for obtaining the Family Worker credential.

**CDCG 249 Child Development Internship I**

3 credits. 5 hours. (Lecture 1 hour. Field Studies 4 hours.)

*Prerequisites:* CDCG 113, 114, and 130.

In-service training and experience in day care centers.

**CDCG 250 Child Development Internship II:**

**Infant Toddler**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* CDCG 115, 230, 249.

Student will gain experience in child care setting for children birth to 37 months through observation, evaluation of, and participation in programs.

**CDCG 251 Child Development Internship II:**

**Preschool**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* CDCG 116, 231, 249.

The student will receive teacher training and experience at preschool sites. The student will gain skills in planning activities for the intellectual, physical, social, emotional, and mental development of preschoolers.

**CDCG 252 Child Development Internship II:**

**School Age**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* CDCG 117, 232, 249.

Supervised internship and observation in an approved school age care program serving children ages 5 -12 years. Students will benefit from group seminars to share, solve problems, and clarify issues arising in the internship experience.

**CDCG 253 Child Development Internship II:**

**Special Needs**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* CDCG 119, 233, 249, 260.

Advanced teacher training and experience in child care centers or homes.

**CDCG 254 Child Development Internship II:**

**Families**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* CDCG 118, 234.

This course gives students the opportunity for hands-on experience in several family support agencies/organizations/activities

**CDCG 260 Education of the Exceptional Child**

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

*Prerequisites:* CDCG 113, 114.

Introduction to the education of infants, toddlers, preschoolers and school-agers with special needs and the interaction with their families, in inclusive settings.

**CDCG 261 Parenting**

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

Students will gain in-depth understanding of the principles of parenting and family relationships as applied to working with young children.

**CDCG 271 Special Problems in Child Growth and Development**

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

Independent study in child growth and development under the supervision of a faculty member.

### **CDCG 272 Special Problems in Child Growth and Development**

2 credits. 2 hours. (Lecture 2 hours.)  
Independent study in child growth and development under the supervision of a faculty member.

### **CDCG 273 Special Problems in Child Growth and Development**

3 credits. 3 hours. (Lecture 3 hours.)  
Independent study in child growth and development under the supervision of a faculty member.

## **◆ Computer Science Information Systems**

#### **Longview**

Cynthia Herbert  
Gary Johnson  
T. S. Pennington  
Jeanne Willerth  
Gayla Wynn

#### **Maple Woods**

Karen Richards  
Dennis Jirkovsky  
Pamela Matthiesen  
Gary May  
Dempsey Yeary

#### **Penn Valley**

Edward Durant  
Margaret Easter  
Monica Johnson  
J. Ronald Leake  
Jerry Macke  
Michael Sturgeon

#### **Blue River**

Melissa Napper  
Michael Wiemann

#### **Business & Technology College**

### **CSIS 101 (See CSIS 110)**

### **CSIS 103 Document Processing I ✂**

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

*NOTE: This course is being revised. See page 82.*

### **CSIS 104 Document Processing II ✂**

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

*Prerequisite: CSIS 103.*

*NOTE: This course is being revised. See page 82.*

### **CSIS 110 Technology and Information Management ✂**

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

*NOTE: This course is being revised. See page 82.*

Introduces information management technology and its impact on social and political environments and life-long learning. Students will investigate how computers and other information technology are ethically applied to today's changing society. Lecture, demonstration, and hands-on experience will introduce hardware, operating systems, application software and Internet concepts with emphasis on communications and problem solving. Keyboarding skills are highly recommended.

### **CSIS 111 Microcomputer Hardware Concepts**

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

*Prerequisite: CSIS 110✂.*

This course introduces the student to maintenance, upgrading, setup, and expansion of personal computer hardware. Detailed exploration of micro-computer architecture, functions, and components is included in this course. Students will study and apply methods and procedures for installation, troubleshooting, and modification of computer systems.

### **CSIS 112 Internetworking Fundamentals - Cisco**

5 credits. 6.5 hours. (Lecture 3.5 hours. Laboratory 3 hours.)

*Prerequisite: CSIS 110✂ or CSIS 115.*

This course covers the basics of computer hardware and software, OSI Model, binary and hexadecimal numbers, bandwidth, LAN and WAN devices, basics of electricity, cable specifications, termination and installation, basic network topologies, standards and types (Ethernet, Token Ring and FDDI), network design, specifications and documentation, IP addressing and subnetting, differences between routing and routable protocols, TCP and UDP. This is the first course in a sequence of four towards Cisco Certified Network Associate (CCNA).

### **CSIS 113 Router & Routing Fundamentals - Cisco**

5 credits. 6.5 hours. (Lecture 3.5 hours. Laboratory 3 hours.)

*Prerequisite: CSIS 112.*

This course is an introduction to router and routing concepts and terminology including Ethernet and Token Ring frames, RIP and IGRP routing protocols, distance vector and link state routing, routing loop issues, TCP/IP basics, IP addressing, and IP access lists. Students will get hands-on experience configuring Cisco routers. This course is the second of four courses towards Cisco Certified Network Associate (CCNA).

### **CSIS 115 Introduction to Microcomputer Applications**

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

*Prerequisites: Keyboarding experience and basic computer skills.*

Introduction to operation of computer software packages. Hands on application work with software packages for word processing, presentation, spreadsheet, and database software, and communication software.

### **CSIS 116 Introduction to Desktop Publishing ✂**

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

*NOTE: This course is being revised. See page 82.*

### **CSIS 121 Programming Fundamentals ✂**

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

*NOTE: This course is being revised. See page 82.*

**CSIS 125 Visual Basic Programming**

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

Recommended: CSIS 110✘. 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite:* CSIS 110✘ or CSIS 115.

An in-depth introduction to the creation of web pages for an Internet site. Students 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 Object Oriented Programming I ✘**

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

*Prerequisites:* MATH 110 and CSIS 121 or passing score on placement test.

*NOTE:* This course is being revised. See page 82.

**CSIS 140 Cobol Programming**

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

*Prerequisite:* CSIS 110✘ or suitable work experience.

COBOL language features are compatible with most medium to large-scale computers. Structured programming concepts.

**CSIS 141 Discrete Structures for Computer Science I**

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

*Prerequisite:* MATH 120 or MATH 150.

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

**CSIS 143 Relational Database Design for ORACLE**

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

*Prerequisite:* CSIS 115 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite:* CSIS 115 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites:* CSIS 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. (Lecture 2 hours. Laboratory 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 how 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites:* 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 149 Assembler for Microcomputers**

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

*Prerequisite:* Completion of one CSIS course, 110✘ or higher, or suitable work experience.

The student will examine and learn beginning level Assembler programming for a commonly used microcomputer focusing on typical business problems.

## **CSIS 151 Microcomputer Operating Systems**

### **Concepts**

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

*Prerequisites:* CSIS 110✘ and either CSIS 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. (Lecture 2 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites:* CSIS 110✘ 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. (Lecture 2 hours. Laboratory 2 hours.)

This course includes a non-technical 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites:* CSIS 110✘ and either CSIS 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 activities will give the student experience using modems and configuring communications software to access other computers, networks, BBSs, information providers, and the Internet.

## **CSIS 162 Introduction to Multimedia**

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

*Prerequisite:* CSIS 110✘ or CSIS 115.

An overview of multimedia technology on the PC. The course focuses on four major themes: the nature of multimedia, its hardware components, its common software applications, 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. (Lecture 5 hours.)

*Prerequisite:* High school algebra with a minimum grade of C or satisfactory score on the mathematics placement examination.

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: Ohm's 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. (Lecture 2 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. (Lecture 2 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. (Lecture 2 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite: CSIS 161 or equivalent background strongly recommended.*

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 logon scripts and user profiles and learn how to effectively monitor and maintain a network.

**CSIS 174 Technologies Used on Local Area Networks**

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

*Prerequisite: CSIS 171.*

This course teaches the basic concepts of data communications, networking, and connectivity including terminology, topologies, Open Systems Interconnection (OSI) Model, and popular vendor-defined protocol suites.

**CSIS 175 Service and Support of Local Area Networks**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)

*Prerequisite: CSIS 171.*

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

**CSIS 177 Database Application and Design with Access**

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

*Prerequisite: One Windows based course or approval of instructor.*

Recommend 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. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite: CSIS 172 or equivalent background strongly recommended.*

This course teaches the fundamental skills needed to effectively set up, configure, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on popular network operating systems.

**CSIS 179 Web SQL Programming**

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

*Prerequisite: CSIS 177, some experience with HTML is helpful.*

Fundamentals of designing and implementing a database-driven web site. Topics include web server configuration, open database connectivity, SQL, and security.

**CSIS 180 Current Topics**

1-4 credits. 1-4 hours. (Lecture 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites: CSIS 110\* and either CSIS 115 or CSOF 101 + CSOF 102 + CSOF 103.*

Learn techniques for transitioning to new and up-graded 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. 4 hours. (Lecture 2 hours. Laboratory 2 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 212 Advanced Routing and Switching**

### **- Cisco**

5 credits. 6.5 hours. (Lecture 3.5 hours. Laboratory 3 hours.)

*Prerequisite:* CSIS 113.

This course introduces students to current and emerging networking technologies. Instruction includes safety, increasingly sophisticated router configuration (IGRP, Access Lists, IPX); switch configuration; network troubleshooting skills LAN switching; VLANs; LAN design; IGRP; access lists. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment. This is the third course in a sequence of four towards Cisco Certified Network Associate (CCNA).

## **CSIS 213 WAN Design and Support - Cisco**

5 credits. 6.5 hours. (Lecture 3.5 hours. Laboratory 3 hours.)

*Prerequisite:* CSIS 212.

This course is a more in-depth look at the current and emerging network technologies. Instruction includes safety, increasingly sophisticated router configuration (WAN services: LAPB, Frame Relay, ISDN/LAPD, HDLC, PPP, and DDR.); switch configuration; network troubleshooting. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment. This course is the final of four courses towards Cisco Certified Network Associate (CCNA).

## **CSIS 215 Advanced Microcomputer Applications**

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

*Prerequisite:* CSIS 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. (Lecture 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. (Lecture 2 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).

## **CSIS 228 Advanced Web Development**

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

*Prerequisite:* CSIS 128.

Building on the topics discussed in CSIS 128, this course provides in-depth coverage of HTML and client-side scripting, with an introduction to current web development topics. Topics include DHTML, e-commerce, security, web database programming, server-side scripting, XML, and web site architecture and configuration.

## **CSIS 231 Object Oriented Programming II ✕**

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

*Prerequisites:* MATH 120, MATH 150, and CSIS 131.

*NOTE:* This course is being revised. See page 82.

## **CSIS 240 Advanced COBOL**

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

*Prerequisite:* CSIS 140 or suitable work experience.

Problem solving utilizing current disk access methods. Program design. More complex programming skills.

## **CSIS 241 Discrete Structures for Computer Science II**

3 credits. 3 hours. (Lecture 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.

## **CSIS 245 Creating Web Applications with ORACLE PL/SQL**

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

*Prerequisites:* CSIS 145, CSIS 152, and CSIS 128.

An introduction to ORACLE Application Server for building dynamic Web applications to access an 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.

## **CSIS 246 Creating ORACLE Application Forms II**

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

*Prerequisites:* CSIS 145 and CSIS 146.

A continuation of CSIS 146, this course expands the form-building skills of ORACLE Developer. The student will learn to manage application file with Project Builder, create multiple form applications and learn how to manage multiple transactions across modules. Custom menus, reports and charts will be developed.

## **CSIS 250 Assembler Programming**

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

*Prerequisites:* CSIS 110✕ and a beginning programming course or suitable work experience.

Assembler language programming with disk files, various data formats, and debugging techniques.

### **CSIS 251 Advanced Microcomputer Operating Systems Concepts**

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

*Prerequisite:* CSIS 151.

This 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.

### **CSIS 252 Advanced Java Programming**

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

*Prerequisite:* CSIS 152.

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.

### **CSIS 255 Advanced C++ Programming**

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

*Prerequisite:* CSIS 155.

Advanced C++ programming language problem solving concepts with emphasis placed on file handling techniques and sophisticated object-oriented analysis and design.

### **CSIS 257 Implementing a Database in Microsoft SQL Information Systems.**

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

*Prerequisites:* CSIS 172 and CSIS 177.

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.

### **CSIS 258 System Administration for Microsoft SQL Server**

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

*Prerequisites:* CSIS 171 and CSIS 177.

The student will gain knowledge and develop 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.

### **CSIS 261 Telecommunications and Networks II**

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

*Prerequisites:* Satisfactory completion of CSIS 161, MATH 120, and MATH 130, or equivalent.

This course is a continuation of CSIS 161. 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; LAN/WAN theory; and cables and connectors.

### **CSIS 262 Advanced Multimedia Design and Development**

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

*Prerequisite:* CSIS 162.

This courses expands upon the theories, concepts, and practical applications presented in Introduction to Multimedia. Students will learn more about the instructional design process, learn how to create and edit more complex audio and video 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite:* CSIS 162, or consent of the instructor.

This course expands on the theories and concepts covered in introduction to Multimedia (CSIS 162), focusing on the creation of digital video. The student will use modern video lighting, recording, digitizing, and editing equipment to create video productions suitable for distribution via multimedia CD-ROM, and discuss the issues facing the digital video developer.

### **CSIS 264 Optical and Broadband Transmission System**

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

*Prerequisites:* Enrollment in or completion of MATH 120, MATH 130, CSIS 168, and CSIS 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. (Lecture 2 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. (Lecture 3 hours.)

*Prerequisite: 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. (Lecture 3 hours.)

*Prerequisite: 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. (Lecture 3 hours.)

*Prerequisites: Enrollment in or completion of CSIS 168 and completion of MATH 120 and MATH 130 or equivalent.*

This course is a continuation of CSIS 168. It includes various modern telecommunications systems and the theory and technology used. Also covered are basic telephone, wireless, satellite, IP, and other communication 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites: CSIS 110\* 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 cohesions.

**CSIS 271 Data Structures and Algorithm****Analysis**

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

*Prerequisites: CSIS 125 and CSIS 177.*

In-depth, hands-on experience utilizing the programming language of Access (Visual Basic for Access), a relational database management software package. This "object-oriented" language assists developers to use the full power of the database management package. Student will also learn to use several advanced features (of the constantly growing number of features) of the Access database management system.

**CSIS 279 Web Database Programming**

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

*Prerequisites: CSIS 128, and introductory database course (CSIS 143 or CSIS 177) and a beginning and advanced programming sequence (CSIS 125 and CSIS 225, or CSIS 152 and CSIS 252)*

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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites: CSIS 144 and CSIS 145, or approval of instructor.*

Fundamental knowledge and skills necessary to successfully setup, maintain, and troubleshoot and ORACLE client/server database environment.

**CSIS 290 Computer Science/Information Systems Field Project**

3-5 credits. 6-10 hours. (Field Studies 6-10 hours.)

*Prerequisite: 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. (Field Studies 12 hours.)

*Prerequisite: Approval of instructor.*

Actual or simulated on-the-job work experience in the area of degree emphasis.

### **CSIS 295 Telecommunications Internship**

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

*Prerequisites: Enrollment in or completion of CSIS 261, CSIS 264, CSIS 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 hours with an approved and cooperating industry for each semester of the Telecommunications II certificate or the A.A.S. Degree program.

## ◆ **Computer Software**

*Offered at all campuses*

### **CSOF 80 Beginning Keyboarding**

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

Introduction to the keyboard. Keying by touch.

### **CSOF 100 Introduction to Personal Computing**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

*Prerequisite: 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. (Lecture 0.5 hour. Laboratory 1 hour.)

*Prerequisite: Keyboarding proficiency minimum of 35 wpm.*

An introduction to word processing.

### **CSOF 102 Introduction Spreadsheet**

#### **Applications**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

An introduction to spreadsheet applications.

### **CSOF 103 Introduction to Database**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

Introduction to database.

### **CSOF 104 Introduction to Microcomputer Operating Systems**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

An introduction to microcomputer operating systems.

### **CSOF 106 Introduction to Presentation**

#### **Software**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

*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. (Lecture 0.5 hour. Laboratory 1 hour.)

This course is a hands-on introduction to the Internet. The student will learn how to gain access to the Internet and use it to send and receive mail, access forums on topics of interest and access other computer systems.

## ◆ **Construction Management**

*Offered at the Business & Technology College*

### **CSMG 110 Problem Solving/Decision Making**

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

Participants will understand the conditions that 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. (Lecture 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 specifications are related to drawings.

### **CSMG 205 Intermediate Print Reading**

2 credits. 2 hours. (Lecture 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, risers, diagrams and all other construction details.

### **CSMG 210 Accident Prevention and Loss**

#### **Control**

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

Participants will learn to think 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. (Lecture 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. (Lecture 2 hours.)

Study of productivity improvement. External factors, internal factors, and necessary functions for productive projects.

### **CSMG 250 Construction Estimating**

2 credits. 2 hours. (Lecture 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. (Lecture 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. (Lecture 2 hours.)

*Prerequisites: CSMG 140 and 205.*

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*

Karen Curls

### **CRJU 101 Introduction to Criminal Justice**

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

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

### **CRJU 105 Principles of Corrections**

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

This course will present to the student the duties, responsibilities, and techniques of modern law enforcement patrol activities. Types of patrol, vehicle stops, field interview, community policing, and procedures for handling various types of calls for service.

### **CRJU 112 Traffic Control & Investigation**

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

This course will present the student the fundamentals of traffic control and accident investigation. Regulation, control, and enforcement of traffic laws and municipal ordinances will be presented and discussed. Procedures for response, evaluating, protecting and investigating accident scenes will be integrated into course.

### **CRJU 118 Legal Aspects of Corrections**

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

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

### **CRJU 122 Procedural Law**

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

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

### **CRJU 126 Corrections in the Community**

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

Special problems of community stereotypes. Legislative issues, due process, prison and jail reform. Financial support for corrections. Developing community resources. Leadership in corrections and impact of social change on corrections. Unresolved correctional issues and role of the community in restoring prisoners.

### **CRJU 132 Community Relations**

3 credits. 3 hours. (Lecture 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. (Lecture 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 & Institutional Security I**

3 credits. 3 hours. (Lecture 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. (Lecture 3 hours.)  
*Prerequisite:* CRJU 152.  
Civil and criminal liability. Firearm retention. Introduction to electronic security equipment. Control of combatants. Disaster operation. Search and seizure. Psychology of victims.

**CRJU 162 Correctional Psychology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* CRJU 105 or PSYC 140.  
Psychological theories of crime and delinquency. Diagnostic approaches used in juvenile and adult correctional settings. Psychopathology. Classification procedures. Individual and group counseling techniques in mental health and corrections.

**CRJU 165 Criminology**

3 credits. 3 hours. (Lecture 3 hours.)  
Manifestations of crime and theories of criminal behavior. Process and purpose of treatment. Corrections, crime prevention and control, probation and parole, and contemporary trends.

**CRJU 167 Special Issues in Criminal Justice**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Various topics in administration of justice and corrections.

**CRJU 168 Juvenile Delinquency**

3 credits. 3 hours. (Lecture 3 hours.)  
Definitions of delinquent behavior. Theories of causation. Development of the juvenile court. Function of detention, intake, and probation. Community-based and institutional programs. Procedures for processing juveniles and treatment trends.

**CRJU 169 Family Violence and Sexual Abuse**

3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to concepts related to interpersonal violence. Categorizes population of abuse examined are adult spousal, child, sibling, ritual, elderly, gay and lesbian. Although the legal aspect of abuse is emphasized, the social-psychological and medical elements are presented.

**CRJU 196 Seminar in Law Enforce Problem**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Current problems in law enforcement.

**CRJU 200 Internship in Criminal Justice**

3-6 credits. 15-30 hours. (Field Studies 15-30 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. (Field Studies 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. (Field Studies 3 hours.)  
*Prerequisite:* Approval of the 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. (Lecture 3 hours.)  
This course will present an introduction to modern criminal investigations. This course presents theory of investigation, procedures at a crime scene, collection and preservation of physical evidence, sources of information, questioning of witnesses and suspects, preliminary and follow-up investigations, and case and case trial preparation.

**CRJU 204 Criminal Investigations II**

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

**CRJU 215 Juvenile Law**

3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to juvenile law, jurisdiction over and disposition of the juvenile offender, court processing, adjudicatory process, and the uniform juvenile court act.

**CRJU 223 Criminal Law I**

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

**CRJU 224 Criminal Evidence**

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

**CRJU 228 Fundamentals of Probation and Parole**

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

### **CRJU 230 Missouri Criminal Law**

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

### **CRJU 233 Principles of Management in Criminal Justice Systems**

3 credits. 3 hours. (Lecture 3 hours.)  
Problems of police administration, functional organization, fundamentals of staff and field operation, planning, budget analysis, recruitment, training assignment, and disciplinary methods. Cooperation with other agencies.

### **CRJU 236 Correctional Administration**

3 credits. 3 hours. (Lecture 3 hours.)  
Current administrative and management patterns and functions in correctional agencies and institutions. Concepts of staffing classification, training, budgeting, record keeping, and public relations.

### **CRJU 244 Group and Individual Counseling in Corrections**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles of human behavior and some techniques for changing attitudes and behavior. Individuals in counseling settings.

### **CRJU 248 Constitutional Law**

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

### **CRJU 275 Alcohol and Drug Addiction**

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

### **CRJU 280 Addiction Counseling with Special Populations**

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

## **Dance**

*Offered at Penn Valley*

### **DANC 100 General Dance**

2 credits. 4 hours. (Laboratory 4 hours.)  
A studio survey of movement principles common to most forms of dance, including but not limited to ballet, modern dance, jazz, and ethnic dance. Designed for the student who is interested in finding out more about these disciplines before taking a specific technique or style.

### **DANC 111 Modern Dance I**

2 credits. 4 hours. (Laboratory 4 hours.)  
*Prerequisite: DANC 100 or previous modern dance classes; KCMO Arts Magnet experience qualifies.*  
A studio course for beginning students covering basic principles of contemporary modern dance. Students will also learn about the history and vitality of this unique American dance form.

### **DANC 112 Modern Dance II**

2 credits. 4 hours. (Laboratory 4 hours.)  
*Prerequisite: DANC 111 or audition with instructor.*  
A studio course for intermediate students covering principles of contemporary jazz dance.

### **DANC 121 Ballet I**

2 credits. 4 hours. (Laboratory 4 hours.)  
A studio course for beginning students covering basic principles of contemporary ballet. Students will also learn about the history and variety of this classical dance form.

### **DANC 122 Ballet II**

2 credits. 4 hours. (Laboratory 4 hours.)  
A studio course for intermediate students covering intermediate principles of contemporary ballet. Students will also learn about the history and variety of this classical dance form.

### **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.

### **DANC 131 Jazz Dance I**

2 credits. 4 hours. (Laboratory 4 hours.)  
*Prerequisite: DANC 100 or previous jazz training; KCMO Middle High Arts experience qualifies.*  
A studio course for beginning students covering basic principles of contemporary jazz dance. Students will also discover the origins of this American invention with roots in African and other ethnic dance forms.

### **DANC 151 Theory and Composition I**

2 credits. 4 hours. (Laboratory 4 hours.)  
*Prerequisites:* DANC 111, 121, 131, or equivalent.  
A laboratory course designed to assist students in becoming better choreographers and dancers through studies in composition (choreography) and aesthetics.

## **Dental Assisting**

*Offered at Penn Valley*  
Denise Silva

### **DENA 100 Developmental Dentistry**

3 credits. 4 hours. (Lecture 2 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.

### **DENA 105 Dental Laboratory Procedures**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
*Prerequisite:* 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.

### **DENA 106 Basic Dental Techniques**

1.5 credits. 2 hours. (Lecture 1 hour. Laboratory 1 hour.)  
*Prerequisite:* 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.

### **DENA 110 Chairside Assisting I**

5 credits. 9 hours. (Lecture 3 hours. Laboratory 6 hours.)  
*Prerequisite:* Admission to the Dental Assisting Program.  
Dental terminology and responsibilities of the dental assistant in the dental operator. Patient preparation, instrument identification, charting, sterilization techniques, basic operative chairside skills, ethics, and jurisprudence.

### **DENA 115 Dental Radiology I**

3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)  
*Prerequisite:* 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.

### **DENA 125 Clinical Practice I**

2 credits. 6 hours. (Clinical 6 hours.)  
*Prerequisite:* Concurrent enrollment in the Dental Assisting Program.  
Clinical experience in operative and preventive dental procedures utilizing four-handed dentistry in the clinic at the University of Missouri-Kansas City School of Dentistry.

### **DENA 126 Dental Assistant Seminar**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite:* Concurrent enrollment in DENA 125.  
Evaluation of experiences in Clinical Practice 1.

### **DENA 200 Body Structure and Function**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite:* DENA 100.  
Basic anatomy and physiology of human body, oral pathology, principles of disease processes, and microbiology.

### **DENA 205 Dental Biomaterials**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
*Prerequisite:* DENA 105.  
Manipulation of dental cements, amalgam, esthetic restoratives, alginate and gypsum products, and sealants.

### **DENA 210 Chairside Assisting II**

2 credits. 4 hours. (Lecture 1 hour. Laboratory 3 hours.)  
*Prerequisite:* DENA 110.  
Dental specialties emphasized. Theory of orthodontics, periodontics, prosthodontics, oral surgery, endodontics, and pedodontics. Application of the concepts of chairside assisting to these specialties.

### **DENA 215 Dental Radiology II**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite:* DENA 115.  
Radiographic techniques, procedures, and hygiene emphasized. Practical experience in exposing, processing, and mounting radiographs taken on patients and radiographic manikins.

### **DENA 225 Dental Office Management**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
*Prerequisite:* Enrollment in the Dental Assisting Program.  
Principles of business management in the dental office. Control of the appointment book, filing, financial management, insurance forms, supply inventory, and recall systems by conventional and computerized methods. Dental computer applications and use.

### **DENA 250 Clinical Practice II**

4 credits. 16 hours. (Clinical 16 hours.)  
*Prerequisite:* DENA 125.  
Advanced clinical experience in front office, at chairside, and in radiographic and laboratory assisting techniques in general and specialty dental offices and clinics.

## DENA 260 Dental Assistant Seminar

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

*Prerequisite:* DENA 250.

Preparation for the Dental Assisting National Board Examination and for successful employment.  
Evaluation of experiences in Clinical Practice II.

## DENA 270 Expanded Functions in Restorative Dentistry

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

*Prerequisite:* Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Dental restorative materials with emphasis on placing and carving amalgam and composite restorations and palliative care of dental emergencies.

## DENA 271 Expanded Functions in Orthodontics

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

*Prerequisite:* Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Orthodontic procedures with emphasis on impressions, bending archwires, placement and removal of orthodontic bands and brackets, and palliative care of orthodontic emergencies.

## DENA 272 Expanded Functions Periodontics

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

*Prerequisite:* Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Periodontal procedures with emphasis on air-brasive coronal polishing and placement of periodontal dressings.

## DENA 273 Expanded Functions in Prosthetic Dentistry

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

*Prerequisite:* Student must meet one of the following: 1.) Certified dental or orthodontic assistant through the Dental Assisting National Board, Inc. 2.) Graduate of an ADA-accredited dental assisting or dental hygiene program. 3.) Completion of DENA 106 Basic Dental Techniques and successful completion of Basic Skills Mastery Exam given by the Missouri Dental Assistants Association.

Prosthetic 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 College*

William Allyn

Alicia Champlain

## DRAF 107 Computer Aided Drafting for Industrial Technologies

3 credits. 4.5 hours. (Lecture 1.5 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 152 Engineering Graphics and CADD I

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

*Prerequisite:* MATH 40/43.

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 153 Descriptive Geometry

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

*Prerequisite:* Approval of instructor.

Basic computer aided drafting and design (CADD) utilizing a current industry standard CADD software package. Includes two dimensional drawing, editing, dimensioning, and plotting.

## DRAF 191 Technical Drafting Internship

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

*Prerequisite:* Approval of instructor.

On-the-job-training.

### **DRAF 199 Special Topics**

3 credits. 3 hours. (Lecture 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. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite: DRAF 152.*  
Mechanical design as a creative activity with an emphasis on representation of modern symbology as it relates to the manufacturing process. Advanced dimensioning methods including tolerancing, detail dimensioning, dual dimensioning and application of dimensions using CADD. An introduction to gearing, threads and thread notes, the complete drawing set, and welding and weld symbols. Course will include a comprehensive design project and drawing set.

### **DRAF 262 Technical Illustration**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite: DRAF 152.*  
A comprehensive introduction to an industry illustration package. Topics will include creating three-dimensional objects and meshes, adding materials, adding light, shadows, creating rendered scenes, simple animations, and using CADD geometry within an illustration package.

### **DRAF 265 Civil Drafting**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite: DRAF 152.*  
An introduction to civil drafting using surveying and engineering data to draw civil engineering plans. Topics included are legal descriptions, plan and profile drawings, topographic mapping, cross-sections, and required calculations.

### **DRAF 268 Structural Design**

3 credits. 3 hours. (Lecture 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 Computer Aided Design II**

4 credits. 6 hours. (Lecture 2 hours. Laboratory 4 hours.)  
*Prerequisite: DRAF 152 or DRAF 169.*  
Advanced computer aided drafting (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 Parametric Modeling**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite: DRAF 269 or instructor approval.*  
A in-depth introduction to three-dimensional parametric modeling. Current releases of an industry parametric modelers will be used to produce three-dimensional part files, assemblies, presentations, and orthographic production documents. Students will work on individual and group projects to solve simulated industry design problems.

## **Economics**

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<i>Longview</i> Hossein Bahmaie	<i>Maple Woods</i> <b>Blue River</b>	<i>Penn Valley</i>
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### **ECON 110 Introduction to Economics**

3 credits. 3 hours. (Lecture 3 hours.)  
General education approach to the study of economics. Definition of economic problems. The market directed economy. The role of money. Standard economic theory. Dissenting economic theory. Issues of public policy.

### **ECON 210 Macroeconomics**

3 credits. 3 hours. (Lecture 3 hours.)  
Students will study the impact of organizations on modern economic society. Areas of study will include supply and demand analysis. Private and public sector involvement; national income, employment and fiscal policy; monetary policy and banking system; economic theories and the world economy.

### **ECON 211 Principles of Economics II - Microeconomics**

3 credits. 3 hours. (Lecture 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**

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<i>Longview</i> Barbara Eubank	<i>Maple Woods</i> Russell Powlas	<i>Penn Valley</i> Nancy Thomson
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### **EDUC 101 Participation in Education I**

1 credit. 3 hours. (Field Studies 36 hours.)  
Supervised internship in a public school or other educational agency.

### **EDUC 102 Participation in Education II**

1 credit. 3 hours. (Field Studies 36 hours.)  
Supervised internship in a public school or other educational agency.

### **EDUC 103 Participation in Education III**

1 credit. 3 hours. (Field Studies 36 hours.)  
Supervised internship in a public school or other educational or community agency. Weekly seminar.

**EDUC 104 Participation in Education IV**

1 credit. 3 hours. (Field Studies 36 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. (Lecture 2 hours. Laboratory 4 hours.)  
Prepares students to include art in their elementary classrooms. Creative learning activities are provided to promote visual awareness in children pre-K through grade 8. Emphasis is placed on the development and motivation of children through creative art projects. Art production, curriculum integration, criticism, aesthetics, and the evaluation of art works are included.

**EDUC 200 Becoming a Teacher: Foundations of Education**

3 credits. 3 hours. (Lecture 3 hours.)  
This professional foundations course focuses on an overview of teaching and schooling. Curriculum, instruction, teacher certification, assessment techniques, school missions/purposes, ethics, legal issues, school governance and collegiality, and other contemporary topics will be introduced and elaborated on to facilitate professional decision-making. The initial design of a professional portfolio will be expected in order that a collection of artifacts can provide evidence of professional competency.

**EDUC 205 Physical Education for Elementary Teachers**

2 credits. 2 hours. (Lecture 2 hours.)  
Theory and practice of physical education activities for elementary school children and ways to integrate these activities throughout the curriculum.

**EDUC 210 Music for Elementary Teachers**

2 credits. 2 hours. (Lecture 2 hours.)  
A professional music educational skills course designed to focus on basic music teaching for elementary teachers, grades pre-K through grade eight. The professional portfolio will be expanded to include a collection of elementary music artifacts that can provide evidence of professional competency. Strategies and techniques for integrating music throughout the elementary curriculum are stressed. There will be opportunity for micro-teaching.

**EDUC 215 Children's Literature for Elementary Teachers**

3 credits. 3 hours. (Lecture 3 hours.)  
A survey and history of literature appropriate for children from pre-K through grade eight. Criteria for selection and evaluation of children's literature is included. Techniques for using literature in the elementary classroom are emphasized. Micro-teaching opportunities are provided.

### **EDUC 270 The Student Learner**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* EDUC 200 or taken concurrently.  
Focuses on the physical, cognitive, socio-emotional, moral and aesthetic development of school children pre-K through grade 12. Emphasis will be on the cognitive and socio-emotional development of the learner and how students of different ages, cultural/ethnic backgrounds and abilities learn subject matter. Topics include theories of human development, learning principles and strategies, motivation, theories of intelligence, and additional contemporary topics. This course fulfills the requirements for educational psychology.

### **EDUC 280 Technology in Teaching**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
*Prerequisite:* EDUC 200 or taken concurrently.  
Prepares the student in the use of technology, both professionally and personally. Students will use productivity tools for lesson design and assessment. Social, ethical, and human issues of technology will be integrated.

## ◆ Electricity

*Offered at the Business & Technology College*

### **ELEC 115 Inside Wiring I**

3 credits. 4 hours. (Lecture 2 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. (Lecture 2 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 apprentice. The course covers applications of the National Electrical Code to the selection of conductors and devices boxes. The course covers single and three 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. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* ELEC 116.  
This is the third in a series of five and is designed for the typical third year electrical apprentice. The course covers solid state motor controls, grounding procedures, single and three phase transformers and motors, three phase calculations and overcurrent protection. Single and multifamily dwelling power calculations are covered.

### **ELEC 215 Inside Wiring IV**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* ELEC 117.  
This is the fourth in a series of five and is designed for a typical fourth year electrical apprentice. The course covers commercial lighting, protection systems, AC and DC motor theory, motor installations, special motors and applications, fiber optic cable installation and hazardous locations.

### **ELEC 216 Inside Wiring V**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* ELEC 215.  
This is the fifth 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.

## ◆ Electronics

*Offered at the Business & Technology College*  
Kent Stolz

### **ELTE 110 Basic Electronics**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* Completion of or concurrent enrollment in MATH 103 or MATH 106.  
This course introduces the student to the principles of electronics. Topics include electrical safety procedures, metric notation, basic electronic theory, Ohm's and Watt's laws, electronic devices, and various circuit types. Students will also become familiar with the operation of electronic test equipment such as analog and digital meters, oscilloscopes, function generators, and frequency counters.

### **ELTE 114 DC Circuit Analysis**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* ELTE 110.  
This course covers Ohm's Law as applied to series and parallel circuits, and introduces Kirchoff's voltage and current laws. Theorems such as Norton's, Thevenin's, Superposition, and maximum power transfer are presented, as well as mesh and nodal analysis.

### **ELTE 118 AC Circuit Analysis**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* ELTE 114.  
This course covers AC circuits, complex numbers, inductance, capacitance, RL and RC circuits, RC time constants and transients, resonance, transformers, relays, and switches.

### **ELTE 120 Analog Devices I**

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

*Prerequisite: ELTE 118.*

This course covers semiconductor devices and their applications. Diodes, rectifiers, power supplies, limiters, clippers, voltage regulators, and transistors will be presented, along with various small and large signal and multistage amplifier circuits.

### **ELTE 130 Digital Electronics**

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

*Prerequisite: Completion of or concurrent enrollment in ELTE 110.*

The course covers basic digital gates, logic circuits, timers, counters, shift registers, flip flops, analog to digital and digital to analog conversions, and the conversions between different number systems. An introduction to the architecture of the microprocessor is also included.

### **ELTE 150 Operational Amplifiers**

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

*Prerequisite: ELTE 120.*

This course covers operational amplifiers and the circuits in which they are found, including inverting and non-inverting, summing, and differential amplifiers, and wave shaping circuits such as integrators and differentiators. Active and passive filters are also covered, including high pass, low pass, band pass, band reject, and combination filters.

### **ELTE 220 Analog Devices II**

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

*Prerequisite: Completion of or concurrent enrollment in ELTE 120.*

This course covers field effect transistors, oscillators, trigger devices, and multivibrators. Oscillator types include Hartley, Colpitts, RC Phase Shift, Sine Wave, Sawtooth, Blocking, Non-Sine Wave, and Transistor. Trigger devices covered include the SCR, DIAC, TRIAC, and UJT. Multivibrators include astables, monostable, and bistable.

### **ELTE 230 Microcomputer Architecture**

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

*Prerequisite: ELTE 130.*

This course covers the operation and architecture of the microprocessor, and examines in detail the 8085 and 68000 microprocessors. Also included is an introduction to programming commands and system design.

### **ELTE 260 Communications Electronics**

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

*Prerequisite: Completion of or concurrent enrollment in ELTE 220.*

This course is a comprehensive communications electronics course. Topics covered include AM, FM, SSB, phase locked loops, narrowband FM, pulse code modulation, delta modulation, frequency shift keying, phase shift keying, time division multiplexing, frequency division multiplexing, fiber optics, and lasers.

### **ELTE 270 Industrial Electronics**

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

*Prerequisite: ELTE 230.*

This course covers solid state devices that relate to industrial applications including SCRs, DIACs, TRIACs, and UJTs. Astable, monostable, and bistable multivibrator circuits are also presented, in addition to transducers, rotating machinery, DC and AC motors, stepper motors, and synchros.

### **ELTE 275 Build Project**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ELTE 260.*

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

### **ELTE 277 Instrumentation and Process Control**

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

*Prerequisite: ELTE 270.*

The 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**

*Offered at Penn Valley*

Arthur Brady, Jr      Harold Kenyon      Michael Peters

### **EMTP 102 Basic Emergency Patient Care**

1 credit. 1 hour. (Lecture 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 the Basic Life Support Course Certification.)

**EMTP 110 First Responder**

3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to the significant didactic and practical material essential for the first responder at the scene of an emergency.

**EMTP 150 EMT Basic**

8 credits. 11 hours. (Lecture 5 hours. Laboratory 4 hours. Clinical 2 hours.)

*Prerequisite: The student must be 18 years old by the end of the course.*

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 Missouri licensure examinations for EMT-B.

**EMTP 240 Introduction to Paramedic Care**

4 credits. 4 hours. (Lecture 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. (Lecture 3.5 hours. Laboratory 1 hour.)

*Prerequisite: 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. (Lecture 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. (Lecture 4 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. (Lecture 2 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. (Lecture 1.5 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. (Lecture 1 hour. 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. 28 hours. (Clinical 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. 26 hours. (Field Studies 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. (Lecture 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

**Longview**  
Randall Forchee

**Maple Woods**

**Penn Valley**  
Dan Justice

## **ENGR 101 Introduction to the Profession**

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

Information relative to fields of engineering, necessary preparations, and working conditions.

## **ENGR 104 FORTRAN Programming for Engineers and Scientists**

3 credits. 4 hours. (Lecture 2 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 Graphics**

3 credits. 5 hours. (Lecture 1 hour. 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 223 Thermodynamics and Heat Transfer**

4 credits. 4 hours. (Lecture 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 229 Statics**

3 credits. 3 hours. (Lecture 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.

## **ENGR 230 Dynamics**

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

*Prerequisite:* ENGR 229.

Principles of kinematics, kinetics, and moments of inertia. Engineering applications and vector methods.

## **ENGR 233 Circuit Analysis I**

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

*Prerequisite:* PHYS 221 with a minimum grade of C or concurrent enrollment in PHYS 221.

Fields, circuit elements, and analysis of simple circuit combinations.

## **ENGR 240 Mechanics of Materials**

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

*Prerequisite:* ENGR 229.

Introduction to the techniques of determining stresses and strains in mechanical and structural components.

# ◆ English As A Second Language

*Offered at Penn Valley*

Juanan Hill

**Note:** Credit for courses numbered below 100 is not applicable to any degree or certificate.

## **ESL 4 Basic Writing**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* Applied Language Institute approval.

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

## **ESL 5 Basic Grammar**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* Applied Language Institute approval.

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

## **ESL 6 Basic Reading**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* Applied Language Institute approval.

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

## **ESL 7 Basic Speaking/Listening**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* Applied Language Institute approval.

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

## **ESL 10 ESL Composition I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* ESL 04 with a minimum grade of C or Applied Language Institute approval.

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

**ESL 11 Grammar I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 05 with a minimum grade of C or Applied Language Institute approval.*

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

**ESL 12 ESL Speaking & Listening I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 07 with a minimum grade of C or Applied Language Institute approval.*

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

**ESL 13 ESL Reading and Vocabulary I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 06 with a minimum grade of C or Applied Language Institute approval.*

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

**ESL 14 Conversation I**

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

*Prerequisite: Appropriate scores on ALI placement test.*

Focus on improvement of conversational English.

**ESL 15 English Living in the United States**

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

*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.

**ESL 20 ESL Composition II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 10 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of techniques for writing paragraphs in English. Paragraph organization and the improvement of punctuation and mechanical skills in writing.

**ESL 21 Grammar II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 11 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of sentence structures including future and irregular past tense constructions. Comparatives, information questions, and compound nouns and verbs.

**ESL 22 ESL Speaking & Listening II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 12 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of speech in different environments and some simple social occasions. Sound distinction and production in the context of a sentence and listening for specific information.

**ESL 23 ESL Reading and Vocabulary II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 13 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of reading narrative and expository texts and standard forms. Development of vocabulary and introduction of reading techniques such as a identification of topics and main ideas, skimming, scanning, prediction, and inference.

**ESL 30 ESL Composition III**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 20 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of writing multi-paragraph academic essays. Process writing, and a variety of rhetorical styles.

**ESL 31 ESL Grammar III**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 21 with a minimum grade of C or Applied Language Institute approval.*

The study and practical application of complex sentence structures, including perfect and perfect progressive tenses. Understanding and use of passive voice, gerunds and infinitives, articles, conditionals, and modals.

**ESL 32 ESL Speaking & Listening III**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 22 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of comprehension and production of speech in a variety of social situations and environments. Note-taking techniques and understanding and expressing abstract ideas.

**ESL 33 ESL Reading and Vocabulary III**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 23 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of longer reading passages of various rhetorical styles. Improvement of reading speed, development of vocabulary and comprehension through complex inferences.

**ESL 40 ESL Composition IV**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 30 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of rhetorical principles in standard English prose. Critical thinking and research skills as well as fluency and accuracy in academic writing.

**ESL 41 ESL Grammar IV**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 31 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of grammatical structures in standard English prose. All verb tenses and the relationship between ideas and the construction of sentences in academic discourse.

**ESL 42 ESL Speaking and Listening IV**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 32 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of standard English particularly in the introductory level college classroom. Academic lecture comprehension and note-taking, as well as formal and informal discourse.

**ESL 43 ESL Reading and Vocabulary IV**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: ESL 33 with a minimum grade of C or Applied Language Institute approval.*

The study and practice of reading, and the development of vocabulary, in academic level English. Critical thinking, reading skills and the ability to contextually identify unfamiliar vocabulary in reading from a variety of disciplines.

**ESL 50 ESL Multiskills I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: Applied Language Institute approval.*

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

**ESL 60 ESL Multiskills II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: 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. (Lecture 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. (Lecture 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. (Lecture 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

**Longview**

Kurt Canow  
Ann Dvorak  
Sylvia Edwards  
Diana Grahn  
Mary Ann Lee  
Terri Lowry  
David Mulry  
J. Michael Raynor  
Dawnielle  
Robinson-Walker  
Pat McKeown Sparks

**Maple Woods**

James Karasiewicz  
Mark Lidman  
Michelle Potts  
David Sharp  
Michael Warren  
Stephanie Zerkel

**Penn Valley**

Craig Bartholomaus  
Albert Farr  
William Hodgkinson  
Catherine Sheeley  
Lisa Spaulding

**Blue River**

Cheryl Grosser  
Theresa Hannon  
Richard Higgason  
Robin Preston-McGee

**Preparatory****ENGL 28 Basic Writing Skills I**

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

Students will work toward writing clear, correct, and effective sentences and paragraphs; incorporating their use in extended pieces of writing.

**ENGL 30 Basic Writing Skills II**

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

*Prerequisite: ENGL 28 or satisfactory score on placement test.*

Students will work toward understanding and utilizing the conventions of Standard American English, sentence structure, and writing focused, adequately supported and mechanically sound paragraphs and essays.

**Note:** Credit for above courses is not applicable to any degree or certificate.

**Composition****ENGL 101 Composition & Reading I**

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

*Prerequisite: ENGL 30 with a minimum grade of C or a satisfactory score on the ASSET test.*

Focus on instruction in the composing process that includes exploration of ideas through reading, methods of writing development, and use of writing conventions. Instruction takes students from reflective expression to critical analysis through writing.

### **ENGL 101R Composition and Reading I -**

#### **Reentry**

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

*Prerequisite:* ENGL 30 with a minimum grade of C or a satisfactory score on the English placement test.

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.

### **ENGL 102 Composition & Reading II**

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

*Prerequisite:* ENGL 101 with a minimum grade of C.

Students are asked to analyze and evaluate persuasive essays for the writer's use of logical thinking. Students will develop research skills for the purpose of creating documented essays that reflect critical thinking and logical argument.

### **ENGL 104 Newswriting and Reporting I**

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

*Prerequisite:* ENGL 101.

Instruction and practice in writing and editing copy for college news publications. Student will contribute work for publication. Also includes analysis and discussion of professional and college newspapers.

### **ENGL 105 Newswriting and Reporting II**

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

*Prerequisite:* ENGL 104.

Continued instruction and practice in writing and editing copy for college news publications. Student will contribute work for publication. Also includes learning and practicing production skills.

### **ENGL 106 Newswriting and Reporting III**

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

*Prerequisite:* ENGL 105.

Continued instruction and practice in writing and editing copy for college news publications. Students will contribute work for publication. Also includes further development of production skills.

### **ENGL 107 Newswriting and Reporting IV**

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

*Prerequisite:* ENGL 106.

Offers continued instruction and practice in writing and editing copy for college news publications. Student will contribute work for publication. Also includes practicing production skills and participating in the training of newer students.

### **ENGL 109 Introduction to the Electronic Library**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)

A hands-on exploration of electronic technology that teaches students information-seeking strategies and critical thinking skills needed for information literacy.

### **ENGL 175 Technical Writing**

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

*Prerequisite:* ENGL 101.

Prepares students to compose written products appropriate to contexts requiring technical communication and documentation.

### **ENGL 203 Creative Writing I**

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

*Prerequisite:* ENGL 101 with a minimum grade of C.

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

### **ENGL 204 Creative Writing II**

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

*Prerequisite:* ENGL 203.

Continuation and advanced study of the primary themes found in Creative Writing I, including various types of imaginative writing such as fiction, poetry, play and/or scripts, creative non-fiction. More in-depth analysis of the processes of manuscript preparation and submission.

### **ENGL 210 Creative Writing: Writing Children's Literature**

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

*Prerequisite:* ENGL 101 with a minimum grade of C.

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

#### **Literature**

### **ENGL 120 Introduction to Fiction**

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

Reading, discussion, and analysis of short stories and novels. Interpretation, evaluation, and enjoyment of works within the two literary forms.

### **ENGL 121 Introduction to Drama and Poetry**

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

Reading, discussion, and analysis of poetry and drama; interpretation, evaluation, and enjoyment of works within the two literary forms.

### **ENGL 122 Film as Literature**

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

Viewing, discussion, and analysis of films. Interpretation, evaluation, and enjoyment of works within this literary form.

### **ENGL 124 Introduction to Literature**

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

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

### **ENGL 127 Mythology**

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

The origins, purposes, and meanings of myth in past and present human experiences as seen through mythological stories and characters.

**ENGL 129 Directed Reading**

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

*Prerequisite: Instructor's permission.*

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. (Lecture 3 hours.)

Study of Shakespeare's life and major works. Consideration of the significance of the playwright and his plays for both Elizabethan and 21st century audiences.

**ENGL 132 Colloquia**

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

Selected topics of current interest. Through arrangement with an instructor, students or small groups of students can develop and conduct an independent research study of a special topic.

**ENGL 140 Science Fiction**

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

Introduction to science fiction. Its current position as an independent genre making a unique contribution to the social comment of the 21st century.

**ENGL 141 Detective Fiction**

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

Representative works of detective fiction from Poe to the present.

**ENGL 142 Women's Literature** 

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

Women's Literature focuses on the ideas, experiences, and imagination of women through discussion and analysis of various literary genres written by women. The course will explore the historical, political, and social contexts in which women live and write.

**ENGL 150 World Literature I**

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

Representative works of world literature up to 1600 AD and their significance to the 21st century reader.

**ENGL 151 World Literature II**

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

May be taken without ENGL 150. Representative works of the later Renaissance, the Neoclassical period, the Romantic period, Realism, Naturalism, and the contemporary period and their significance to the 21st century reader.

**ENGL 152 U.S. Latino and Latina Literature** 

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

This course is a survey of U.S. Latino and Latina literature from various genres and historical periods. The literary contributions from Chicanos and Chicanas, Cuban-Americans and Puerto Rican writers will be included. Students will read and discuss essays, drama, novels, poetry, short stories and ideological discourse while also exploring historical motivators of the literature that have made cultural impacts on the Latino and Latina communities and the American mainstream

**ENGL 155 African-American Literature** 

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

Survey of African-American literature from various genres and historical periods. Students will examine the artistic responses of male and female writers to the social, political, and cultural forces that help shape the African-American experience.

**ENGL 165 Masterpieces of American Literature**

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

Masterpieces of American literature that represent American culture and themes.

**ENGL 167 Western World Masterpieces**

3 credits. 3 hours. (Lecture 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 220 British Literature to 1750**

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

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

**ENGL 221 British Literature 1750-Present**

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

Survey of British literature from the end of the 18th century to the present.

**ENGL 222 American Literature to 1860**

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

Survey of American literary works to the Civil War.

**ENGL 223 American Literature 1860-Present**

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

Survey of American literary works from the Civil War to the present.

**Language****ENGL 111 Vocabulary**

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

Improvement of general college vocabulary and specific subject-related vocabulary through the use of word analysis and context clues.

# ◆ Environmental Health And Safety

Offered at the Business and Technology College  
Sybil Chandler

## **EHSS 100 Introduction to Environmental Health and Safety**

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

This course for non-EHS students is a review of environmental and health and safety regulations published by the EPA, DOT, OSHA, and the states' regulatory agencies. The topics will include clean air, clean water, hazardous waste, hazard communication, fall protection, recordkeeping, confined space, respiratory protection, and chemical protective clothing.

## **EHSS 101 Hazardous Material Management and Emergency Response Operations**

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

This course provides a review of hazardous waste operations, handling, and regulations for facilities and hazardous waste sites. In addition, medical monitoring programs, engineering controls, respiratory protection, personal protective equipment, sampling, air monitoring equipment, hazardous waste documentation, and incident command system (ICS) will be covered.

## **EHSS 110 Properties and Hazards of Hazardous Materials**

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

This course covers the recognition and communication of the physical hazards (flammability, corrosivity, reactivity, toxicity) of hazardous materials based on the nine DOT hazard classes and EPA's definition of characteristic hazardous waste.

## **EHSS 200 Safety and Health Regulations and Standards**

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

A comprehensive overview of OSHA and other health and safety regulations and guidelines. Subject areas include OSHA history, specific regulations regarding respiratory protection, protective clothing, medical monitoring, fall protection, confined space, lock out/tag out, recordkeeping and compliance techniques.

## **EHSS 202 Transportation and Storage of Hazardous Materials**

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

*Prerequisite: EHSS 203 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. (Lecture 3 hours.)

This course provides a comprehensive overview of EPA and other environmental regulations and guidelines. Subject areas included in this course are: EPA history, specific regulations regarding surface water, air drinking water, pollution prevention, hazardous waste, Superfund, and Community Right-to-Know.

## **EHSS 204 Emergency Preparedness and Planning**

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

*Prerequisites: EHSS 200 and EHSS 203.*

This course will provide a broad coverage of proactive and regulatory approaches to emergency planning. Analysis techniques, methods of auditing, and conducting hazards assessments are covered. Incident prevention and life and cost savings are emphasized. Subject materials are presented for students working in industry as well as the public sector of emergency planning and incident response. Environmental health and safety liabilities are addressed in terms of incident prevention and proper management.

## **EHSS 205 Principles of Industrial Hygiene**

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

*Prerequisites: EHSS 200 and either CHEM 102, CHEM 105, or CHEM 111.*

This course is presented to provide the fundamentals of hazards control and industrial hygiene to environmental health and safety management students. Information is given in key areas that cover hazard recognition, hazard evaluation, hazards control, industrial hygiene, governmental regulations, and employee training.

## **EHSS 210 Incident and Accident Investigation**

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

*Prerequisite: EHSS 200.*

Fundamentals and techniques of investigating accidents and incidents.

## **EHSS 211 Workers Compensation Legislation for EHS**

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

This course is designed to provide EHS students a comprehensive study of legislation and standards designed to protect the worker.

## **EHSS 213 EHS Program Development and Management**

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

*Prerequisites: EHSS 200 and 203.*

This course is designed to merge all the former EHS courses into a cohesive and comprehensive unit. This course outlines the principles of program development and implementation for all EHS type programs including training, emergency preparedness, waste minimization, workers compensation, air and water quality, and compliance. This course will cover the development of materials, techniques and procedures in the implementation of EHS programs and their application in a variety of occupational settings.

### **EHSS 217 Concepts of Waste Minimization, Recycling and Pollution Prevention**

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

*Prerequisite:* EHSS 203.

This course is presented to familiarize environmental health and safety students with options available to properly minimize, recycle, or dispose of wastes. Information is presented from the perspective of reducing waste by better materials management. Comparisons between management of hazardous wastes and nonhazardous wastes and methods of disposal are covered. Emphasis is placed upon economical considerations for recovery and recycling of materials used in industry and methods to reduce materials placed in landfills. Key topics are given to show methods of making money from materials that cost to be destroyed.

### **EHSS 218 Industrial Process and Hazard**

#### **Control**

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

*Prerequisite:* EHSS 200.

This course is presented to provide an overview of health and safety variables involved in common processes used in industry today. The EHS student is provided with information from the perspective of controlling and managing mechanical, electrical and chemical hazards associated with processes and the by-products from those processes. Students will work together to address common problems in process control and become aware of potential liabilities that employers endure in today's industrial climate.

### **EHSS 220 Air Quality Management**

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

*Prerequisite:* EHSS 203.

This course serves as an introduction to all aspects of air pollution control and maintaining air quality. Major areas of study will include: nature and origin of air pollution, air pollution control methods and strategies, dispersion modeling, assessing/monitoring air quality and air quality programs and requirements.

### **EHSS 225 Water Quality Management**

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

This course provides an overview of regulatory programs and requirements of the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA); typical treatment processes for drinking water, municipal and industrial wastewater and hazardous wastes; and basic permits for storm water and effluent. The course will provide an overview of the spill prevention control and countermeasure (SPCC) plans. Students will develop a practical understanding of advantages and disadvantages of established and new treatment processes, conduct case studies, evaluate treatment options.

### **EHSS 230 Waste Management**

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

Intense coverage of EPA's Resource Conservation and Recovery Act (RCRA) including pollution prevention, USTs, treatment options, EPA inspections and hazardous waste manifesting. Special emphasis on hazardous waste determination, accumulation, storage, and related generator issues.

## **◆ Fashion Design & Merchandising**

*Offered at Penn Valley*

### **FASH 110 Fashion Buying**

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

Fashion products, industry trends, production, and merchandising and how they affect fashion buying.

### **FASH 111 Fashion and Clothing Selection**

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

Elements and principles of design in clothing selection. Introductory study of factors that affect fashion, trends and consumer purchases.

### **FASH 112 Clothing Construction**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

Selection and use of equipment and commercial patterns. Construction of clothing for the individual. Fabric selection, basic fitting, and sewing techniques.

### **FASH 118 Costume History**

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

The history of clothing styles from the ancient world to the present. Influence on current fashion styles.

### **FASH 119 Fashion Promotion**

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

*Prerequisite:* FASH 111.

Basic visual presentation techniques using design concepts. Window and store displays. Student production fashion show.

### **FASH 211 Basic Flat Pattern Drafting**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* FASH 112.

Basic principles and methods of flat pattern drafting. Development of skirt, bodice, pant and dress slopers; in full scale sizes. Cut, sew and fit muslin prototypes. Original design development from basic sloper. Pattern making process and design room techniques.

### **FASH 212 Textiles**

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

Introduction to fibers, textiles and all aspects of textile manufacturing process.

**FASH 213 Advanced Clothing Construction**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites: FASH 111 and FASH 112 or approval of the instructor.*

The construction of a tailored garment. Identification and treatment of figure difficulties and fitting techniques.

**FASH 214 Fashion Design Portfolio**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites: ART 130 and FASH 211.*

Develop original line of clothing. Complete design portfolio. Draping, illustration, flat pattern method and garment construction. Fashion designer and the role in the fashion industry.

**FASH 218 Fashion Field Experience I**

3 credits. 16 hours. (Lecture 1 hour. Field Studies 15 hours.)

On-the-job training in fashion merchandising.

**FASH 219 Fashion Field Experience II**

3 credits. 16 hours. (Lecture 1 hour. Field Studies 15 hours.)

*Prerequisite: FASH 218.*

Advanced on-the-job training in fashion merchandising.

**FASH 250 Computer Aided Fashion Design**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite: FASH 211 or approval of instructor.*

Fashion design using the computer. Learning to apply flat pattern techniques, grade patterns, and make markers on the computer.

**FASH 251 Apparel Design Production**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites: FASH 112, FASH 211.*

Facets of the apparel industry including manufacturing. Garment mass production. Basic training on certain apparel production manufacturing and computer applications.

## ◆ Fire Science Technology

*Offered at Blue River*

**FSTE 169 Fire Prevention**

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

*Prerequisite: Involvement in fire prevention activities approved by the instructor.*

This course is designed to teach fire prevention by identifying conditions that could cause fire; corrective actions and cooperation skills between the fire department and community.

**FSTE 170 Hazardous Materials Awareness and Operations**

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

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

**FSTE 172 Firefighting Tactics and Strategy**

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

This course is designed to prepare a fire officer to be able to provide strategies and tactics at a structure fire, fully utilizing available resources in a safe and efficient manner.

**FSTE 179 Fire Fighter I**

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

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

**FSTE 180 Fire Administration**

3 credits. 3 hours. (Lecture 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 182 Fire Service Instructional Methodology**

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

"How to" and "what to" teach in the fire service from the company level to the department level.

**FSTE 183 Incident and Disaster Management**

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

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

**FSTE 189 Fire Fighter II**

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

*Prerequisite: FSTE 179.*

This course is designed to instruct the student in all phases of advanced fire fighting skills and techniques. The student will be eligible for state certification upon completion of the course and successful completion of the state certification exam.

**FSTE 192 Suppression and Detection Systems**

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

This course will provide the student with basic information concerning water and its use as a tool for combating fire, especially in fixed extinguishing systems. It will also provide information on other types of fixed extinguishing systems, as well as how all fixed systems detect the fires they are built to extinguish.

### **FSTE 193 Fire Service Law**

3 credits. 3 hours. (Lecture 3 hours.)  
As with all parts of society, the fire service is becoming increasingly embroiled in litigation and potential litigation. This course will lay the ground work for fire service managers to provide service to its citizens with knowledge of potential legal problems that need to be avoided.

### **FSTE 200 Fire Service Supervision**

3 credits. 3 hours. (Lecture 3 hours.)  
This course will involve the student in learning proper methods of leadership and supervision as it pertains to today's first line service supervisor. It will encompass basic supervisory techniques and help the student to apply them to their special problems in supervising in today's fire service.

### **FSTE 201 The Fire Service Manager**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: FSTE 200.*  
This course is the second of three courses designed to provide information fire personnel in the areas of supervision, management and administration. It shows the history of general management principles, and how they fit in today's fire service. It also provides basic information on the variety of areas that a fire service manager may become a part of as a manager.

### **FSTE 202 Fire Service Administration**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites: FSTE 200 & 201.*  
This is the third course in the fire service management series. It delves into the needs of the fire department organization as a whole. It discusses the needs of all parts of the department, as well as how the department fits in to the larger governance structure. It also discusses the need to provide better information and service to the citizens it serves.

### **FSTE 203 Managing in Today's Fire Service**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites: FSTE 200 and 201, and ENGL 101.*  
The student shall have also completed a minimum of 45 credit hours of course work in the Fire Science Program. This course is an internship. The student will meet with various members of a fire department management team. The student will choose an area of the organization and provide an in-depth report on its functions, process, and operations. It will compare and contrast this area with studies accomplished in class as well as other organizations of similar size. This report will form the backbone of this student's final evaluation.

## ◆ Foreign Language And Literature

### **Longview**

Carol Kuznac  
Donald Swanson

### **Maple Woods**

Mary Ann Blitt  
Chad Montuouri

### **Penn Valley**

Carole Gilmore

### **Blue River**

Jennifer Rogers

## **French**

### **FREN 101 Elementary French I**

5 credits. 5 hours. (Lecture 5 hours.)  
An introduction to French. Develop basic communication skills (listening, reading, writing, and speaking). Informal study of the culture of French-speaking countries.

### **FREN 102 Elementary French II**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite: FREN 101.*  
Grammar essentials. Develop communication skills (listening, reading, writing, and speaking). Informal study of the culture of French-speaking countries.

### **FREN 203 Intermediate French**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: FREN 102.*  
Reading selections from French writers. Grammar review, vocabulary building, and conversational practice.

### **FREN 204 Contemporary French Literature**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: FREN 203.*  
Drama, fiction, and poetry by major French writers of the 20th century.

## **German**

### **GERM 101 Elementary German**

5 credits. 5 hours. (Lecture 5 hours.)  
Introduction to speaking, reading, and writing German.

### **GERM 102 German II**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite: GERM 101.*  
Grammar essentials. Introduction to German culture and history.

### **GERM 203 Intermediate German**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: GERM 102.*  
Reading selections from contemporary German writers.

### **GERM 228 Directed Reading**

3 credits. 3 hours. (Independent Study 3 hours.)  
*Prerequisite: Approval of the instructor.*  
Reading and discussion of works chosen with advice and direction of the instructor.

## Spanish

### SPAN 101 Elementary Spanish I

5 credits. 5 hours. (Lecture 5 hours.)  
An introduction to Spanish. Course develops basic communication skills: listening, reading, writing, and speaking. Informal study of the culture of Spanish-speaking countries.

### SPAN 102 Elementary Spanish II

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* SPAN 101 or SPAN 111.  
Grammar essentials. In addition, course develops communication skills: listening, reading, writing and speaking. Informal study of the culture of Spanish-speaking countries.

### SPAN 111 Accelerated Elementary Spanish I

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* Prior elementary Spanish at the college level or two years high school Spanish or instructor approval.  
An accelerated elementary Spanish course for students who may need to brush up on the basics before continuing onto Elementary Spanish II. Students will enhance communication skills (listening, reading, speaking, and writing) while reviewing Spanish grammar. Informal study of culture of selected Spanish-speaking countries.

### SPAN 203 Intermediate Spanish

3 credits. 3 hours. (Lecture 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. (Lecture 3 hours.)  
*Prerequisite:* 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 207 Spanish Composition and Conversation

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* Spanish 102 or three years of high school Spanish or instructor approval.  
Students will improve their communication skills and knowledge of Spanish-speaking cultures through in-class discussions and written compositions.

### SPAN 212 Spanish Immersion I

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

*Prerequisite:* SPAN 101 or one year of high school Spanish or instructor approval.

Students will broaden their language skills while at the same time experiencing a new culture through a total immersion program in a Spanish-speaking country. Special emphasis will be placed on spoken communication while expanding listening, reading and writing skills. Students will be tested and placed into the appropriate level of instruction. All classes are conducted in Spanish by native Spanish speakers.

### SPAN 214 Spanish Immersion II

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

*Prerequisite:* SPAN 212.

Students will broaden their language skills while at the same time experiencing a new culture through a 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

**Blue River**  
Benjamin Wolfe

**Longview**  
Carl Priesendorf

**Maple Woods**  
Virginia Ragan

### GEOG 104 Principles of Physical Geography

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

Survey of the characteristics and distribution of the components of the earth's natural environment, using basic meteorology, climatology, vegetation, soil, map studies, geomorphology, surficial processes and the relationship to human activity. Optional field trips.

### GEOG 105 World Geography

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

Introduction and application of geographic principles to the survey of the major world regions: Europe, Asia, Africa, Middle East, North America, and the Pacific World.

### GEOG 110 Meteorology

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

Introduction to the structure, composition, and interaction of the atmosphere with emphasis on atmospheric processes and related phenomena, storm systems, weather information resources, basic forecasting, equipment and techniques of meteorologists, and climate variability.

## **GEOG 111 Geography of the Western World**

3 credits. 3 hours. (Lecture 3 hours.)  
A regional survey of North and South America, Europe, Australia and New Zealand. Emphasis on each region's unique attributes and on how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

## **GEOG 112 Geography of the Eastern World**

3 credits. 3 hours. (Lecture 3 hours.)  
A regional survey of the Middle East, Africa, and Asia. Emphasis on each region's unique attributes and how it fits into a larger international context. Current events are highlighted in the development of a geographic perspective.

## **GEOG 113 Cultural/Human Geography** 🌐

3 credits. 3 hours. (Lecture 3 hours.)  
Addresses techniques of geographic interpretation, and cultural and political diversity, the relationship to physical environment, availability of water, food, and other natural resources, language, religion, industry, spatial relationships of cities and settlements, population, ethnic characteristics, migration, folk and popular cultures, and the effects of globalization.

## **GEOG 120 Introduction to Geographic Information Systems**

3 credits. 3 hours. (Lecture 3 hours.)  
Fundamental concepts of Geographic Information Systems (GIS), elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

## **GEOG 207 Geography of the United States and Canada**

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

## **GEOG 210 Economic Geography**

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

# ◆ **Geology**

**Blue River**  
Benjamin Wolfe

**Longview**  
Carl Priesendorf

**Maple Woods**  
Virginia Ragan

## **GEOL 101 Physical Geology**

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

Study of plate tectonics, rocks, minerals, volcanoes, earthquakes, resources, geologic time, and the processes that affect the surface and the interior of the earth. Laboratory analysis of rocks and minerals. Interpretation of topographic and geologic maps as investigative tools. Optional field trips.

## **GEOL 102 Historical Geology**

3 credits. 4 hours. (Lecture 2 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 and a half billion years of geologic time. Laboratory analysis of geologic problems and identification of fossils. Optional field trip.

## **GEOL 103 Environmental Geology**

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

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

## **GEOL 199 Special Topics**

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

A focused study of a topic in geology. May take the form of individual research projects based on library, internet, and/or oral presentation information; field or laboratory project; and short courses such as, but not limited to, topics in environmental geology, national parks, earthquakes, rock and minerals.

## **GEOL 214 Geology Field Study in the Midwestern U.S.**

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

*Prerequisite: GEOL 101 or approval of instructor.*  
Study of selected geological locations in Missouri during a five-day field trip. Location of field trip varies. Physical features. Collection of geologic materials.

### **GEOL 215 Geology Field Study**

3 credits. 3 hours. (Field Studies 3 hours.)  
*Prerequisite:* GEOL 101 or approval of the instructor.  
Study of selected locations in the Western United States during a field trip. Location of field trip varies. Apply basic geologic principles and collect rock and mineral samples.

## ◆ Guided Studies

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*Blue River  
Maple Woods*

*Longview  
Penn Valley*

### **GUID 100 Personal Skills I**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
Examination of the transition process; analysis of emotional and behavioral responses; comparison of coping styles and techniques; examination and evaluation of the decision-making process; self-assessment of life planning and goal-setting.

### **GUID 108 Academic Success**

3 credits. 3 hours. (Lecture 3 hours.)  
Students taking this course will participate in activities designed to identify components of the learning process and personal resources for attitude and motivation management. Students will apply specific study strategies to design effective personal learning and study strategies for academic success.

### **GUID 109 Career Exploration Seminar**

1 credit. 1 hour. (Lecture 1 hour.)  
Exploration of factors affecting career choice. Identification and discussion of individual values, interests and abilities related to occupations. Overview of the world of work as it relates to career and academic planning. Expansion of career development knowledge, skills and use of resources.

### **GUID 113 Orientation**

1 credit. 1 hour. (Lecture 1 hour.)  
Comparison of the academic and social demands of college; utilization of campus services and facilities; utilization of college information resources; and exploration and identification of college opportunities to enhance and prepare for current and future life roles.

### **GUID 114 Educational Options**

1 credit. 1 hour. (Lecture 1 hour.)  
Exploration of the rights and responsibilities of students in the college setting; demonstration of self-advocacy, negotiation, and problem solving skills; design and implementation of action plans; and identification of personal learning styles, strengths, and compensatory strategies.

### **GUID 115 Stress, Strength, and Satisfaction**

2 credits. 2 hours. (Lecture 2 hours.)  
In-depth examination of sources of personal stress in a changing world. Extended self-assessment of external and internal stressors and useful coping strategies. Application and evaluation of coping strategies/lifestyle choices with an emphasis on recognition of individual strengths. Specific training in healthy practices to promote increased quality of life.

### **GUID 116 Stress Management**

1 credit. 1 hour. (Lecture 1 hour.)  
Examination of sources of personal stress in a changing world. Self-assessment of external and internal stressors and useful coping strategies. Application and evaluation of new coping strategies/life choices to more effectively manage stress.

### **GUID 150 Career Planning & Employment Strategies**

3 credits. 3 hours. (Lecture 3 hours.)  
Exploration of factors affecting career choice. Identification and discussion of individual values, interests, and abilities related to occupations. Overview of the world as it relates to career, academic planning and job seeking strategies including resumes, cover letters and interviewing techniques. Learn research techniques for exploring occupations and employment opportunities.

### **GUID 152 Employment Strategies**

1 credit. 1 hour. (Lecture 1 hour.)  
Overview of the job search process. Research techniques for exploring employment opportunities. Identification of personal criteria for job satisfaction. Development of job search strategies including resumes, cover letters and interviewing techniques.

## ◆ Health Information Technology

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*Offered at Penn Valley*

Tracy Rockwell

Jennifer Scott

### **HITE 101 Introduction to the Medical Records Profession**

2 credits. 2 hours. (Lecture 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. (Lecture 2.5 hours. Laboratory 2 hours.)  
Content, storage, retrieval, control, and retention of medical records, especially hospital records. Forms design and control, microfilming, and computer applications for medical record departments.

**HITE 103 Medical Terminology for Medical Records I**

3 credits. 3 hours. (Lecture 3 hours.)  
Professional language of medicine. Analysis of medical terms by roots and combining forms. Disease processes, diagnostic and operative procedures for each system of the body. Selected medical specialties.

**HITE 106 Health Care Statistics**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)  
*Prerequisite:* HITE 102 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 108 Legal Aspects of Medical Records**

2 credits. 2 hours. (Lecture 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. 5 hours. (Laboratory 2 hours. Field Studies 3 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. (Lecture 1 hour. 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 & Office Procedures**

1.5 credits. 2 hours. (Lecture 1 hour. 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. (Lecture 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. (Lecture 2.5 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. (Lecture 2.5 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. 4 hours. (Laboratory 1 hour. Field Studies 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. (Lecture 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. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisites:* BIOL 108 and HITE 202.  
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 2 hours. Field Studies 2 hours.)  
*Prerequisite:* HITE 203.  
Supervised on-the-job instruction about health record systems in specialized health care facilities. Supervised discussion of directed practice experiences.

**HITE 210 Classification Systems and Nomenclatures for Ambulatory Care**

3 credits. 4 hours. (Lecture 2 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. (Lecture 2.5 hours. Laboratory 1 hour.)

*Prerequisite: HITE 201, 202, and 203.*

General principles of management and organization as applied to health information settings. Budget development and control, personnel recruitment and retention, performance appraisal, and progressive discipline. Office design, productivity monitoring, work simplification, job analysis and job descriptions, and quality management.

# ◆ Heating, Ventilation and Air Conditioning

*Offered at the Business & Technology College*

Richard Decker

Paul Harding

Jess Harding

## **HVAC 109 Electricity for HVAC/R Technicians**

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

Advanced AC and DC theory, control relays, motors, compressors. Assembly and use of all major HVAC components. Construction and use of wiring diagrams.

## **HVAC 111 Principles of Heating, Ventilation, and Air Conditioning**

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

Introduction to the basic elements of heating, ventilation, and air conditioning systems. Heat laws, psychometrics, heating and cooling load estimating, design, and distribution.

## **HVAC 120 Fundamentals of Refrigeration**

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

Basic principles of refrigeration and their application in domestic refrigeration. Development of manipulative skills required for the installation, maintenance, and servicing of domestic equipment.

## **HVAC 135 Residential Heating A/C I**

4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)

*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 Cooling II**

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

*Prerequisite: HVAC 135.*

Maintenance and trouble analysis of high efficiency residential equipment. Diagnostic analysis of complex electrical troubles. Maintenance of gas air conditioning equipment.

## **HVAC 201 Stationary Engineering**

3 credits. 3 hours. (Lecture 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 Commercial Heating and Cooling**

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

*Prerequisites: HVAC 109, 120 and MATH 103.*

The heating and cooling cycle as applied to commercial use. Sizing, selection, installation, and servicing of commercial and industrial heating and cooling equipment with emphasis on advanced energy management.

## **HVAC 211 Design and Estimating**

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

*Prerequisite: HVAC 111.*

Design and function of air conditioning ductwork. Calculations for proper distribution. Construction and installation of duct systems for residential and commercial heating and cooling.

## **HVAC 221 Commercial Refrigeration**

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

*Prerequisites: HVAC 120 and 109.*

The refrigeration cycle applied to commercial uses. Sizing, selection, installation, and servicing of commercial and industrial refrigeration equipment.

## **HVAC 230 Sheet Metal Layout and Fabrication**

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

*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 250 Co-Op Workstudy**

3 credits. 7 hours. (Lecture 1 hour. Field Studies 6 hours.)

*Prerequisite: Program coordinator approval.*

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.

# ◆ History

## **Blue River**

Sharon Bagg  
Linda Brown

## **Longview**

Priscilla Jackson-  
Evans  
David Miller  
Randall Moore  
Elliott Schimmel

## **Penn Valley**

Greg Sanford

## **Maple Woods**

Tom Jones  
John Stockmyer  
William Young

### **HIST 120 American History I**

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

Survey of American history and institutions from pre-Columbian times through the Civil War. Examines economic, social, cultural, intellectual, and political development. Federal and Missouri constitutions.

### **HIST 121 American History II**

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

Survey of American history and institutions from the Civil War to the present. Examines economic, social, cultural, intellectual, and political development. Federal and Missouri constitutions.

### **HIST 130 Women in American History** 🌐

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

This course focuses on the roles women have played in the history of the United States. It traces the attitude towards women from antiquity through the revolutionary era to the present day. Students will examine the general demographic, economic and social changes affecting women of all classes.

### **HIST 133 Western Civilization I**

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

Survey of Western Civilizations through the classical civilizations of Greece and Rome and the Middle Ages to the Renaissance. Brief comparative summaries of Near Eastern and Oriental civilizations.

### **HIST 134 Western Civilization II**

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

Survey of European history from the Renaissance to present. Emphasis on Renaissance and Reformation, the emergence of the modern state, industrialism, nationalism, and the problems posed by war, revolution, and imperialism in the 20th century. Relationship of European civilization to the developments in the non-European world.

### **HIST 140 African American History** 🌐

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

The historical experience of people of African civilization, to European contact, enslavement and freedom in the New World Diaspora (Latin America, the Caribbean, and North America). The cultural, social, political, and economic dimensions of African American history will be explored, as will the accomplishments and unique perspectives of African Americans.

### **HIST 145 Survey of English History**

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

Survey of the evolution of England from barbarism to world power. Political, economic, religious, and literary development.

### **HIST 199 Special Topics in History**

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

*Prerequisite: ENGL 101.*

Guided readings and discussion in history. Topics and material will vary by instructor each semester. Specific reading lists, activities and writing assignments to be determined by the instructor. This course is intended to go into detail and research beyond the material covered in the United States or Western Civilization survey courses.

### **HIST 210 Missouri History**

3 credits. 3 hours. (Lecture 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 221 Russian History**

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

Survey of Russian history; cultural, social, and political developments. Brief introduction to ancient and medieval Russia with greater emphasis on the Tsarist and Soviet periods.

### **HIST 226 American Frontiers**

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

Survey of the American frontier experience 1500-1890. Exploration and settlement by Spanish, French, English, and Americans. Relationships between the settlers and the Indians. Special emphasis on the frontier in Missouri.

# ◆ Human Sciences

*Offered at Penn Valley*

### **HUSC 100 Careers in Human Sciences**

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

The design of this course will offer students an introduction to becoming a professional in the field of family and consumer science as they complete observations of agencies, businesses and organizations in the greater Kansas City area.

### **HUSC 105 Child Nutrition**

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

*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. (Lecture 3 hours.)

Food nutrients and their relationship to a healthy body. Normal nutritional needs and growth patterns for infants to school age. Food sources and their diet selection.

### **HUSC 115 Consumer Problems**

3 credits. 3 hours. (Lecture 3 hours.)  
Problems and potentials of family spending and consumption with attention to consumer protection and marketing practices.

### **HUSC 120 Competency Documentation**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: Students must have evidence of completing the 120-clock hour formal training required to receive the Child Development Associate credential.*  
Methods of documenting competencies in the eight concept areas as required by the National CDA Office.

### **HUSC 162 Marriage and Family Living**

3 credits. 3 hours. (Lecture 3 hours.)  
Problems in personal and family living. Attitudes and practices for effective participation in marriage and family life.

### **HUSC 200 Entrepreneurship in Human Sciences**

3 credits. 3 hours. (Lecture 3 hours.)  
The course prepares individuals to perform development, marketing and management functions associated with owning and operating a family and consumer sciences related business. Family and consumer sciences-related content supports instruction in the program and hand on approach to business plan development, are essential to the course. Balancing family life and entrepreneurial ventures is a major emphasis of the curriculum.

### **HUSC 236 Special Problems in Human Science**

1-3 credits. 1-3 hours. (Independent Study 1-3 hours.)  
Independent study in human science under the supervision of a faculty member.

### **HUSC 263 Cultural Competence**

3 credits. 3 hours. (Lecture 3 hours.)  
This course is designed as a guide for teachers, childcare providers, family workers, social workers, interventionists and other professionals in the helping fields who work with children and families. This course will sensitize those students training for the "people" field to identify the needs of all people and to develop an appreciation for the culture and history of diverse groups and the role of education and social service in addressing the issues of class, gender, and exceptionality.

## **Human Services**

*Longview*  
Mary Scharff

*Penn Valley*

### **HUMS 100 Introduction to Human Services**

3 credits. 3 hours. (Lecture 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. (Transferable as the first social work course to most colleges in the area.)

### **HUMS 105 Principles of Corrections**

3 credits. 3 hours. (Lecture 3 hours.)  
Historical development and philosophy of corrections from medieval times to the present. Institutional development in the United States. Current approaches in treatment and punishment. Recommendations for correctional reform.

### **HUMS 126 Corrections in the Community**

3 credits. 3 hours. (Lecture 3 hours.)  
Community correctional problems. Diversion, half-way programs, prerelease centers, group homes, probation and parole. Community treatment needed to support these programs. Evaluation of an agency.

### **HUMS 160 Principles of Youth Work**

3 credits. 3 hours. (Lecture 3 hours.)  
Prepares students to function as youth workers using a youth development approach in community-based, residential, group home and other youth work environments. Students will explore these concepts: developing a professional awareness of youth work, identifying and distinguishing between asset building models and deficit based models of adolescent development and developing a capacity to design implement programs consistent with the needs of youth in relation to available resources.

### **HUMS 167 Special Issues in Human Services**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Topics related to the field of social services that explore areas of concern related to agency needs or student preparation needs.

### **HUMS 168 Introduction to Practicum**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite: HUMS 100.*  
This course is designed to prepare students for 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. (Lecture 1 hour.)  
*Prerequisite: HUMS 100 or PSYC 140.*  
Crisis intervention involves the short term use of specific skills and strategies to help people in crisis cope with turmoil resulting from specific emergency situations or events. Crisis intervention is an approach to helping relationships that is distinctive from other counseling models. This course is designed to familiarize students to basic crisis theory with the application of helping strategies in basic crisis intervention.

### **HUMS 172 Aging, Alcoholism and Medications**

1 credit. 1 hour. (Lecture 1 hour.)  
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. (Lecture 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 questions, "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. (Lecture 1 hour.)

Exploring the changing family structure and changing relationship implications within the family. Examining the family as a social system and discussing treatment implications for the human services worker.

**HUMS 175 Spirituality in Addiction Recovery**

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

Defines the process by which persons in early recovery begin to accept their need for spiritual components in their life. Incorporates spirituality concepts into the treatment process. Demonstrates the importance of spirituality to support recovery for multiple addictions and as a tool for relapse prevention.

**HUMS 176 Addiction Management**

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

Case management procedures with alcohol-and other drug-addicted clients. Assessment, planning, evaluation, and case documentation. Competency issues in the 12 core functions within addiction treatment. Case presentation method.

**HUMS 177 Positive Dependency**

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

Positive aspects of dependency. The challenge model is a therapeutic approach of viewing survivors of troubled families developed by Drs. Steven and Sybil Wolin. This model contrasts with traditional models that emphasize damage and pathology. This course emphasizes strengths found in many children from dysfunctional families that are protective in nature and a positive approach toward healthier choices.

**HUMS 178 Women's Issues in Addiction**

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

This class will examine the special issues for women who are addicted to chemical substances and/or behaviors. We will discuss factors that may predispose women to addictions, recognition of addiction in women, and the special needs for counseling women who are addicted.

**HUMS 180 Gambling Addictions**

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

Basic information about gambling addiction in our society and the interventions and treatment for the clients and family. Extensive overview of types of gambling found in our society as well as demographic factors that contribute.

**HUMS 190 Community Mental Health**

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

Analysis of community mental health from a sociological and clinical social work perspective. It is designed to give students an overview of various dimensions of mental illness that includes assessment, intervention strategies with diverse groups, types of treatment facilities, and special issues.

**HUMS 191 Youth Development Seminar**

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

This course is designed to familiarize students with the theory and practice of youth development. Students will explore conceptual definitions of youth development and discuss the implications of integrating youth development theory into practice.

**HUMS 201 Human Services Practicum I**

3 credits. 3 hours. (Lecture 2 hours. Field Studies 1 hour.)

*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. 3 hours. (Lecture 1 hour. Field Studies 2 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. (Lecture 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. (Lecture 1 hour.)

*Corequisite: HUMS 202.*

Analysis of the practicum learning experience. Continued development of interpersonal skills. Discussion of community resources, problem solving, agency effectiveness, and counseling skills.

**HUMS 210 Interviewing and Interpersonal Communications**

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

*Prerequisite:* HUMS 100.

Historical perspectives of social welfare policies from prehistoric to present. Analysis of agency structures, administrative policies, and agency politics as they affect delivery systems. Administrative and supervisory styles related to agency function.

## **HUMS 275 Alcohol and Drug Addiction**

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

Exploration of the field of alcohol and drug use. Biological, physical, psychological, and social causation theories. 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. (Lecture 3 hours.)

*Prerequisite:* HUMS 275 or CRJU 275.

Cultural, racial, age, and sex differences in patterns of substance abuse. The potential for developing appropriate treatment for special population groups. Theory and treatment techniques for minority populations of addicted clients.

## **HUMS 285 Addiction Client Management**

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

*Prerequisite:* HUMS 280 or CRJU 280.

Case management procedures utilized with addicted clients. Assessment, planning, evaluation, and record keeping employed in addiction treatment. Case presentation techniques. Ethical issues. Case management and recovery.

# ◆ Humanities

*Blue River*

*Longview  
Penn Valley*

*Maple Woods*

## **HUMN 105 Leadership Development**

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

*Prerequisite:* Honors program enrollment or instructor approval.

Study of leadership principles using examples from classical literature, film, and historical events. Interdisciplinary approach.

## **HUMN 133 Western Civilization I**

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

Ancient civilizations from primitive human beginnings to premodern era. Greece and Rome-government, religion, philosophy, art, architecture, drama, and social institutions. Exploration of the thoughts and feeling of people of the premodern period about themselves, their place in the universe, and the human condition.

## **HUMN 134 Western Civilization II**

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

May be taken without HUMN 133. Background of the premodern world. The modern state-Renaissance and Reformation, industrialism, war, revolution, and imperialism. Relationship of western civilization to developments in other parts of the world. Exploration of the thoughts and feelings of modern human beings about themselves, their place in the universe, and the human condition.

## **HUMN 140 Humanities Past and Present**

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

An overview of the history and philosophy of human culture as seen through the arts and the study of their impact on life today.

## **HUMN 141 Latin American Humanities** 🌐

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

This course introduces students to many forms of Latin American culture, past and present, including art, architecture, music, literature, and film. The course includes an overview of geography, indigenous peoples, colonization and nation formation needed to understand cultural practices and influences.

## **HUMN 145 Comparative Humanities: Myth Through Time**

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

Study and compare cultural myths throughout time including historical, artistic, and ideological development of the Faust legend from the sixteenth century through the present.

**HUMN 165 American Humanities: Diversity in the American Experience** 🌐

3 credits. 3 hours. (Lecture 3 hours.)  
Through a study of American history, literature, and culture, this course will explore issues of critical significance in American life and thought. A special focus will be placed on issues of American identity and on the role that pluralism plays in the life of American communities, especially communities in the Midwest. The contributions of Native Americans, African Americans, Hispanic Americans, Asian Americans, and women's cultural and political activities will be included.

**HUMN 200 Honors Seminar I**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite: 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.

**HUMN 201 Honors Seminar II**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite: 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 revolutions 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.

**HUMN 202 Honors Seminar III**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite: 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.

**HUMN 203 Honors Seminar IV**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite: 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.

**HUMN 204 Honors Seminar V**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: Enrollment in the Honors Program.*  
Examines some of the profound and enduring ideas that have influenced the development of major political, social and economic systems. Readings from major texts of the philosophical, political and scientific history of Western culture. Topics change every semester.

**HUMN 205 Honors Seminar VI**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: Enrollment in the Honors Program.*  
Examines some of the profound and enduring ideas that have influenced the development of major political, social and economic systems. Readings from major texts of the philosophical, political and scientific history of Western culture. Topics change every semester.

**HUMN 206 Honors Seminar VII**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: Enrollment in the Honors Program.*  
Examines some of the profound and enduring ideas that have influenced the development of major political, social and economic systems. Readings from major texts of the philosophical, political and scientific history of Western culture. Topics change every semester.

**HUMN 207 Honors Seminar VIII**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: Enrollment in the Honors Program.*  
Examines some of the profound and enduring ideas that have influenced the development of major political, social and economic systems. Readings from major texts of the philosophical, political and scientific history of Western culture. Topics change every semester.

# ◆ Industrial Technology

*Offered at the Business & Technology College*

## **INTE 101 Introduction to Industrial**

### **Technologies**

1.5 credits. 1.5 hours. (Lecture 0.5 hour. 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. (Lecture 2 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, Ohm's and Watt's laws, electrical power distribution, transformers, electrical safety, electrical measurements, and basic components are covered.

## **INTE 115 Blueprint Reading, Electrical**

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

*Prerequisite: INTE 110.*

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.

## **INTE 122 Layout and Fabrication**

3 credits. 4 hours. (Lecture 2 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 124 Employment Strategies for Industrial Technology**

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

This course prepares the technical student to use strategies for successful job seeking, obtaining and maintaining employment in technical careers. Students will conduct a job search, prepare a resume and cover letter, and participate in job interviews.

## **INTE 140 Fundamentals of Industrial Maintenance**

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

The course is designed to present the safe and correct ways to rig and hoist equipment. Topics include fiber and wire rope, rope fundamentals, wire rope maintenance, cranes, braking, grounding, center of gravity, nets, clings, hooks, and ladders.

## **INTE 166 Introduction to Welding Technology**

2 credits. 3 hours. (Lecture 1 hour. 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. (Lecture 2 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. (Lecture 2 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. (Lecture 2 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 260 Pipe Fitting Fundamentals**

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

*Prerequisite:* HVAC 201.

Fundamentals of commercial and residential plumbing. Modern and historical plumbing materials and methods will be covered. Hardware and fixture use and installations. Drain and pipe installations and repair. Pipe cutting, threading, braising and welding. Drain and pipe cleaning. Sink, drain and heater replacement. General codes.

**INTE 271 Programmable Logic Controllers**

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

*Prerequisite:* 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 Drive and Controllers**

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

*Prerequisite:* 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. (Lecture 2 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. 4 hours. (Lecture 2 hours. Laboratory 2 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.

## ◆ Land Surveying

*Offered at Longview*

**SRVY 135 Elementary Surveying**

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

*Prerequisite:* Math 104 with a minimum grade of C. Introduction to the care and use of optical surveying instruments; transits, total stations and auto levels. Use of cloth tapes, steel tapes and electronic distance machines. Reduction of slope measurements to horizontal and vertical components. Measurement, field data reduction and adjustment of a closed traverse. Horizontal and vertical curves, earthwork, and coordinates. Extensive field work, field notes and electronic data collection. Introduction to systematic and random errors.

**SRVY 136 Analysis of Survey Measurements**

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

*Prerequisites:* SRVY 135 and DRAF 152 with a minimum grade of C.

Physical elements of designing land subdivisions including traffic circulation, sewer and drainage systems, soils and earthwork, grading considerations, erosion control, lot and block arrangement, topography and existing land use factors, geometric analysis, laws and codes affecting land subdivisions, environmental considerations, site analysis procedures.



**MATE 114 Metrology**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

The student will develop the technical competency to use, read and care for measuring devices in inspection and manufacturing settings.

**MATE 115 Blueprint Reading for Manufacturing Trades**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

The student will learn to read and interpret blueprints commonly found in manufacturing and machine trades. Topics include drawings, drafting procedures, print reading procedures, and machining specifications. This course is designed for students in manufacturing related occupations.

**MATE 116 Geometric Dimensioning and Tolerancing Printreading**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisite: MATE 115 or instructor's permission.* Geometric Dimensioning and Tolerancing (GD&T) is a method for stating and interpreting design requirements. GD&T is an international system of symbolic language and is simply another tool available to make engineering drawings a better means of communication from design through manufacturing and inspection. GD&T begins with basic principles and builds on these principles with applications-oriented concepts, complex material is presented in a "building-block" approach.

**MATE 130 Machining for Mechanical Drafting**

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

This course is designed to introduce the student to common machining practices. The student will learn layout, measuring tools, benchwork, machine setup and operation required to operate saws, drill presses, lathes and mills.

**MATE 131 NIMS Level I Credentials Job Planning, Benchwork, Layout and Drill Press**

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

*Prerequisites: MATE 100, MATE 101, MATE 102, and MATH 103, or MATE 115.*

Students receive NIMS Level I Credentials in Job Planning, Benchwork, Layout and Drill Press upon successful completion of the performance tests and theory exams. NIMS documents the skills of individuals through the skill standards developed through a consortium.

**MATE 132 NIMS Level I Credentials Milling**

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

*Prerequisites: MATE 100, MATE 101, MATE 102, and MATH 103, or MATE 115.*

A student receives NIMS Level I Credentials in Milling upon successful completion of the performance test and theory exam. NIMS documents the skills of individual through the consortium developed skill standard.

**MATE 133 NIMS Level I Credentials Lathe - Chucking**

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

*Prerequisites: MATE 100, MATE 101, MATE 102, and MATH 103, or MATE 115.*

A student receives NIMS Level I Credentials in Lathe-Chucking upon successful completion of the performance test and theory exam. NIMS documents the skills of individual through the consortium developed skill standards.

**MATE 134 NIMS Level I Credentials Lathe - Turning**

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

*Prerequisites: MATE 100, MATE 101, MATE 102, and MATH 103, or MATE 115.*

A student receives NIMS Level I Credential in Lathe - Turning upon successful completion of the performance test and theory exam. NIMS documents the skills of the individual through the consortium developed skill standards.

**MATE 135 NIMS Level I Credentials Surface Grinding**

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

*Prerequisites: MATE 100, MATE 101, MATE 102, MATH 103 and MATE 115.*

A student receives NIMS Level I Credential Surface Grinding upon successful completion of the performance test and theory exam. NIMS documents the skills of the individual through the consortium developed skill standards.

**MATE 201 Basic Metallurgy**

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

*Prerequisite: MATE 101.*

Metallurgy covers all aspects of metallurgical engineering, which include the three areas of extractive, mechanical, and physical metallurgy. Properties of ferrous and nonferrous metals.

**MATE 203 Process Planning and Production**

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

*Prerequisite: MATE 101.*

A comprehensive introduction to the ways in which the form of a material is changed to make it usable and add to its value. 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.

**MATE 205 Manufacturing Internship II**

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

*Prerequisite: MATE 102.*

This course is designed to give the student real world experience in a manufacturing environment. The student will perfect machining and tooling techniques and job responsibilities learned in prior courses under the direction of a mentor.

## **MATE 210 Computerized Numerical Control**

### **- Lathe**

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

*Prerequisites: MATE 102, MATH 104 or instructor consent.*

This course is designed to provide training on computer numerical controlled lathe turning centers. The student will process, program, verify and troubleshoot CNC lathe programs. Set-up and operations are covered and CAD/CAM programming will be introduced.

## **MATE 215 Computer Numerical Control Mill**

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

*Prerequisites: MATE 210, MATH 104 or permission of the instructor.*

This course is designed to provide training on computer numerical controlled milling centers. The student will process, program, verify and troubleshoot CNC mill programs. Set up and operation are covered and CAD/CAM programming will be introduced.

## **MATE 220 Advanced Computer Numerical Control - Mill/Lathe**

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

*Prerequisites: MATE 210, 215 and MATH 104.*

This course is designed to cover advanced CNC programming techniques taking the student beyond standard code practices. Pre-set tooling and parametric (macro) programming with probing examples are covered. CAD/CAM will be used to produce CNC lathe and mill projects.

## **MATE 225 Master Cam I**

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

*Prerequisites: MATE 210, MATE 215 or consent of the instructor.*

This course is designed as an introduction to Master Cam software. Menu screens and configuration of the software will be covered working thru 2-D projects on the lathe and mill.

## **MATE 226 Master Cam II**

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

*Prerequisites: MATE 210 or consent of the instructor.*

This course is designed for the experienced Master Cam user wanting to explore 3-Dimensional frame creation and surface modeling. The course focus will be on 3-D surface creation, surface machining, construction planes, drawing organization and four and five axis machine procedures.

## **MATE 227 Master Cam III**

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

*Prerequisite: MATE 226 or consent of the instructor.*

This course is designed for the advanced Master Cam user. The student will learn advanced techniques for the lathe and four and five-Axis mill. Advanced topics will include four and five-Axis programming, Solids, IGES files, High Speed Function and Surface Creation.

# **Mass Communications**

*Longview*

*Penn Valley  
Blue River*

*Maple Woods*

## **MSCM 112 Introduction to Mass Communication**

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

Historical study of content, structure, and control of modern communications in American society. Provides criteria for evaluating media content relative to the nature and consequence of news, entertainment, and advertising.

## **MSCM 113 Basic Radio Production**

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

Principles and techniques of developing, producing and directing various types of radio programs in the areas of public service, commercial spots, news and sports. Basic operation of radio production equipment.

## **MSCM 115 Television Production I**

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

*Prerequisite: MSCM 112 or concurrent enrollment.*

Effective and creative use of television studio. Practical experience in non-technical areas like scripting and program development, and technical areas including lighting, audio, graphics, camera operation, switcher and special effects generator.

## **MSCM 116 Television Production II**

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

*Prerequisite: MSCM 115.*

Pre-production (concept development), production (camera shooting), and post-production (editing), combining remote productions and studio productions into final product.

## **MSCM 118 Introduction to Public Relations I**

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

*Prerequisite: MSCM 112 or concurrent enrollment.*

History and practices of public relations. Writing various forms of public relations materials and examining field and case studies. Topics will include unethical public relations practices, and the relationship of public relations to the press and to society.

## **MSCM 200 Media Internship I**

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

*Prerequisite: Six credits in MSCM.*

Practical experience working at a local media outlet.

## **MSCM 203 Media Internship II**

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

*Prerequisite: MSCM 200.*

Students will continue to gain practical experience by working with a local media outlet.

### MSCM 299 Editing Techniques

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

Introduction to the equipment and techniques of editing three-quarter inch videotape with practical hands-on experience.

## ◆ Mathematics

#### **Longview**

John Church  
Kenneth Eichman  
Sharon Hamsa  
Beth Henkle  
Le Ann Lotz

#### **Maple Woods**

Kimberly Christensen  
Terry Hobbs  
Cheryl Lewkowsky  
Robert Skrukud

#### **Penn Valley**

Tim Chappel  
Martha Haehl  
Joan Henson  
Nic LaHue  
Gregory Mitchell

Kristi Rottinghaus  
Jason Pallett  
Janet Wyatt

#### **Blue River**

Martha Eagle  
Tristan Londré  
Cheryl Winter

**Note:** Credit for courses numbered below 100 is not applicable to any degree or certificate.

### **MATH 20 Basic Mathematical Operations**

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

Review of all basic mathematical operations. Fractions, decimals, proportions, and percentages. Elementary geometry (perimeter, area and volume).

### **MATH 23 Basic Mathematics/Lab**

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

Review of basic mathematical operations. Fractions, decimals, proportion, and percentages. Elementary geometry (perimeter, area and volume)

### **MATH 40 Introductory Algebra**

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

*Prerequisite: Minimum grade of C in MATH 20 or MATH 23, or a satisfactory score on the math placement test.*

Review of all operations and properties of real numbers with special attention to work with signed numbers. Solutions of linear equations and inequalities in one variable, using and manipulation formulas. Properties of exponential numbers, definition and basic operations with polynomials and solution of polynomial equations by factoring. Basic operations and simplification of rational expressions. Graphing linear equations in two variables.

### **MATH 43 Introductory Co-Laboratory Algebra**

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

*Prerequisite: A grade of C or better in MATH 20 or MATH 23, or an acceptable score on the math placement test.*

Review of operations and properties of the Real Number System. Operations on polynomials, exponents, and rational expressions. Solving and graphing linear equations. Applications are emphasized throughout the course.

### **MATH 100 Mathematics for Business**

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

*Prerequisite: Minimum grade of C or better in MATH 20 or 23, or an acceptable score on math placement test.*

Application of arithmetic and mathematical processes to the solution of practical problems in general business, retailing, accounting, consumer credit, and personal finance.

### **MATH 103 Technical Mathematics I**

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

*Prerequisite: MATH 40 or MATH 43 or appropriate score on placement exam.*

Algebraic expressions, linear equations, functions, exponents, graphical analysis, Quadratic equations, factoring common factors and difference of squares, unit conversions, percents, tolerance, clearance, and inference (mean, median, mode.)

### **MATH 104 Technical Mathematics II**

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

*Prerequisite: MATH 103 with a minimum grade of C.*

Applied geometry including complex, multi-step problems, complex numbers, solutions of right and oblique triangles, ratio and proportion, radian measure, exponential and logarithmic functions (graphical approach) and practical applications.

### **MATH 106 Technical Algebra and Trigonometry**

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

*Prerequisite: MATH 40 or MATH 43 or one year of high school algebra with a minimum grade of C.*

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, phasers, logarithms. Applications to technology.

### **MATH 108 Clinical Mathematics**

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

Metric system and conversion of units. Apothecaries' equivalents and vocabulary. Preparation of solutions: strengths, procedures, and computations. Drug administration: calculating and measuring dosages.

### **MATH 110 Intermediate Algebra**

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

*Prerequisite: Minimum grade of C in MATH 40 or 43, or a satisfactory score on the math placement test.*

Functions and their graphs, systems of linear equations, application problems, inequalities, absolute value equations. Rational exponents, radicals, quadratic functions and equations, ratios and proportions.

**MATH 110R Intermediate Algebra with Review**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* Satisfactory score on the math placement test.

A combination of the topics in MATH 40 and MATH 110. The study of operations with polynomials, operations with rational expressions, properties of exponents, solution of linear equations and inequalities with applications, solution of absolute value equations and inequalities, solution of quadratic equations with applications, solution of linear systems of equations with applications, rational exponents and radicals, introduction to functions and graphs, and graphing linear equations in two variables.

**MATH 115 Statistics**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* 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 statistical inference, significance and distribution measures, regression and correlation analysis.

**MATH 119 College Mathematics**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* MATH 110 with C or better or an appropriate placement test score.  
A course designed for students seeking a liberal arts education. The objective of this course is to provide students with a mathematical experience that will include topics from algebra, geometry, probability, and statistics. This course has a strong emphasis on applications.

**MATH 120 College Algebra**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* Minimum grade of C in MATH 110 or satisfactory score on the math placement test.  
A study of various types of equations and inequalities, functions and their inverses, theory of higher degree equations, systems of equations, determinants, logarithms and exponentials, and applications.

**MATH 130 Trigonometry**

3 credits. 3 hours. (Lecture 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. (Lecture 3 hours.)  
*Prerequisite:* MATH 120 or 150.  
Mathematical logic, sets, relations, functions, mathematical induction, Boolean algebra, algebraic structures. The theory introduced will be applied to appropriate areas of computer science.

**MATH 150 PreCalculus**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* Minimum grade of C in MATH 110 or satisfactory score on the math placement test.  
A study of various types of algebraic equations and inequalities, functions and their inverses, theory of higher degree polynomial equations, systems of equations, determinants, logarithms, exponentials and applications. A study of trigonometric functions and their inverses, formulas and identities, conditional equations, radian measure, arc length, angular velocity, function graphing and solution of triangles.

**MATH 175 Calculus for Business and Social Science**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* MATH 120 with a minimum grade of C, or an appropriate placement test score.  
Quadratic, polynomial, rational exponential, and logarithmic functions used in differential and integral calculus application in business, economic and social science.

**MATH 180 Analytic Geometry and Calculus I**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* MATH 130 or 150.  
A study of plane analytic geometry, limits, continuity, the derivative for functions of a single variable, differentials, indefinite and definite integrals, the Fundamental Theorem of Calculus, and applications of the derivative and integral.

**MATH 190 Analytic Geometry and Calculus II**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* MATH 180.  
A study of the calculus of elementary transcendental functions; integration by parts, by trigonometric substitution, by partial fraction and by miscellaneous substitutions; improper integrals; L'Hospital's Rule; conic sections; the transformation of axes, infinite series, parametric and polar equations and their derivatives; and graphs, area, and arc length in polar coordinates.

**MATH 196 Special Topics I**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
*Prerequisite:* Approval of the instructor.  
Mathematical topics of special interest.

**MATH 210 Analytic Geometry and Calculus III**

5 credits. 5 hours. (Lecture 5 hours.)  
*Prerequisite:* A minimum grade of C in MATH 190, or an appropriate score on the math placement test.  
A study of analytic geometry in three dimensions, functions of more than one variable and their calculus, directional and partial derivatives, vector functions and their calculus, two- and three-dimensional applications, multiple integrals, and line integrals.

**MATH 230 Differential Equations**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* MATH 190 with a minimum grade of C.  
Solution and application of ordinary differential equations including the nth order non-homogeneous linear cases. Laplace transform, and power series methods.

## **MATH 241 Discrete Structures for Computer Science II**

3 credits. 3 hours. (Lecture 3 hours.)  
*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**

*Offered at Penn Valley*

### **MTRN 101 Medical Transcription I**

5 credits. 7 hours. (Lecture 3 hours. Laboratory 4 hours.)  
*Prerequisite: ENGL 101 and CSIS 115.*  
Introduction to the transcription of medical record reports using correct terminology, punctuation, and format.

### **MTRN 112 Medical Transcription II**

5 credits. 10.7 hours. (Lecture 2 hours. Laboratory 2 hours. Clinical 6.7 hours.)  
*Prerequisite: HITE 103 and MTRN 101, 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**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: 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**

**Blue River**  
Rebecca Burns

**Longview**  
Cathy Hardy-Purcell  
**Maple Woods**  
Jim Murray

**Penn Valley**  
Clarence Smith

### **MUSI 101 Mixed Chorus I**

1 credit. 3 hours. (Laboratory 3 hours.)  
Open to all students interested in group singing. Performance of various types of choral music in public.

### **MUSI 102 Mixed Chorus II**

1 credit. 3 hours. (Laboratory 3 hours.)  
Open to all students interested in group singing. Performance of various types of choral music in public.

### **MUSI 103 Band I**

1 credit. 4 hours. (Laboratory 4 hours.)  
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

### **MUSI 104 Band II**

1 credit. 4 hours. (Laboratory 4 hours.)  
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

### **MUSI 105 Orchestra I**

1 credit. 4 hours. (Laboratory 4 hours.)  
*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 106 Orchestra II**

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 107 Fundamentals of Music**

3 credits. 3 hours. (Lecture 3 hours.)  
Open to all students. Piano keyboard. Music reading. Scales, keys, intervals, chords, and rhythm. Ear training.

### **MUSI 108 Music Appreciation**

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

### **MUSI 110 Music Theory I**

4 credits. 5 hours. (Lecture 3 hours. Laboratory 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.

### **MUSI 111 Music Theory II**

4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)  
*Prerequisite: MUSI 110.*  
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.

**MUSI 112 Class Piano I**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisite:* Some experience with note reading in at least one clef and with rhythmic notation.

A practical approach to keyboard techniques including harmonization, transposition, and sight reading.

**MUSI 114 Private Instruction I**

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

*Prerequisite:* 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 115 Private Instruction II**

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

*Prerequisite:* 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.

**MUSI 116 Evolution of Jazz**

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

A study of the rich ethnic background and evolution of jazz music and its many styles. African, African-American, and European cultures will be examined in terms of the role each has played, and continues to play, in defining and influencing American culture through jazz. Important performers, composers, musicians, educators, and writers of jazz will be identified with respect to their contributions to the art form. Critical listening activities supplement the course content.

**MUSI 117 Special Problems in Music**

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

Directed studies in special interest music topics (e.g., composition, MIDI music, pedagogy, music industry, etc.).

**MUSI 120 Class Voice I**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

Fundamentals of sight singing in major and minor keys. Fundamentals of correct voice production, breathing, and breath control. Elementary vocal literature in English. Development of stage presence and poise.

**MUSI 123 Class Piano II**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 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 harmonization of melodies, sightreading, and transposition.

**MUSI 125 Class Guitar I**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

Hand positions, technique, and reading skills. Fundamentals of music. Improvisation applied to all styles of music.

**MUSI 126 Class Guitar II**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 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. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisite:* 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. (Lecture 1 hour. Laboratory 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. (Lecture 2 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. (Lecture 3 hours. Laboratory 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. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisite:* MUSI 201.

Chromatic alterations of secondary chords. Transposition. Emphasis on the analysis of 20th century harmonic techniques. Original work in a free style.

### **MUSI 203 Band III**

1 credit. 4 hours. (Laboratory 4 hours.)  
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

### **MUSI 204 Band IV**

1 credit. 4 hours. (Laboratory 4 hours.)  
Open to all students interested in playing in an instrumental ensemble. Performance of various types of instrumental music in public.

### **MUSI 206 Class Piano IV**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
*Prerequisite:* MUSI 127 with a minimum grade of C or approval of the instructor.  
Melodic harmonization, sightreading, transposition, 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. (Laboratory 3 hours.)  
Open to all students interested in group singing.

### **MUSI 212 Mixed Chorus IV**

1 credit. 3 hours. (Laboratory 3 hours.)  
Open to all students interested in group singing. Performance of various types of choral music in public.

### **MUSI 214 Private Instruction III**

1-2 credits. 1-2 hours. (Laboratory 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. (Laboratory 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.

## ◆ Nursing

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See Practical Nursing, page 151, and Professional Nursing, page 152.

## ◆ Occupational Therapy Assistant

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### *Offered at Penn Valley*

Theresa Chop

Sandra McInay

### **OTHA 100 Introduction to Occupational Therapy**

2 credits. 2 hours. (Lecture 2 hours.)  
Introduction to the history, philosophy, and practice of occupational therapy. Exploration of diversity and the role it plays in health care.

### **OTHA 102 Documentation Guidelines**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite:* Formal admission to the Occupational Therapy Assistant program.  
Guidelines for documentation of occupational therapy services.

### **OTHA 103 Clinical Conditions**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite:* Formal admission into the Occupational Therapy Assistant Program.  
Etiology, clinical process and prognosis of common diseases and illnesses. Effect of disease or illness on an individual's performance and the impact this has on the person, family and society.

### **OTHA 106 Therapeutic Interventions I**

4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)  
*Prerequisite:* Formal admission to the Occupational Therapy Assistant program.  
Basic therapeutic interventions, techniques, applications and legislation pertinent to OT practice. Learn OT's role in promoting health and wellness.

### **OTHA 116 Level I Fieldwork I**

1 credit. 1.5 hours. (Lecture 0.5 hour. Laboratory 1 hour.)  
*Prerequisite:* Formal admission to the Occupational Therapy Assistant program.  
Introduction to the role, policies, and procedures of fieldwork. Directed experience in a specified community setting.

**OTHA 118 Assistive Technology**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisites: BIOL 109, EMPT 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 120 Pediatrics**

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

*Prerequisites: BIOL 109, EMPT 102, 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 credit. 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites: BIOL 109, EMPT 102, 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. (Lecture 2 hours.)

*Prerequisites: BIOL 109, EMPT 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**

2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: Concurrent enrollment in PTA or OTA programs or completion of an Associate's or advanced degree in physical therapy or occupational therapy.*

A study of advanced topics relevant to the current practice of rehabilitation. Cross-listed as PTHA 173.

**OTHA 201 Mental Health**

2.5 credits. 3 hours. (Lecture 2 hours. Laboratory 1 hour.)

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Occupational therapy assessment and treatment techniques in the mental health setting.

**OTHA 202 Physical Dysfunction**

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

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Occupational therapy assessment and treatment used with the physically and cognitively challenged population.

**OTHA 203 Gerontology**

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

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Concepts and process of aging. The role of occupational therapy with the elderly.

**OTHA 208 Therapeutic Interventions II**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Advanced therapeutic interventions and techniques used to enhance functional ability and independence in daily life tasks and occupations.

**OTHA 212 Level I Fieldwork III**

2 credits. 4 hours. (Clinical 4 hours.)

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Directed experience in specified community settings.

**OTHA 217 Fieldwork Seminar**

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

*Prerequisites: OTHA 118, OTHA 120, OTHA 121, OTHA 130, and OTHA 154.*

Preparation for full-time clinical practice, the national certification process, state licensure and future employment.

**OTHA 222 Level II Fieldwork**

12 credits. 40 hours. (Field Studies 40 hours.)

*Prerequisites: OTHA 201, 202, 203, 208, 212, and 217.*

Directed clinical experience in different practice areas of occupational therapy.

## ◆ Office Systems

**Longview**  
Marjorie Miller

**Maple Woods**  
Patricia Berge  
Juanita Ross

**Penn Valley**  
Irene Forch

These courses are being revised. Please see the division chair for more information. ✂

# ◆ Paralegal

Longview

Penn Valley  
Karen Curls

## PARA 122 Procedural Law

3 credits. 3 hours. (Lecture 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. (Lecture 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. (Lecture 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. (Lecture 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. (Lecture 3 hours.)  
Introduction to sources of laws and legal research methods; fundamentals of legal writing.

## PARA 177 Legal Writing

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PARA 176.*  
In depth instruction in legal writing, drafting legal documents including: briefs, memoranda, and motions.

## PARA 180 Real Property

3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to the fundamentals of real property, present estates and interests, ownership, land zoning, easements, licenses, and rights in land.

## PARA 181 Property

3 credits. 3 hours. (Lecture 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. (Lecture 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 223 Criminal Law I

3 credits. 3 hours. (Lecture 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. (Lecture 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. (Lecture 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. (Lecture 3 hours.)  
Review systems approach to law office management. Client relationship, billing practices, time-keeping, and law office library systems.

## PARA 279 Family Law

3 credits. 3 hours. (Lecture 3 hours.)  
Responsibilities and techniques in family relationships, legal problems in the family, and husband-wife and parent-child responsibilities.

## PARA 283 Wills/Trusts and Probate

3 credits. 3 hours. (Lecture 3 hours.)  
Construction of wills, trusts, and the administration of a probate estate.

## PARA 284 Intellectual Property

3 credits. 3 hours. (Lecture 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 290 Internship in Paralegal Technology

3 credits. 10 hours. (Field Studies 10 hours.)  
*Prerequisite: 15 credit hours of paralegal study or consent of department.*  
On-the-job training in a law office.

### PARA 292 Litigation

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* PARA 171 or approval of instructor.  
Introduces student to trial preparation, trial practice, preparation of pleadings, discovery, and motions. Client and witness interviewing.

### PARA 294 Bankruptcy

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* 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  
Douglas Washer  
**Penn Valley**  
Verle Muhrer

**Maple Woods**  
Paul Long

### PHIL 100 Introduction to Philosophy

3 credits. 3 hours. (Lecture 3 hours.)  
This course will introduce students to the fundamental questions of human existence including the foundation of knowledge, the nature of ethical, religious, and social values and meaning, conceptions of being, and human freedom. Consideration will be given to the application of philosophical methods to contemporary society and problems.

### PHIL 101 Philosophy of Religion

3 credits. 3 hours. (Lecture 3 hours.)  
This course is an inquiry into the nature of religion and religious claims, religious thought, and religious language. It includes such philosophical topics as arguments for the existence of God; arguments against the existence of God; the problem of evil, the relationship between religion and other disciplines such as science, history, and ethics; religious language and its special problems; the influence of religion and the philosophy of religion on the contemporary world, and other specific philosophical and theological problems.

### PHIL 102 World Philosophy

3 credits. 3 hours. (Lecture 3 hours.)  
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. (Lecture 3 hours.)  
An introduction to the art of rational thinking as applied to the critical evaluation of information, the construction and evaluation of deductive and inductive arguments, the resolution of practical and intellectual problems, and the persuasive defense of ideas.

### PHIL 201 History of Philosophy I

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* PHIL 100.  
Survey of the major aspects of philosophical thought from the ancient Greeks to the end of the Middle Ages.

### PHIL 203 Ethics

3 credits. 3 hours. (Lecture 3 hours.)  
This course is designed to introduce the student to the discipline of ethics and the philosophical questions and issues that arise from within it. It will include a historical overview of several traditional theories of ethics and approaches to ethical decision-making, an examination of the role of reason and logic in ethical analysis, and a consideration of some of the many ethical dilemmas and problems which confront our society today.

### PHIL 204 Contemporary Philosophies of Value

3 credits. 3 hours. (Lecture 3 hours.)  
Analysis of modern philosophies of personal and social value. Major contemporary "academic" and "popular" thinkers.

## ◆ Physical Education

**Longview**  
John O'Connell

**Maple Woods**  
**Blue River**

**Penn Valley**

### PHED 105 Body Building I

1 credit. 2 hours. (Laboratory 2 hours.)  
Designed for the student wanting to develop muscular strength and endurance. Emphasis will be on proper training technique and program development. Includes assessment, planning, and participation in an individual fitness program based on the student's needs.

### PHED 106 Body Building II

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite:* PHED 105.  
A continuation of PHED 105. This course will expand on the concepts introduced in PHED 105, in addition to offering a variety of advanced techniques. Emphasis is given to the individual program of each student.

### PHED 107 Physical Fitness I

1 credit. 2 hours. (Laboratory 2 hours.)  
First in a series of classes designed to develop the student's level of physical fitness. Emphasis will be given to the individual's muscle strength and endurance, cardiovascular endurance, flexibility, and body composition. Includes assessment, planning, and participation in an individual fitness program based on the student's needs. The student will have access to free weights, weight machines, and a variety of cardiovascular equipment.

**PHED 108 Physical Fitness II**

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

*Prerequisite:* PHED 107.

Second in a series of classes designed to develop the student's level of physical fitness. This course will expand on the concepts introduced in PHED 107, in addition to offering a variety of advanced techniques and programming ideas. Emphasis is given to the individual program of each student.

**PHED 109 Physical Fitness III**

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

*Prerequisite:* PHED 108.

A continuation of PHED 107 and 108.

**PHED 110 Physical Fitness IV**

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

*Prerequisite:* PHED 109.

A continuation of PHED 107, 108, and 109.

**PHED 113 Volleyball I**

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

Techniques, skills, and rules of volleyball.

**PHED 114 Volleyball II**

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

*Prerequisite:* PHED 113.

Advanced techniques, skills, and strategies of volleyball.

**PHED 117 Golf I**

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

Fundamental techniques and skills, rules, terminology, playing courtesies, and etiquette of golf.

**PHED 118 Golf II**

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

*Prerequisite:* PHED 117 or consent of instructor.

Advanced theory. Techniques of golf. Rhythm and swing, golf errors, and individual corrections and adjustments.

**PHED 119 Basketball I**

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

Techniques, skills, and rules of basketball.

**PHED 120 Basketball II**

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

*Prerequisite:* PHED 119.

Advanced techniques, skills, and rules of basketball. Team and league play.

**PHED 121 Aerobics I**

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

A program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

**PHED 122 Aerobics II**

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

*Prerequisite:* PHED 121.

An advanced program of physical fitness based on popular aerobic exercises. Individual exercise programs designed for persons of all ages.

**PHED 123 Bench Aerobics**

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

Concentrates on strengthening and toning the legs while working the cardiovascular system. By using the bench step-up format, low-impact exercises are incorporated into this class. All fitness levels can be accommodated in the same class by having the student change the height of the bench.

**PHED 126 Lifetime Fitness I**

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

*Prerequisite:* Successful completion of preliminary health screening or permission of personal physician.

First in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course introduces basic concepts of lifetime fitness development, health, and exercise programming. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 127 Lifetime Fitness II**

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

*Prerequisites:* PHED 126 and successful completion of preliminary health screening or permission of personal physician.

Second in a series of cardiovascular and muscular development fitness programs designed around the aerobic circuit. The course expands on concepts introduced in PHED 126. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 128 Lifetime Fitness III**

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

*Prerequisites:* PHED 127 and successful completion of preliminary health screening or permission of personal physician.

A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on the concepts introduced in PHED 126 and 127. Additional concepts integrated include strength and body composition. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 129 Lifetime Fitness IV**

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

*Prerequisites:* PHED 128 and preliminary health screening or permission of personal physician.

A cardiovascular and muscular development fitness program designed around the aerobic circuit. The course builds on concepts introduced in PHED 126, 127, and 128. A variety of individual aerobic exercise equipment will be incorporated into the student's total program.

**PHED 130 Fitness Walking**

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

Designed to introduce the student to walking as a form of cardiovascular fitness. Students will learn the proper form for fitness walking as well as proper intensity monitoring techniques.

**PHED 131 Jogging and Distance Training**

1 credit. 2 hours. (Laboratory 2 hours.)  
Basic principles and precautions are covered in setting up a beginning and/or advanced running program. This course is designed for those who wish to run for fitness or competition.

**PHED 135 Fencing I**

1 credit. 2 hours. (Laboratory 2 hours.)  
Basic skills, rules, history, and etiquette of foil fencing. Practice of techniques and strategies.

**PHED 136 Fencing II**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: PHED 135 or consent of instructor.*  
Advanced techniques of foil fencing.

**PHED 137 Tennis I**

1 credit. 2 hours. (Laboratory 2 hours.)  
Skills, rules, and practice in the techniques and strategy of tennis.

**PHED 141 Bowling I**

1 credit. 2 hours. (Laboratory 2 hours.)  
History of bowling. Development of individual skills and techniques. Facilities, etiquette, equipment, league organization, and abridged rules.

**PHED 142 Bowling II**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: PHED 141.*  
Improvement of performance skills and techniques. Form, rhythm, and coordination. Individual bowling and league play.

**PHED 143 Self-Defense**

1 credit. 2 hours. (Laboratory 2 hours.)  
A course designed for both men and women emphasizing "street self-defense." Effective physical techniques and strategies to avoid or terminate threatening actions or a violent attack will be introduced.

**PHED 144 Karate I**

1 credit. 2 hours. (Laboratory 2 hours.)  
Fundamental skills and techniques in the art of karate.

**PHED 145 Karate II**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: PHED 144 or approval of instructor.*  
Intermediate techniques in the art of karate.

**PHED 146 Karate III**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: PHED 145 or approval of instructor.*  
Further development of intermediate techniques in the art of karate.

**PHED 147 Karate IV**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: PHED 146 or approval of instructor.*  
Advanced techniques in the art of karate.

**PHED 155 Care and Prevention of Athletic****Injuries**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
Athletic training procedures for prevention of injury. Recognition and treatment of athletic injuries.

**PHED 157 Principles of Health**

3 credits. 3 hours. (Lecture 3 hours.)  
Principles of healthful living. Physical, emotional, and social health. Contemporary health problems.

**PHED 158 First Aid/CPR**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: The student must be at least 17 years old.*

Theory and practice of giving aid to ill or injured persons. Treatment of injuries. Cardiopulmonary resuscitation procedures. History and development of safety education. American Red Cross certificates issued to students completing the course successfully.

**PHED 159 Individual Wellness**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)  
Designed for individuals interested in a wellness lifestyle. Individuals design personalized fitness programs through consultation with the instructor. Computerized evaluations determine health and fitness levels. Programs are then administered for cardiovascular conditioning, muscle strengthening and toning, nutritional awareness, weight control, and stress reduction. Students choose those activities most relevant to them.

**PHED 165 Varsity Sports I**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: Current membership in an intercollegiate athletic team.*  
Participation in all phases of a varsity sport.

**PHED 166 Varsity Sports II**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisite: Current membership in an intercollegiate athletic team.*  
Participation in all phases of a varsity sport.

**PHED 167 Varsity Sports III**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisites: Current membership in an intercollegiate athletic team and PHED 165.*  
Participation in all phases of a varsity sport.

**PHED 168 Varsity Sports IV**

1 credit. 2 hours. (Laboratory 2 hours.)  
*Prerequisites: Current membership in an intercollegiate athletic team and PHED 166.*  
Participation in all phases of a varsity sport.

**PHED 173 Wrestling I**

1 credit. 2 hours. (Laboratory 2 hours.)  
Wrestling (free style) to develop body control and techniques as well as to develop self-confidence, physical fitness, and protective skills.

### **PHED 174 Wrestling II**

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

*Prerequisite:* PHED 173.

Advanced wrestling (free style) to develop body control and techniques as well as to develop self-confidence, physical fitness, and protective skills.

### **PHED 179 Aqua Aerobics I**

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

Exercise program of choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

### **PHED 180 Aqua Aerobics II**

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

*Prerequisite:* PHED 179.

Exercise program of advanced choreographed routines involving continuous rhythmic activity performed in water to encourage cardiovascular fitness and muscular endurance.

### **PHED 197 Topics in Physical Education**

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

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

### **PHED 198 Topics in Physical Education**

2 credits. 2 hours. (Laboratory 2 hours.)

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

### **PHED 199 Topics in Physical Education**

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

Designed to offer the student or a group of students a current activity topic. Considering the dynamic state the fields of physical and wellness are in at the current time, this allows the Physical Education Department to meet the needs of the community.

## **Physical Science**

#### **Longview**

Deanna Poudel

#### **Maple Woods**

Cynthia Sexton  
Proctor

#### **Penn Valley**

John Hawkins

#### **Blue River**

### **PHSC 101 Physical Science I**

5 credits. 6 hours. (Lecture 4 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. (Lecture 4 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**

#### **Offered at Penn Valley**

Gwendolyn Robertson

Pamela Stockman

### **PTHA 151 Introduction to Physical Therapy**

2 credits. 2 hours. (Lecture 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 and interaction of health care disciplines in the care of the patient. Medical terminology related to the specific discipline.

### **PTHA 152 Physical Therapy Fundamentals I**

4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)

*Prerequisite:* Formal 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. (Lecture 2 hours. Laboratory 4 hours.)

*Prerequisites:* BIOL 109 and 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. (Lecture 2 hours.)

*Prerequisites:* BIOL 109 and PTHA 152 and PTHA 160, 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. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisite:* 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. (Lecture 2 hours. Laboratory 4 hours.)

*Prerequisite:* 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. (Lecture 2 hours.)

*Prerequisites:* BIOL 109 and 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. (Lecture 2 hours.)

*Prerequisites:* BIOL 100, BIOL 110, BIOL 150 and PTHA 151, each with a minimum grade of "C" and formal acceptance into the program.

Medical diseases commonly seen in physical therapy practice; diagnosis, signs and symptoms, physiologic factors, and treatment.

### **PTHA 161 Physical Therapy Fundamentals II**

4 credits. 5.5 hours. (Lecture 2.5 hours. Laboratory 3 hours.)

*Prerequisites:* BIOL 109 and PTHA 152 and PTHA 160, 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. (Lecture 2 hours.)

*Prerequisite:* 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.)

*Prerequisite:* 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. (Lecture 2 hours.)

*Prerequisite:* PTHA 162 with a minimum grade of C. This course contains 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. (Field Studies 40 hours.)

*Prerequisite:* 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**

2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite:* Completion of all previous semesters of physical therapy and biology coursework with a minimum grade of C.

This course presents specialized topics in physical therapy and the administration of health care.

## **Physics**

**Longview**  
Deanna Poudel

**Maple Woods**  
Cynthia Sexton  
Proctor

**Penn Valley**  
John Hawkins

**Blue River**

### **PHYS 101 Introductory Physics**

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

A survey of physics with emphasis on mechanics, heat, light, sound, electricity, magnetism, and atomic physics. Emphasis on the concepts of physics.

### **PHYS 106 General Astronomy**

5 credits. 6 hours. (Lecture 4 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. (Formerly PHYS 102).

### **PHYS 112 Technical Physics**

5 credits. 6 hours. (Lecture 4 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. (Formerly PHYS 155).

### **PHYS 130 General Physics I**

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

*Prerequisite:* MATH 130.

Principles of mechanics, heat, and sound. (Formerly PHYS 104).

## PHYS 131 General Physics II

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

*Prerequisite:* PHYS 130 with a minimum grade of C. Principles of electricity, magnetism, light, and atomic physics. (Formerly PHYS 105)

## PHYS 220 Engineering Physics I

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

*Prerequisite:* 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.

## ◆ Political Science

<i>Longview</i>	<i>Maple Woods</i>	<i>Penn Valley</i>
Kenneth Hartman	Perri Lampe <i>Blue River</i>	

## POLS 135 Introduction to Political Science

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

Principles of constitutional and political theory. Federal and Missouri constitutions and political processes in selected contemporary states.

## POLS 136 Introduction to American National Politics

3 credits. 3 hours. (Lecture 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. (Lecture 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. 3 hours. (Field Studies 3 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	Dianne Graftenine-Beedle	Betty Reynolds
Roger Bidwell		Corinne Shaw
Cora Franklin	Sherry Kinney	Maureen Wiederholt

## PNUR 100 Personal and Vocational Concepts

1 credit. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisites:* 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.

## PNUR 102 Fundamentals of Practical Nursing I

1.5 credits. 1.5 hours. (Lecture 1 hour. Laboratory 0.5 hour.)

*Prerequisite:* Entry to 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. This course introduces the student to the basic skills related to nursing care. Basic nursing skills and safety aspects will be presented. The student will practice these basic skills in the laboratory setting.

## PNUR 103 Fundamentals of Practical Nursing II

8.5 credits. 8.5 hours. (Lecture 1.5 hours. Laboratory 3 hours. Clinical 4 hours.)

*Prerequisite:* 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. Care of the elderly and nutrition are integrated as theory content and included in the clinical application.

## PNUR 104 Body Structure and Function

2 credits. 2 hours. (Lecture 1.5 hours. Laboratory 0.5 hour.)

*Prerequisite:* Successful completion of all previously attempted courses in the program with a minimum grade of C.

Introduces the student to the major structure and functions of the human body. It is taught according to body systems. Laboratory time is used to reinforce classroom instruction.

### **PNUR 110 Pharmacology**

3.5 credits. 3.5 hours. (Lecture 1 hour. Laboratory 0.5 hour. Clinical 2 hours.)  
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. (Lecture 1.8 hours. Clinical 3.2 hours.)

*Prerequisite: 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 credits. 4 hours. (Lecture 2 hours. Laboratory 0.5 hour. Clinical 1.5 hours.)

*Prerequisites: PNUR 100, PNUR 102, or equivalent, PNUR 103, PNUR 104 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 experiences. Nutrition is integrated into the theory content and included in clinical application.

### **PNUR 138 Nursing of the Adult I**

9 credits. 9 hours. (Lecture 4 hours. Laboratory 1 hour. Clinical 4 hours.)

*Prerequisites: Successful completion of all previously attempted courses, PNUR 100, PNUR 102, PNUR 103, PNUR 104, PNUR 110 in the program with a minimum grade of a 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 systems, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing problems and then to implement nursing interventions to meet client needs. Care of the elderly and nutrition are integrated as theory content and included in clinical applications.

### **PNUR 144 Nursing of the Adult II**

8 credits. 8 hours. (Lecture 3 hours. Laboratory 1 hour. Clinical 4 hours.)

*Prerequisites: PNUR 100, PNUR 102, or equivalent, PNUR 103, PNUR 104, PNUR 110, PNUR 138.*

This course prepares the student to care for the adult client with needs ranging from simple to complex in a variety of settings. Concepts are presented by body systems, with common diseases and disorders, their causes, symptomatology, and treatments being emphasized. The nursing process is utilized to identify nursing problems and then to implement nursing interventions to meet clients needs. Pharmacology, nutrition and care of elderly are integrated as theory content and included in clinical application.

### **PNUR 146 Leadership**

3 credits. 6 hours. (Lecture 1.7 hours. Clinical 4.3 hours.)

*Prerequisite: Successful completion of all previously attempted courses of the program 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.

## Professional Nursing

### *Offered at Penn Valley*

Pamela Anthony	Opzerine Madison	Rosemary
Sharon Graves	Catherine	Shocklee-Fusaro
Tammy Greathouse	McClendon	Patricia Winberg
Karen Komoroski	Patricia O'Brien	Ruth Yunker
	Hilda Ogilvie	
	Laurie Ray	

### **RNUR 115 Professional Transition**

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

*Prerequisites: BIOL 100 or CHEM 105, BIOL 109, BIOL 208, PSYC 140, and PSYC 243, each with a grade of C or better. Admission into the nursing program.*

This course facilitates the transition of the Licensed Practical Nurse to the role of Associate Degree Nurse and includes professional and legal/ethical issues. Concepts covered in the course include: nursing process, physical assessment, teaching-learning principles, group dynamics, cultural/ethnic issues, and critical thinking. Community health concepts will be introduced and previously learned nursing content addressed.

### **RNUR 126 Fundamentals of Professional Nursing**

6 credits. 10 hours. (Lecture 4 hours. Clinical 6 hours.)

*Prerequisite: 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. (Lecture 2 hours.)

*Prerequisite: 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. (Lecture 2 hours. Clinical 6 hours.)

*Prerequisite: 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 that the student receives from the field of psychology. The student will acquire a basic knowledge of the causes, treatment, and prevention of mental disorders across the life span including the impact of environmental forces. Ethical/legal concepts are integrated throughout. Emphasis is placed on application of therapeutic communication techniques, psychiatric assessment skills, and the nursing process. The impact of the therapeutic environment upon the treatment of specific psychiatric populations across the life span will be presented.

### **RNUR 138 Nursing Care of Women and Neonates**

4 credits. 8 hours. (Lecture 2 hours. Clinical 6 hours.)

*Prerequisite: Admission to RNUR 138 requires successful completion of all prerequisite courses with a grade of C or better, BIOL 100 or CHEM 105, PSYC 140, RNUR 126, RNUR 131, BIOL 109, or option of BIOL 110 AND BIOL 210, PSYC 243.*

This is a sixteen-week nursing course focusing on nursing care of women and neonates. The course is designed to provide a holistic view of women and their health-related self-care practices. While major emphasis is placed upon providing experiences in meeting the basic needs of the family during the childbearing years, women's changing health care requirements throughout her lifetime are also addressed. Communication with women, mothers, and significant others is emphasized. Developmental tasks of neonate, adolescent, and adult are identified. The nursing process is utilized in the clinical setting to determine needs and related interventions for childbearing women, neonates, and support systems. Emphasis is placed on incorporating teaching-learning needs as part of the plan of care for the cultural diverse family.

### **RNUR 141 Adult Nursing I**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 243, BIOL 109, RNUR 126, RNUR 131. Prerequisite or concurrent enrollment in BIOL 208.*

A minimum grade of C must have been earned in each of these prerequisite courses. Adult Nursing I is the first of three medical-surgical nursing courses and builds upon the basic nursing content and skills learned in Fundamentals of Professional Nursing and Essential Nursing Concepts. Gerontological concepts are presented along with selected medical-surgical problems associated with this population. The nursing process will serve as the framework to integrate the concepts of legal/ethical issues, culture and ethnicity, developmental stages/tasks, and communication. Emphasis is placed on identifying physiological and psychological changes of clients aged 65 and older.

### **RNUR 230 Leadership/Management/Trends**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite: ENGL 101, 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 125, 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. (Lecture 2 hours. Clinical 6 hours.)  
*Prerequisites: BIOL 208, RNUR 134, RNUR 138, and RNUR 141, each with a 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. (Lecture 3 hours. Clinical 6 hours.)

*Prerequisite: BIOL 208, RNUR 134, RNUR 138, and RNUR 141, each with a grade of C or better. Prerequisites or taken concurrently: ENGL 101 and SOCI 160, each with a grade of C or better.*  
Adult Nursing II is the second of three medical-surgical nursing courses and is the first with a clinical component. This course allows students to utilize previous nursing concepts as they apply their skills to clients in a variety of secondary and tertiary settings. Students assume professional nursing roles in meeting basic needs by demonstrating skills in communication, critical thinking, and the nursing process. Students interact with culturally/ethnically diverse clients and integrate legal/ethical issues into the plan of care. Content regarding medical-surgical disease processes is continued, giving the student the basis of knowledge to assist the client to reach optimal status on the health-illness continuum.

### **RNUR 244 Adult Nursing III**

7 credits. 13 hours. (Lecture 4 hours. Clinical 9 hours.)

*Prerequisite: ENGL 101, SOCI 160, RNUR 234, and RNUR 238, each with a grade of C or better; OR taken concurrently: SPDR 100 and Constitutional requirement (one course): HIST 120/121; POLS 135/136/137; or SOSC 151 with a grade of C or better.*

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 that prepares the student to enter the work force. A community health nursing experience is incorporated in theory and clinical practice.

# ◆ Psychology

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**Blue River**  
Kimberly Chapman

**Longview**  
Susan Benoit  
Matthew Westra  
**Penn Valley**  
Cebra Sims

**Maple Woods**  
Julia Bishop  
Robert Williams

## **PSYC 140 General Psychology**

3 credits. 3 hours. (Lecture 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. (Lecture 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 143 Psychology of the African-American**

### **Experience** 🌐

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Psychological principles as they apply to the development, behavior, and experience of the African-American from colonization through Reconstruction to the present. Special considerations will be given to the impact of racism.

## **PSYC 144 Adjustment and Personality**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Basic factors in personality development with emphasis on the role of social influences, stress, communication, relationships, and mental health.

## **PSYC 146 Industrial and Organizational Psychology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Application of basic psychological principles to the world of work. Attention is given to the role of: management, principles of communication, decision making, gender issues, conflict resolution and negotiation. Special attention is given to the relationship of worker satisfaction and performance.

## **PSYC 148 Group Processes**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Analysis of group behavior and functioning. Examination of group and member interaction. Identification of traits promoting effective and ineffective groups. Exploration of the impact of group processes on various aspects of human development and functioning.

## **PSYC 162 Correctional Psychology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Psychological theories of crime and delinquency. Diagnostic approaches used in juvenile and adult correctional settings. Psychopathology. Classification procedures. Individual and group counseling techniques in mental health.

## **PSYC 210 Interviewing and Interpersonal Communications**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 144.*  
Development of skills necessary for effective performance in the helping professions despite differences in basic values and social backgrounds.

## **PSYC 240 Child Development**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Critical factors in understanding development: internal growth forces, self factors, external adjustment processes. Emphasis on interrelatedness of developmental processes.

## **PSYC 243 Human Lifespan Development**

4 credits. 4 hours. (Lecture 4 hours.)  
*Prerequisite: PSYC 140.*  
Discussion of the physical, social, emotional, and personality changes occurring during the life of the individual from conception through death. Emphasis is placed on the similarities and differences in development across and within cultures.

## **PSYC 245 Adolescent Psychology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Overview of developmental stages of adolescence. Physical, psychological, educational, and social characteristics and implications.

## **PSYC 260 Social Psychology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: PSYC 140.*  
Factors influencing individuals in social situations. Attitude formation, prejudice, aggression, interpersonal communication, leadership, and persuasion.

# ◆ Quality Assurance Technology

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*Offered at the Business and Technology College*

## **QCAT 150 Introduction to Quality Assurance I**

3 credits. 3 hours. (Lecture 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. (Lecture 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 210 Quality Management System**

#### **Auditing**

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

*Prerequisite:* QCAT 150.

Applications in quality management system auditing principles. Includes a systematic approach to determine whether quality activities and related results comply with defined criteria and have been implemented effectively.

### **QCAT 240 Quality Assurance Applications**

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

*Prerequisite:* Minimum grade of C in QCAT 151.

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. (Lecture 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. (Lecture 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. (Lecture 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. (Lecture 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**

*Offered at Penn Valley*

Judith Taylor

Kimberly Thebeau-Siercks

### **RATE 150 Introduction to Radiologic Technology**

1 credit. 1 hour. (Lecture 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**

6 credits. 10.2 hours. (Lecture 4.2 hours. Clinical 6 hours.)

*Prerequisite:* Completion of prerequisite courses including *Introduction to Radiologic Technology* and admission to the *Radiologic Technology Program*.

Orientation to the program and clinical responsibilities. Topics related to basic patient interactions, body mechanics, patient transportation, radiographic terminology, radiographic examinations of the chest and abdomen, methods of radiation protection and types of radiographic equipment will be explored.

### **RATE 162 Image Processing**

2 credits. 2.5 hours. (Lecture 1.5 hours. Laboratory 1 hour.)

*Prerequisites:* RATE 160, 172, and 173, each with a minimum grade of C.

Materials and factors relating to acquisition, processing, viewing, and storage of radiographs.

### **RATE 165 Patient Care**

2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite:* RATE 160 with a minimum grade of C.

This course will explore patient-health professional interactions, basic patient care and management, medico-legal issues, and medical ethics.

### **RATE 170 Radiation Biology and Protection**

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

*Prerequisite:* RATE 160 with concurrent enrollment in the corresponding semester of clinical training.

The principles of radiation biology and techniques used to protect the patient and personnel from the effects of exposure to ionizing radiation.

### **RATE 171 Radiographic Exposures I**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)

*Prerequisite:* Admission to the program.

Factors which affect radiographic image formation and determine image quality.

### **RATE 172 Radiographic Positioning I**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)

*Prerequisites:* RATE 160 with a minimum grade of C. Concurrent enrollment in RATE 165 and 173.

Anatomy and positioning of the alimentary canal, urinary system, and upper and lower extremities.

### **RATE 173 Clinical Training I**

3 credits. 16 hours. (Clinical 16 hours.)  
*Prerequisites:* RATE 160 with a minimum grade of C and concurrent enrollment in RATE 165 and 172.  
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

### **RATE 174 Radiographic Exposures II**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)  
*Prerequisites:* RATE 160, 171, 172, and 173 each with a minimum grade of C.  
Quality control of radiographic images. Technic charts, calibration of equipment, standard exposure systems, and factors used for conversion of technics for variables in the exposure system. Special techniques used in producing radiographic images.

### **RATE 175 Clinical Training II**

4 credits. 24 hours. (Field Studies 24 hours.)  
*Prerequisites:* RATE 165, 172, and 173 each with a minimum grade of C. Concurrent enrollment in RATE 176.  
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

### **RATE 176 Radiographic Positioning II**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)  
*Prerequisites:* BIOL 110 and RATE 165, 172, and 173, each with a minimum grade of C. Concurrent enrollment in RATE 162 and 175.  
Anatomy, radiographic positioning, and film critique of the pelvis, bony thorax, vertebral column, cranium, and facial bones.

### **RATE 178 Clinical Training III**

4 credits. 20 hours. (Clinical 20 hours.)  
*Prerequisites:* RATE 175 and 176 each with a minimum grade of C.  
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

### **RATE 278 Imaging Modalities and Pathology**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites:* RATE 279, 280, 281, and 285, each with a minimum grade of C. Concurrent enrollment in RATE 282.  
Human disease processes and their relationship to patient examination in the radiology department. Radiographic pathology and imaging modalities.

### **RATE 279 Radiographic Positioning III**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisites:* RATE 176 and 178 each with a minimum grade of C. Concurrent enrollment in RATE 280, 281, and 285.  
Anatomy and positioning of the biliary system, mammary glands, and temporal bone. Advanced film critique of radiographs of all routine radiographic examinations.

### **RATE 280 Clinical Training IV**

4 credits. 24 hours. (Clinical 24 hours.)  
*Prerequisites:* RATE 162, 176, and 178, each with a minimum grade of C.  
Concurrent enrollment in RATE 279, 281, and 285.  
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

### **RATE 281 Radiation Physics**

3 credits. 3.5 hours. (Lecture 2.5 hours. Laboratory 1 hour.)  
*Prerequisites:* PHYS 162 and RATE 171 each with a minimum grade of C.  
Application of fundamental physics principles relating to energy, electricity, and magnetism and their relevance to the study of x-rays and x-ray equipment.

### **RATE 282 Clinical Training V**

4 credits. 24 hours. (Field Studies 24 hours.)  
*Prerequisites:* RATE 279, 280, 281 and 285, each with a minimum grade of C. Concurrent enrollment in RATE 278.  
Performance of patient examinations in a clinical setting under the supervision of a radiologic technologist.

### **RATE 283 Final Seminar**

2 credits. 2 hours. (Lecture 2 hours.)  
*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 285 Special Procedures**

2 credits. 2 hours. (Lecture 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.

## Reading

**Longview**  
Susan Clark  
Patricia Illing

**Maple Woods**  
Debra McCarty  
Michele McGeeney  
**Blue River**  
Ronald Taylor

**Penn Valley**  
Judith Flynn  
Vicki Raine

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. (Lecture 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. (Lecture 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 as to comprehend written material applicable to the college environment. Instruction in main idea and supporting details, inference, and organizational patterns, vocabulary development, and textbook strategies.

**READ 13 Linguistic Comprehension I**

3 credits. 3 hours. (Lecture 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 14A Reading - Vocabulary**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Vocabulary development through word analysis and context clues.

**READ 15 Phonology I**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisites:* *Diagnostic testing and approval of instructor.*  
Improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 16 Phonology I**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisites:* *Diagnostic testing and approval of instructor.*  
Improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 17 Phonology I**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites:* *Diagnostic testing and approval of instructor.*  
Improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 18 Linguistic Comprehension II**

**(Companion for READ 11)**  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* *Appropriate placement scores or the successful completion of READ 13/33 with a grade of C or better or instructor recommendation.*  
Development of fundamental comprehension of printed material applicable to the college environment through auditory and visual input. Instruction in main ideas and supporting details, and organizational patterns, vocabulary development and textbook strategies.

**READ 19 Phonology II**

1 credit. 1 hour. (Lecture 1 hour.)  
*Prerequisite:* *Permission of the instructor. Successful completion of READ 15, 16, or 17.*  
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 20 Phonology II**

2 credits. 2 hours. (Lecture 2 hours.)  
*Prerequisite:* *Permission of the instructor. Successful completion of READ 15, 16, or 17.*  
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 21 Phonology II**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* *Permission of the instructor. Successful completion of READ 15, 16, or 17.*  
Continued improvement in reading, spelling and pronunciation using multi-sensory information. Structured, incremental sequence of instruction in the sound structure of English words (phonology), including phoneme awareness and phonetic analysis.

**READ 22 Language Processing**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* *Permission of the instructor.*  
Improvement of reading, spelling, oral and written language comprehension and retention using multi-sensory information. Structured incremental sequence of instruction.

**READ 30 Foundations for Academic Reading I**

3 credits. 4 hours. (Lecture 2 hours. Laboratory 2 hours.)  
*Prerequisite:* *Appropriate placement scores 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. (Lecture 2 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, and organizational patterns, vocabulary development and textbook strategies. Lab component.

**READ 38 Linguistic Comprehension II**

3 credits. 4 hours. (Lecture 2 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, and organizational patterns, vocabulary development, and textbook strategies. Lab component.

**READ 51 Spelling I**

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

Development of adult-level spelling skills by explanation and drill in the fundamentals of spelling. Basic patterns of vowel and consonant sounds, families of structurally similar words, and addition of affixes. Credit for courses numbered under 100 is not applicable to any degree or certificate.

**READ 52 Spelling II**

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

Development of skills in the fundamentals of spelling using drill and practice and computer assisted instruction.

**READ 100 College Reading**

3 credits. 3 hours. (Lecture 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, text strategies.

**READ 101 Speed Reading**

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

*Prerequisite: Appropriate placement scores or the successful completion of READ 100 or instructor recommendation.*

Purpose and methods of speed reading. Guided practice in surveying, scanning, skimming, and developing flexibility of reading rates.

**READ 103 Linguistic Comprehension III**

**(Companion for READ 100)**

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

*Prerequisite: Appropriate placement scores or the successful completion of READ 18/38 with a grade of C or better and/or instructional team.*

Enhancement of ability to comprehend printed material at the college level. College-level vocabulary, critical and analytical reasoning, and text strategies through auditory and visual input.

**READ 108 College Success Skills**

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

Campus orientation, introduction to college environment resources, and campus socialization. Skills for achieving educational goals such as awareness of learning styles, textbook strategies, listening and note taking skills, memory skills, test preparation, and test taking strategies. Life skills such as interpersonal skills, goal setting, time management principles and tools, and stress management.

**READ 114 Advanced College Reading**

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

*Prerequisite: Successful completion of READ 100 or instructor recommendation.*

Further increase in reading rate and vocabulary. Refinement of reading comprehension and concentration on critical reading.

**READ 124 Study Skills**

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

A survey of techniques for organizing the learning process; learning styles, goal setting, time management, textbook strategies, note taking skills, memory skills, test preparation, test-taking skills.

**READ 199 Instructional Techniques in Reading and Spelling I**

3 credits. 6 hours. (Lecture 6 hours.)

Trains trainers in multi-sensory concepts, approaches, and instructional methods for improving students' reading and spelling. Phonology of the English language, development of phonemic awareness and phonetic analysis abilities, and Socratic questioning techniques.

**READ 201 Instructional Techniques II**

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

Trains trainers in multi-sensory approaches and Socratic questioning techniques for improving students' reading, spelling, and language comprehension and retention. Basic techniques and standardized procedures of administering and scoring a battery of diagnostic instruments for assessing literacy development.

# ◆ Sign Language Interpreting

Offered at Maple Woods  
Ula Williams

## **SIGN 101 Conversational American Sign Language I**

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

A beginning course of instruction in American Sign Language designed to introduce functional communication skills. Also included will be beginning 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. (Lecture 2 hours. Laboratory 2 hours.)

*Prerequisite:* 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. 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. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisites:* ENGL 101 and final grade of B or better in SIGN 102 or permission of 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 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. (Lecture 2 hours.)

*Prerequisites:* ENGL 101 and final grade of B or better in SIGN 102 or permission of 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. (Lecture 3 hours.)

*Prerequisites:* ENGL 101 and final grade of B or better in SIGN 102 or permission of program coordinator.

A course to provide students of interpreting an understanding of American Deaf culture in order to better facilitate communication and mediate across cultures.

## **SIGN 118 Sign-to-Voice I**

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

*Prerequisites:* ENGL 101 and final grade of B or better in SIGN 102 or permission of 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 provides students with in-class practice.

## **SIGN 120 American Sign Language II**

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

*Prerequisites:* SIGN 110 and 116 or permission or 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.

**SIGN 128 Sign-to-Voice II**

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

*Prerequisites:* SIGN 110 - 118 inclusive of 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. (Lecture 3 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. (Lecture 1 hour. 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. (Lecture 3 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. (Lecture 2 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. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisites:* SIGN 110 - 128 inclusive and SIGN 210 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.

**SIGN 222 C.A.S.E. II**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisites:* SIGN 110 - 128 inclusive and SIGN 212 or permission of program coordinator.

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.

**SIGN 225 Interpreting III**

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

*Prerequisites:* SIGN 110 - 128 inclusive or permission of program coordinator.

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.

**SIGN 228 Sign-to-Voice IV**

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

*Prerequisites:* SIGN 110 - 128 inclusive or permission of program coordinator.

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. Continued work on diction and vocal inflection to appropriately represent signed material.

### **SIGN 230 Practicum/Internship**

2 credits. 4 hours. (Field Studies 4 hours.)  
*Prerequisites: SIGN 110 - 128 inclusive or permission or program coordinator.*  
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.

### **SIGN 236 Directed Study in Sign Language Interpreter Training II**

1 credit. 1 hour. (Independent Study 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

*Longview*      *Maple Woods*      *Penn Valley*  
*Blue River*

### **SOSC 115 Consumer Problems**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
Problems and potentials of family spending and consumption with attention to consumer protection and marketing practices.

### **SOSC 150 Foundations of the Social Sciences I**

3 credits. 3 hours. (Lecture 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 151 Foundations of Social Sciences II**

3 credits. 3 hours. (Lecture 3 hours.)  
Political and governmental institutions, the chief ideologies of the modern world, and international relations. Federal and Missouri constitutions.

### **SOSC 153 Readings in Social Science**

1-3 credits. 1-3 hours. (Lecture 1-3 hours.)  
A flexible program of guided reading, discussion, and written work designed to provide the student with either a survey of the social sciences or a detailed study of a particular area within social science. Includes a unit on American institutions and the federal and Missouri constitutions when requested.

### **SOSC 171 Comparative Ethnic and Cultural Studies**

3 credits. 3 hours. (Lecture 3 hours.)  
Comparative analysis of a foreign contemporary society or societies to the contemporary society of the United States with focus on social, economic and political systems to enhance understanding of American society and its interaction with diverse culture or cultures.

## ◆ Sociology

*Blue River*  
Sharon Hogan

*Longview*  
Tammie May  
*Penn Valley*  
dorether Welch

*Maple Woods*  
Jessica Dumas

### **SOCI 101 Sex Roles and Sexuality**

3 credits. 3 hours. (Lecture 3 hours.)  
Sociological, psychological, and physiological perspectives of the contemporary human sexuality, development of sex roles, and on alternatives for personal, interrelational and societal adjustment.

### **SOCI 160 Sociology**

3 credits. 3 hours. (Lecture 3 hours.)  
Introduction to sociological principles, practices, and concepts with emphasis on groups, culture, personality, society, communication, cities, and social institutions. Family, religion, government, social change, social control, and social progress.

### **SOCI 162 Marriage and Family Living**

3 credits. 3 hours. (Lecture 3 hours.)  
This course provides an introduction to the study of problems in family and marriage in contemporary society. Attention will be given to examining the attitudes and practices needed for effective participation in marriage and family life.

### **SOCI 163 Social Problems**

3 credits. 3 hours. (Lecture 3 hours.)  
This course considers representative social problems with emphasis on delinquency, personality disintegration, alcoholism, and family and racial conflicts.

### **SOCI 164 Sociology of the African-American**

**Family** 🌐  
3 credits. 3 hours. (Lecture 3 hours.)  
The Sociology of the African-American Family considers the historical and modern day African-American family in the United States. Emphasis is placed on the influence of the context of their initial immigration to the U.S. as well as on a variety of ongoing historical, social, political, and economic factors that ultimately influenced the African-American family's quality of life in such areas as, for example, social welfare, access to housing, education, legal rights, and employment.

### **SOCI 165 Criminology**

3 credits. 3 hours. (Lecture 3 hours.)  
Manifestations of crime and theories of criminal behavior. Process and purpose of treatment. Corrections, crime prevention and control, probation and parole, and contemporary trends.

### **SOCI 168 Juvenile Delinquency**

3 credits. 3 hours. (Lecture 3 hours.)  
Definitions and extent of delinquent behavior. Development of the juvenile court. Functions of detention, intake, and probation. Community-based and institutional programs. Procedures for processing juveniles and treatment trends. Major theories of delinquency causation and critical analysis.

**SOCI 169 Family Violence and Sexual Abuse**  
3 credits. 3 hours. (Lecture 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. (Lecture 3 hours.)  
Survey of physical and cultural anthropology. Concentrates on concept of culture, social institutions, and organization: economy, politics, family, religion, law, and language, human evolution, human sexuality, and archaeology.

**SOCI 210 Native Americans in Contemporary Society** 🌐  
3 credits. 3 hours. (Lecture 3 hours.)  
Focuses on socioeconomic factors impacting Native Americans in modern society and social construction of Native identity, with particular emphasis on the struggle to maintain and direct changes in the tribal communities in such areas as education, family structures, tribal governments, and religion.

## ◆ Speech And Drama

**Longview**  
William Cue  
Kathryne Kiser  
Joyce Kuhn

**Maple Woods**  
Elizabeth Hill  
Carlos Perez  
  
**Blue River**  
Anne Mahoney

**Penn Valley**  
Deborah Craig-  
Claar  
Tracy Hall  
F. Kim Wilcox

**SPDR 100 Fundamentals of Speech**  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: ENGL 30 with a minimum grade of C or satisfactory score on placement test.*  
Introduction to the theory and practice of public speaking with a focus on the skills related to effective speech preparation and delivery.

**SPDR 101 Advanced Speech**  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: SPDR 100.*  
Further practice in public speaking situations with special emphasis on organization, development of ideas, and mechanics of delivery.

**SPDR 102 Fundamentals of Human Communication**  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: ENGL 30 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 topics in interpersonal communication, which may include small group dynamics and interviewing. Practical application of speaking and listening skills.

**SPDR 103 Interpersonal Communication**  
3 credits. 3 hours. (Lecture 3 hours.)  
Principles and skills of human communication relating to interpersonal communication settings: topics include theoretical elements of interpersonal communication, self-concept, perception, emotions, language, non-verbal communication, development and deterioration of human relations, identity and conflict management and analyses of communication climates.

**SPDR 110 Argumentation and Debate**  
3 credits. 3 hours. (Lecture 3 hours.)  
Theory, methods, structure, and execution of competitive debate. Participation in competitive debates with other area debate squads.

**SPDR 112 Oral Interpretation of Literature**  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: SPDR 100.*  
Analysis and presentation of literary works to increase appreciation of and skill in reading aloud in individual and group performances.

**SPDR 114 Theater and the Western World**  
3 credits. 3 hours. (Lecture 3 hours.)  
The study of the history of theatre from ancient Greece to the present. The course will explore the evolution of the many types of theatre activities. This course will include the reading and discussion of plays using the elements of theatre based on Aristotle's "Poetics." Exploration of the creation of theatre as a profession. The connection of modern issues with the themes of play read. Different cultures will be explored through the study of theatre of arts.

**SPDR 115 Acting in a Video and/or Digital Medium**  
3 credits. 4.5 hours. (Lecture 1.5 hours. Laboratory 3 hours.)  
This course is an introduction to performance in a video and/or digital medium. Basic performance techniques and text analysis will be explored, culminating in a final performance project.

**SPDR 116 Children's Theater**  
3 credits. 4 hours. (Lecture 1 hour. Laboratory 3 hours.)  
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. (Lecture 3 hours.)  
An introduction to performance on stage. Basic performance techniques and text analysis will be explored, culminating in a final performance project.

### **SPDR 121 Elements of Play Production**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite:* SPDR 100 or approval of the instructor.  
Identify and apply the elements of play production necessary to produce a theatrical performance through reading, observation and practical experience.

### **SPDR 122 Theater Practicum**

1 credit. 1 hour. (Laboratory 1 hour.)  
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

### **SPDR 123 Theater Practicum**

1 credit. 1 hour. (Laboratory 1 hour.)  
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

### **SPDR 124 Theater Practicum**

1 credit. 1 hour. (Laboratory 1 hour.)  
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

### **SPDR 125 Theater Practicum**

1 credit. 1 hour. (Laboratory 1 hour.)  
Performance and the technical production of plays. A different area each course: acting, scene construction, costuming, makeup, properties, lighting, sound, and theater management.

### **SPDR 126 Summer Theater Workshop**

1-3 credits. 1-3 hours. (Laboratory 1-3 hours.)  
Acting or technical production in one, two, or three productions of a local summer theater.

### **SPDR 128 Introduction to Film**

3 credits. 3 hours. (Lecture 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. (Independent Study 1 hour.)  
*Prerequisites:* SPDR 100 and approval of the instructor.  
An independent study in speech, theatre or debate. Students will work in a professional environment designed to give them professional work experience in a selected program area. Student may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

### **SPDR 131 Directed Studies in Speech/Theater/ Debate**

2 credits. 2 hours. (Independent Study 2 hours.)  
*Prerequisites:* SPDR 100 and approval of the instructor.  
An independent study in speech, theatre or debate. Students will work in a professional environment designed to give them professional work experience in a selected program area. Student may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

### **SPDR 132 Directed Studies in Speech/Theater/ Debate**

3 credits. 3 hours. (Independent Study 3 hours.)  
*Prerequisites:* SPDR 100 and approval of the instructor.  
An independent study in speech, theatre or debate. Students will work in a professional environment designed to give them professional work experience in a selected program area. Student may also choose to do an independent project under the supervision of a faculty member. Those students selecting work in a professional environment will also be under the supervision of the director or supervisor for the selected work environment.

### **SPDR 133 Intercultural Communications**

3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites:* ENGL 30 with a minimum grade of C or placement into ENGL 101 based on English placement testing.  
Students will study the elements and terms of cultural communication, analyze ways cultural components impact society and identify steps to achieving cultural communication competence.

## **Surgical Technology**

### *Offered at Penn Valley*

Carolyn A. Parks                      Andrea Spalter

### **STNU 100 Introduction to Surgical Technology**

2 credits. 4 hours. (Lecture 4 hours.)  
Explores historical aspects of surgery, health care facilities, and organizations. Includes the roles, duties, and responsibilities of the surgical team members. Ethical, legal, and moral issues in health care and surgery are addressed. Focuses on effective communication skills, accurate medical terminology, and the impact of transcultural psychosocial outcomes for clients in the surgical setting.

### **STNU 102 Fundamentals of Operating Room Technique**

11 credits. 21 hours. (Lecture 6 hours. Clinical 15 hours.)

*Prerequisite: The student must meet the entrance requirements and be accepted into the Surgical Technology Program.*

Applies principles of medical and surgical asepsis. Focuses on preparation of the sterile field, identification of instruments, sutures, supplies and equipment. Emphasis is on basic skills of the Surgical Technologies 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.

### **STNU 104 Body Structure and Function**

2 credits. 2 hours. (Lecture 1 hour. Laboratory 1 hour.)

*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. 2 hours. (Lecture 2 hours.)

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, post anesthesia client care, and care in emergencies.

### **STNU 106 Aseptic Technique for the Surgical Technologist**

2 credits. 4 hours. (Lecture 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. (Lecture 4 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. (Lecture 3 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 111 Career Development for the Surgical Technologist**

2 credits. 2 hours. (Lecture 2 hours.)

Resume 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. (Lecture 4 hours. Clinical 9 hours.)

Focus is on diagnosis, pathology, and surgical sequence with complex surgical specialties: neurosurgery, cardiovascular and peripheral vascular, thoracic, pediatric, geriatric, and trauma surgery. Included is discussion of postoperative care and complications.

## **Veterinary Technology**

*Offered at Maple Woods*

Carole Maltby

### **VETT 100 Introduction to Veterinary Technology**

2 credits. 2 hours. (Lecture 2 hours.)

Orientation to career opportunities available in veterinary technology. Professional ethics, public relations, and psychological adjustment of the student in terms of understanding the need for physical treatment, and care of animals. Client relations, vaccination programs, regulatory organizations, receptionist duties, breeds and breed characteristics, neutering, puppy care, diets and hospital management.

### **VETT 101 Principles of Animal Science I**

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

Principles of handling, housing, and management of animals. Basic dietary and sanitation requirements. Restraint and handling, administration of medications, bathing, skin scraping, and basic laboratory tests. Emphasis on animal physiology including the cell, muscle, nervous, respiratory, and cardiovascular systems. Introduction to anesthesia and general animal nursing.

### **VETT 110 Principles of Animal Science II**

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

*Prerequisite: VETT 101.*

Anesthesia and the physiology of the digestive, urinary, endocrine, and reproductive systems. Blood and specimen collection, basic bandaging, and introduction to surgical preparation and radiographic processing.

**VETT 111 Sanitation and Animal Care**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

Introduction to microorganisms, sanitation, disinfectants, sterilization, and zoonotic diseases and public health problems. Introduction to parasitology and vermin control, specimen preservation, instrument identification, cleaning, and sterilization, sanitary procedures in patient care.

**VETT 200 Veterinary Hospital Technology I**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites:* VETT 101 and 110.

Administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparations and postoperative procedures, parenteral fluid administration, and intravenous hookups. Introduction to orthopedics, electrocardiography, bone marrow cytology, and pharmacology.

**VETT 201 Clinical Pathology Techniques I**

4 credits. 7 hours. (Lecture 1 hour. Laboratory 6 hours.)

Introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis, and parasitology, urinalysis and urine sediment valuation.

**VETT 202 Veterinary Anatomy**

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

*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. (Lecture 1 hour. Laboratory 2 hours.)

*Prerequisites:* VETT 101, 110, and 201.

Restraint and handling of laboratory animals and birds. Blood collection, restraint, identification, medicating, anesthesia, and specimen collection. Technical skills for laboratory animal research.

**VETT 209 Equine Medicine and Management**

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

*Prerequisite:* VETT 212.

Breeds and types of horses and their use. A study of conformation as it relates to soundness, horse psychology, fitting, conditioning, first aid and restraint, parasites and their control, farm management for safety, nutrition, mare care, breeding, foaling, hoof soundness, equine diseases and their prevention.

**VETT 210 Veterinary Hospital Technology II**

3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisite:* VETT 200.

Introduction of anesthetics, surgical assisting, bandaging, casting, blood transfusions, surgical preparations, and post-operative care. Administration of parenteral fluid and emergency treatments. Introduction to ophthalmology and dermatology.

**VETT 211 Clinical Pathology Techniques II**

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

*Prerequisite:* VETT 201.

Theory and performance in hematologic, urinalysis, clinical chemistry, and parasitology. Introduction to simple immunologic tests, blood coagulation tests, and bone marrow evaluation. Emphasis on hematology and hemoparasites.

**VETT 212 Large Animal Technology**

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

*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 and caprine medicine and management including restraint, blood collection, medicating, and nursing techniques.

**VETT 213 Radiology and Electronic Procedures**

2 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

Intensive study and practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography, and machine electronics.

**VETT 214 Veterinary Technician Internship**

6 credits. 40 hours. (Field Studies 40 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.

# COURSES AT OTHER COLLEGES

## ◆ Other Courses

*Offered at Johnson County Community College or Kansas City Kansas Community College*

*These courses are part of degree plans offered through cooperative agreements with Johnson County Community College or Kansas City Kansas Community College and are coordinated by MCC. Acceptance into the specific program is required to take any of the following courses.*

*The following courses are offered as part of the Power Plant Technology program.*

### **BIOL 130 Environmental Science**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Environmental Science seeks to describe problems and solutions associated with human use of natural resources. Students will study the major physical and biological processes that govern the complex interactions in natural ecosystems. Major course topics include human population growth, resource use and pollution. Practical solutions aimed at sustainability will be identified and examined. This is an introductory, nonscience-major survey course.

### **BIOL 131 Environmental Science Lab**

*Offered at Johnson County Community College*  
1 credit. 2 hours. (Laboratory 2 hours.)

*Prerequisite or corequisite: BIOL 130.*

In this lab, students will learn ecological principles that are necessary for understanding and solving environmental problems. Students will sample the local environment for various types of environmental pollution, conduct lab projects and computer simulations, and attend field trips. Field trips may include a visit to a local wastewater treatment plant, a stream ecosystem and a prairie ecosystem.

*The following courses are offered as part of the Biotechnology program.*

### **BIOL 135 Principles of Cell & Molecular Biology**

*Offered at Johnson County Community College*  
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)

This is an integrated lecture and laboratory course for biology majors and students planning to take additional courses in biology. Subjects covered include basic biochemistry, cell structure and function, cellular metabolism, Mendelian and molecular genetics, natural selection and evolution, cell physiology and development of plants and animals from the single-celled stage to the embryonic stage.

### **BIOL 145 Human Anatomy/Physiology**

#### **Dissection**

*Offered at Johnson County Community College*  
1 credit. 2 hours. (Laboratory 2 hours.)

*Prerequisite: BIOL 144 and consent of the assistant dean.*

Students will dissect the cat and study the relationship of structures to function in the organ systems of the cat. In this laboratory course, they will also dissect the cow kidney, heart, brain and eye. Students will compare and contrast these structures and functions with the organ systems of the human body.

### **BIOL 150 Biology of Organisms**

*Offered at Johnson County Community College*  
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)

*Prerequisite: BIOL 135 or consent of assistant dean.*

This is a survey of the five kingdoms of life. Monera, fungi, protista, plant and animal kingdoms will be presented, with emphasis on life cycles, anatomy, physiology and ecology of the major groups.

### **BIOL 160 Introduction to Biotechnology**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: CHEM 122.*

This course is an introduction to biotechnology, including career exploration, history and applications of DNA/RNA technology, molecular biology, and bioethics. Topics include cloning, DNA, antibodies, gene therapy, plant biotechnology, the human genome project, DNA fingerprinting, genetic testing, diverse products made through biotechnology, and the ethical implications of this technology. The course is intended for those interested in pursuing a career in an industrial, academic, or biomedical research laboratory.

### **BIOL 165 Laboratory Safety**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

*Prerequisite: CHEM 122.*

This course will emphasize laboratory safety and procedures. Additionally, regulations that govern the biotechnology laboratory will be discussed. Biological, chemical and radiation safety will all be handled through lectures, videotapes, demonstrations and field trips. There will also be exposure to good manufacturing practices (GMP), quality assurance and control procedures (QA/QC), and OSHA and FDA regulations.

### **BIOL 205 General Genetics**

*Offered at Johnson County Community College*  
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisite: BIOL 122.*

This introductory course emphasizes human heredity using concepts from classical and modern genetics. Themes of advancing technologies and bioethical issues are interwoven in the basic background fabric of the course.

### **BIOL 230 Microbiology**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisite: CHEM 122 or one year of high school chemistry.*

This is a general introductory course in microbiology. It provides a background in many areas of microbiology physiology, antimicrobial agents, immunology and host-parasite relationship of microorganisms will be studied, with an emphasis on bacteria.

### **BIOL 260 Biotechnology Methods**

*Offered at Johnson County Community College*  
5 credits. 6 hours. (Lecture 3 hours. Laboratory 3 hours.)

*Prerequisite: BIOL 160 and BIOL 165 or consent of the assistant dean. Prerequisite or corequisite: BIOL 230.*

This course is an introduction to the theory and laboratory techniques in molecular biology, protein biochemistry and immunology with an emphasis on gene expression and regulation, recombinant DNA, RNA transcription, and protein translation. Laboratory emphasis will be on molecular biological techniques utilized in modern research and industrial laboratories. Techniques include growth and maintenance of *E. coli*, gene cloning, DNA and protein electrophoresis protein purification and enzymatic and immunology assays. Lecture and laboratory exercises on the principles and practices of initiation, cultivation, maintenance, preservation of cell culture lines and applications will also be covered.

### **BIOL 265 Biotechnology Internship**

*Offered at Johnson County Community College*  
4 credits. 20 hours.

*Prerequisite: BIOL 160 and BIOL 165 and BIOL 260.*

The internship will provide advanced students the opportunity to develop job and career-related skills while in a work setting. Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The work will be developed cooperatively with academic, industrial and private institutional biotechnology laboratories.

*The following course is offered as part of the Horticulture and Interior Design programs.*

### **BUS 145 Small Business Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to demonstrate an understanding of management techniques vital to small business. In addition, the student should be able to apply decision making skills in the areas of business start-up choosing the form of ownership, marketing, financial planning and managing the small business.

*The following courses are offered as part of the Interior Design program.*

### **BUS 230 Marketing**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to explain the concepts of production, consumption and distribution in relation to a free enterprise economy; list the basic channels of distribution available to the manufacturer of consumer and industrial products; explain and compare the distribution functions of the manufacturer, wholesale and retailer; and state the procedures necessary to develop a total marketing plan for a given product, service or product line. In addition, the student should be able to discuss the fundamental principles of consumer behavior in the buying process and apply those principles to target market strategies.

### **BUSE 131 Financial Management for Small Business**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: ACCT 111 or 112.*

Upon successful completion of this course, the student should be able to identify and evaluate the various sources available for funding a small business; demonstrate an understanding of financial terminology; read, prepare and analyze a financial statement; and write a loan proposal. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs, establish credit policies, prepare sales forecasts and determine borrowing needs for a small business.

### **BUSE 142 Fast Track Business Plan**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student will be able to evaluate a business concept and write a sound business plan. In the process of doing so, students will be able to assess the strengths and weaknesses of a business concept; collect, analyze and organize market research data into a marketing plan; and prepare the financial projections for their business concept. In addition, students will be able to identify and evaluate various resources available for funding small businesses. The course is required for the business plan certificate, the vocational certificate in business entrepreneurship and the associate of applied science degree in business entrepreneurship.

### **BUSE 160 Legal Issues for Small Business**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

Upon successful completion of this course, the student should be able to identify the forms of business ownership and the legal and tax implications for each. In addition, the student should be able to explain laws concerning legal issues such as personnel, contracts and protection of intellectual property. The student should also be able to explain the reporting requirements for local, state and federal agencies.

*The following courses are offered as part of the Forensic Chemistry program.*

### **CHEM 102 Introduction to Forensic Science and Laboratory**

*Offered at Kansas City Kansas Community College*  
5 credits.

This course introduces the basic principles and relationships between the application of chemistry to forensic science as they relate to the criminal investigative process. The course is designed to give students insight into the many areas of forensic science and how chemistry and other sciences play a role. Areas included are blood analysis, hair analysis, firearms and identification, fiber comparisons, paints, glass compositions, soil comparisons, and seminal fluid analysis. Upon completion of this course students should understand the potential value of forensic science and also the limitations.

### **CHEM 201 Forensic Science Analytical Techniques**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisite: CHEM 112, CHEM 211, and CHEM 213, or concurrent enrollment*

This course is designed for the student who will be a science major in the field of forensic science. It incorporates three major laboratory processes within the criminal investigative processing of evidence. The principle and laboratory techniques of FT-IR, GC/MS and electrophoresis will be covered in relationship toward forensics.

*The following course is offered as part of the Biotechnology program.*

### **CHEM 250 Biochemistry**

*Offered at Johnson County Community College*  
4 credits. 4 hours. (Lecture 4 hours.)

*Prerequisite: CHEM 131 and CHEM 132 and CHEM 140 or CHEM 220.*

This course is an introduction to the major topics in biochemistry. Topics include the major classes of biological molecules, such as proteins, lipids and nucleic acid; an overview of the major metabolic pathways; and developments and topics relating to molecular biology.

*The following courses are offered as part of the Interior Design program.*

### **DRAF 261 Graphic Comm I/Interior Design**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

Upon successful completion of this course, the student should be able to interpret residential drawings, draft architectural drawings and use industry references. Drawings studied include floor plans, exterior elevations, interior elevations, sections, details and schedules. In addition to workbook assignments, students will draft on coldpress board, vellum and plastic film.

### **DRAF 264 Cad: Interior Design**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

*Corequisite: ITMD 122 or approval of division administrator.*

This course is an introduction to the use of computer aided drafting (CAD) as used in the interior design field. Upon successful completion of this course, the student should be able to draw floor plans and elevations of interiors using a computer-aided drafting system. AutoCAD LT software will be used. No previous computer experience is required.

### **DRAF 266 Graphic Comm II/Interior Design**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

*Prerequisite: DRAF 261.*

Upon successful completion of this course, the student should be able to draft three-dimensional representations of interior spaces, furniture, window treatments and decorative accessories. One-point and two-point perspective drawing, isometric drawing and perspective grids are covered. Student will draft in pencil on vellum and ink on mylar.

*The following courses are offered as part of the Power Plant Technology program.*

**ELEC 131 Introduction to Sensors And Actuators**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

This course examines types and uses of industrial sensors and actuators. Topics include temperature, pressure, optical, position and flow sensors. Operation of AC and DC motor drives will also be covered. The course will also include wiring and troubleshooting of sensors and actuators. Lecture topics will be supported by hands-on lab projects.

**ELTE 205 Industrial Electrical Wiring**

*Offered at Johnson County Community College*  
4 credits. 6 hours. (Lecture 3 hours. Laboratory 3 hours.)

*Prerequisite: ELTE 125 or ELTE 200 or ELTE 122.*  
This advanced course covers industrial wiring methods. Upon successful completion of this course, the student should be able to read industrial blueprints and apply the current National Electrical Code to industrial wiring systems. The student will gain working knowledge and hands-on experience with industrial wiring techniques. The student will be required to provide ANSI Z87 safety glasses, and may be expected to provide other basic hand tools and/or equipment.

*The following course is offered as part of the Respiratory Care program.*

**EMS 121 CPR I-Basic Life Support Healthcare Provider**

*Offered at Johnson County Community College*  
1 credit. 2.5 hours. (Field study 2.5 hours.)

This course provides an overview of the cardiovascular and respiratory systems, a discussion of medical and environmental emergencies leading to the need for CPR, and introduction to diagnostic signs and triage, as well as insight into the structure and function of the emergency medical services system. The most current practical CPR skills will be taught, including CPR and airway obstruction techniques for adults, children and infants. Upon successful completion of all American Heart Association standards, the student will receive affirmation at the Healthcare Provider level.

*The following course is offered as part of the Power Plant Technology program.*

**ENGL 210 Technical Writing II**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisite: ENGL 123.*

This course provides an advanced knowledge of technical writing. Students will learn the writing process (prewriting, writing and rewriting) to follow when constructing correspondence. Types of technical writing covered in this course include memos, letters, e-mail, short reports, long reports, instructional manuals, Web pages, PowerPoint presentations, brochures, newsletters, journal articles, resumes and online resumes. Students also will learn seven key traits of effective technical writing; clarity, conciseness, document design, organization, audience recognition, audience involvement and accuracy. Accuracy specifically entails the need for students to adhere to rules of grammar and mechanics. Students will learn how to create computer-generated graphics and learn word-processing skills. Finally, the students will learn how to work in teams, modeling Total Quality Management skills.

*The following courses are offered as part of the Interior Design program.*

**FASH 125 Visual Merchandising**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to explain and apply the principles of design in visual merchandising. In addition, the student should be able to identify and explain the use of mannequins and other forms, display fixtures and lighting systems; apply color theory; and present merchandise effectively in visual displays. The student should also be able to demonstrate the use of appropriate types of displays for in-store promotions.

**FASH 135 Image Management**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

Upon successful completion of this course, the student should be able to conduct an extensive wardrobe inventory. In addition, the student should be able to apply principles of personal grooming, elements of design and fabric, and accessory knowledge to the development of an individual professional wardrobe plan based on individual budget constraints.

**The following course is offered as part of the Power Plant Technology program.**

### **HVAC 146 Plumbing Systems Applications**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

Upon successful completion of this course, the student should be able to demonstrate familiarity with many aspects of fuel gas piping, gas appliance venting, water heater installations, combustion air requirements and proper piping techniques. Classroom lectures center on methods for proper sizing of both fuel gas piping and vent sizing with emphasis on interpretation of both the Uniform Plumbing Code and the National Fuel Gas Code. There will be an emphasis on combustion air requirements. Laboratory competencies will include identification of materials and proper installation methods of fuel gas lines, vent piping systems and copper water line connections. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment.

**The following course is offered as part of the Hospitality Management program.**

### **HMEC 151 Nutrition and Meal Planning**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course covers the basic food groups, their use in meal planning, their functions and their nutritional values. In addition to the current trends in eating, this course covers diets and exercise, as well as fad diets, life-cycle nutritional needs, and the effects of nutrient intake on growth and development. This is a required course for the food and beverage program and the chef apprenticeship program.

**The following courses are offered as part of the Horticulture program.**

### **HORT 150 Fruits, Vegetables & Herb Crops**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 1 hour. Laboratory 2 hours.)

This course is designed to familiarize garden center employees with the plant materials and production of crops many homeowners use and grow. This course will help the employee answer many homeowner questions about production, varieties and potential crop problems. Home hobbyists may also wish to enroll in this course.

### **HORT 160 Garden Center Operations**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course is designed for garden center employees and provides background on the elements necessary for success in a competitive retail environment. The business organization is emphasized, including environmental monitoring, selling, inventory issues, merchandising, advertising, cost effectiveness, labor/team relationships and customer service. In addition, safety and legal issues are examined.

### **HORT 215 Woody Plant II, Evergreens**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

This course will assist the grounds maintenance employee, landscaper, garden center employee and home hobbyist in identifying evergreen trees and shrubs and flowering shrubs sold in garden centers used in climatic zones 5 and 6. The plant uses, specific characteristics, plant cultivation, seasonal effects, influences that affect plant choices and customer services attributes will be taught.

### **HORT 220 Herbaceous Plants**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

This course will focus on the identification and uses of perennials, annuals, bulbs, ground covers and vines. The course will assist the grounds maintenance employee, landscaper, garden center employee and home hobbyist in identifying and selecting herbaceous plant materials used in the landscape. Culture and care will be covered, with additional emphasis on uses and maintenance. The student will also cover the more creative aspects of landscape enhancement and uses of herbaceous plants in garden design.

### **HORT 225 Plant Problems**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 2 hours. Laboratory 3 hours.)

*Prerequisite: HORT 214 and 220.*

This course is a broad-spectrum overview of plant insects diseases and nutrition. Students will look at plants to identify the common characteristics found when diagnosing plant problems. Identification, treatment and treatment alternatives will be considered to help customers make diagnostic decisions for the use of chemicals and integrated pest management techniques (IPM).

### **HORT 230 Landscape Maintenance/Techniques**

*Offered at Johnson County Community College*  
4 credits. 5 hours. (Lecture 3 hours. Laboratory 2 hours.)

*Prerequisite and/or corequisite: HORT 225*

This course prepares garden center and lawn care professionals for the total care of the landscape. Mowing, edging, pruning techniques, fertilization, watering, spray schedules and weed control will be covered. Mulches, construction materials and equipment used in maintaining landscapes and seasonal enhancements are examined as they pertain to the landscape. Irrigation systems repair and maintenance for residential and commercial landscapes will be discussed. In addition, the student will learn to design preventive strategies and identify and examine disease and insect damage as well as maintain good customer relations.

*The following courses are offered as part of the Hospitality Management program.*

### **HMGT 121 Hospitality Management Fundamentals**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to understand and describe the organization of the food service and public lodging industries. The student should also be able to describe the departmental functions, positions of the industries in the American economic system, and functions and limitations of these types of establishments.

### **HMGT 123 Basic Food Preparation**

*Offered at Johnson County Community College*  
3 credits. 3.5 hours. (Lecture 1 hour. Laboratory 2.5 hours.)

The student should be able to demonstrate skills in grilling, frying, broiling, sauteing, 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 in a safe manner.

### **HMGT 126 Food Management**

*Offered at Johnson County Community College*  
4 credits. 9 hours. (Lecture 2 hours. Laboratory 7 hours.)

*Prerequisites: HMGT 123, 145, 230, 277 and admission to the hospitality management program.*

This course offers an overview of restaurant management practices used in the hospitality industry. Emphasis will be on demonstrating 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 participate in the operation of the campus restaurant, including food preparation, service, sales promotion, purchasing and costing.

### **HMGT 128 Supervisory Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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 also will be discussed. Upon successful completion of this course, the student should be able to recognize potential legal problems.

### **HMGT 132 Seminar: Housekeeping Operation**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Seminar 3 hours.)

This course presents a systematic approach to managing housekeeping operations in the hospitality industry. The course will also include related health department and OSHA 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**

*Offered at Johnson County Community College*  
3 credits. 3.5 hours. (Lecture 2 hours. Laboratory 1.5 hours.)

*Prerequisite: HMGT 123.*

This course covers the fundamentals of convenience baking, hors d'oeuvre and cold kitchen preparation. It provides knowledge of 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 further knowledge of and skill in the garde-manger kitchen, specifically making salads, cocktail hors d'oeuvres and cocktail sandwiches, as well as making economic purchases for gourmet food items. In addition, the student will learn how to make intermezzo ices, identify different types of cheese, and design and make a general plan for a buffet.

### **HMGT 203 Hotel Sales and Marketing**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisites: HMGT 121 and admission to the hospitality management program.*

This course will focus on practical sales and marketing techniques for the hotel industry. It will cover a marketing plan and advertising campaign for a hotel, including identifying target markets, prospecting for sales leads and using sales techniques.

### **HMGT 221 Design Techniques**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisites: HMGT 123 and 271.*

This course includes detailed information about food service design that covers layout, design and equipment specifications. In addition, facilities operations will be discussed regarding electrical, water and transportation systems, refrigeration, waste disposal, energy management, and HVAC. Preventive maintenance will be emphasized.

### **HMG 223 Fundamentals of Baking**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: HMG 145.*

Upon successful completion of this course, the student should be able to demonstrate an understanding of bakeshop 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 bakeshop products. The class includes lecture and participation.

### **HMG 226 Garde-Manger**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: HMG 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.

### **HMG 228 Advanced Hospitality Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: Hospitality Management program approval.*

This course includes detailed information about various components of menu planning, food service, supervision, design and beverage control. In addition, an understanding of the external factors affecting the hotel-restaurant industry will be discussed. Skills necessary to secure a position in management within the hospitality industry will be emphasized, and case studies and computer simulation (HOTS) will be used for critical thinking analysis. Business plans will be developed as part of the course project.

### **HMG 230 Intermediate Food Preparation**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisite: HMG 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.

### **HMG 231 Advanced Food Preparation**

*Offered at Johnson County Community College*  
4 credits. 4 hours. (Lecture 4 hours.)  
*Prerequisites: HMG 145 and 230.*

This course is designed to develop a student's advanced culinary skills in preparation of international cuisine commonly served in today's operations in Latin America, Europe, Asia, the Middle East, the Far East and the Pacific area.

### **HMG 240 Advanced Baking**

*Offered at Johnson County Community College*  
4 credits. 4 hours. (Lecture 4 hours.)  
*Prerequisites: HMG 123 and 223.*

This course covers the principles needed to enter the baking and pastry industry. The course provides knowledge of specialty ingredients and techniques needed to make tortes, finished desserts and a wedding cake. The student will be instructed in the making of these items through lecture and will prepare a variety of such items in lab.

### **HMG 248 Confectionary Arts**

*Offered at Johnson County Community College*  
3 credits. 4.5 hours. (Lecture 4.5 hours.)

This course covers the design and production of artistic centerpieces made from confections. It provides knowledge of and basic skills in making decorative dining table centerpieces using food products such as cooled and pulled sugar syrup, isomalt, pastillage, marzipan and chocolate. The student will be instructed in the preparation of these ingredients and will construct center and showpieces after viewing demonstrations.

### **HMG 250 Introduction to Catering**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course includes detailed information about the different types of catered events within the hospitality industry. Topics covered include the importance of marketing, contract writing, food production, room arrangements and required personnel relative to specific catered events.

### **HMG 265 Front Office Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course provides a full understanding of the flow of business, from the front office, beginning with the reservations process to checkout and settlement. It also includes the night audit and statistical analysis of rates and revenue management.

### **HMG 268 Hotel Accounting**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)  
*Prerequisites: MATH 120, HMG 121 and HMG 273.*

This course introduces the student to basic hotel managerial accounting. This includes accounting concepts, processing data and the flow of financial information within a hotel. The course provides a working knowledge of an income statement, balance, statement of owner's equity and cash flows.

### **HMG 271 Seminar Hospitality Management:**

#### **Purchasing**

*Offered at Johnson County Community College*  
3 credits. 17 hours. (Lecture 2 hours. Seminar 15 hours.)

This course offers an overview of purchasing techniques and specification writing for commodities used in the hospitality industry. Emphasis will be on 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.

### **HMG 273 Hospitality Cost Accounting**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisites: MATH 120 or higher and HMG 121.*

This course includes detailed information on how to prepare operation statements for a food service operator, including inventory and control systems. Areas of concentration will be food cost controls, labor cost controls, purchasing controls and profit production. The practice set will be used to reinforce control systems.

### **HMG 275 Seminar Hospitality Management Internship**

*Offered at Johnson County Community College*  
3 credits. 18 hours. (Lecture 3 hours. Seminar 15 hours.)

*Prerequisite: admission to the Hospitality Management program.*

This course provides industry experience for students in cooperating businesses, agencies and organizations. While enrolled in this course, a student must work a minimum of 320 hours in an approved position in the hospitality industry. By arrangement.

### **HMG 277 Seminar Menu Planning and Sales Promotion**

*Offered at Johnson County Community College*  
3 credits. 17 hours. (Lecture 2 hours. Seminar 15 hours.)

*Prerequisite: HMG 123.*

This course covers the components of menu planning for every type of service and facility. This course also covers menu layout, selection development, price structures 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 this course.

### **HMG 279 Beverage Control**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course covers the history of wines and their use and storage procedures. The students should gain an understand of beverage control and how it is used in all types of operations. The course will also cover in-depth study of spirits, internal control systems and local/state alcoholic beverage control laws.

### **HMG 281 Culinary Arts Practicum I**

*Offered at Johnson County Community College*  
2 credits. (Laboratory 1000 hours.)

*Prerequisite: Acceptance into the American Culinary Federation Chef Apprenticeship Training Program and Hospitality 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.

### **HMG 282 Culinary Arts Practicum II**

*Offered at Johnson County Community College*  
2 credits. 16 hours. (Lecture 1 hour. Practicum 15 hours.)

*Prerequisite: HMG 281.*

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 course is a continuation of Culinary Arts Practicum I.

### **HMG 285 Culinary Arts Practicum III**

*Offered at Johnson County Community College*  
2 credits. 16 hours. (Lecture 1 hour. Practicum 15 hours.)

*Prerequisite: HMG 282.*

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 course is a continuation of Culinary Arts Practicum II.

### **HMG 286 Culinary Arts Practicum IV**

*Offered at Johnson County Community College*  
2 credits. 16 hours. (Lecture 1 hour. Practicum 15 hours.)

*Prerequisite: HMG 285.*

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 course is a continuation of Culinary Arts Practicum III.

### **HMG 287 Culinary Arts Practicum V**

*Offered at Johnson County Community College*  
2 credits. 16 hours. (Lecture 1 hour. Practicum 15 hours.)

*Prerequisite: HMG 286.*

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 course is a continuation of Culinary Arts Practicum IV.

### **HMG 288 Culinary Arts Practicum VI**

*Offered at Johnson County Community College*  
2 credits. 16 hours. (Lecture 1 hour. Practicum 15 hours.)

*Prerequisite: HMG 287 and permission of Hospitality Management assistant dean.*

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 course is a continuation of Culinary Arts Practicum V.

***The following course is offered as part of the Mortuary Science program.***

### **HUDV 101 Strategies for Academic Excellence/Lifelong Learning**

*Offered at Kansas City Kansas Community College*  
2 credits.

This course will include topics designed to acquaint the student with the campus community, classroom expectations, counseling services, testing, and other experiences incidental to a successful adjustment to college life. Also covered are study skills, note taking, stress and fitness, and human relationships. Strategies for Academic Excellence/Lifelong Living is a required course for all freshmen except those who meet one of the six exemptions listed in the KCKCC catalog. Strategies for Academic Excellence/Lifelong Living is an enrollment requirement. Should a student not pass this two-hour orientation course, he/she assumes the responsibility to re-enroll each semester until the course is satisfactorily completed. Students who have not completed the course with a grade of C or better will be told when they have their degree check-which usually occurs during the semester the students expects to graduate-that they will not be allowed to graduate until the course has been satisfactorily completed.

***The following courses are offered as part of the Interior Design program.***

### **ITMD 121 Interior Design I**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This course provides basic, introductory knowledge about interior design. Upon successful completion of this course, the student should 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. This course is required in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate programs.

### **ITMD 122 Interior Design II**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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, textures, patterns and finishes in a complete floor plan for a residential unit; and produce floor plans enhanced by color and shadow. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 125 Interior Textiles**

*Offered at Johnson County Community College*  
3 credits. 4 hours. (Lecture 2 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. This is a required course for the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate.

### **ITMD 127 Elements of Floral Design**

*Offered at Johnson County Community College*  
1 credit. 1.5 hours. (Integrated lecture/laboratory 1.5 hours.)

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 a proficiency in the techniques of line and mass arrangements, possess a greater appreciation for flowers and other plant material, apply the mechanics and design considerations involved in working with silk and dried materials, and design and create silk and dried floral arrangements. This is an elective course in the interior design, interior merchandising, interior entrepreneurship associate of applied science degrees and interior design retail sales/manufacturers representative certificates.

### **ITMD 132 Interior Products**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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 the design, use, durability and cost of products. This course is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees; the interior products sales representative certificate; and the interior design retail sales/manufacturers representative certificate programs.

### **ITMD 133 Furniture and Ornamentation/ Antiquity to Renaissance**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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 the 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 furnishings of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each historical period and correctly use vocabulary related to each era. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 140 Draperies, Treatments and Construction**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

*Prerequisite: ITMD 121 and 125.*

This course provides comprehensive knowledge about draperies and window treatments and their construction. Upon successful completion of this course, the student should demonstrate the use of correct vocabulary relating to drapery and window treatments, explain the 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. This is a required course in the interior design program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. It is also an elective in the interior design retail sales/manufacturers representative certificates.

### **ITMD 145 Upholstery Construction**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

*Prerequisites: ITMD 121 and 125.*

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. This is a required course in the interior design program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. It is also an elective in the interior design retail sales/manufacturers representative certificate programs.

### **ITMD 147 Lighting Design and Planning**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

*Prerequisites: ITMD 121 or FASH 147.*

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. This course is a required course in the interior design and an elective in the interior merchandising and interior entrepreneurship associate of applied science degrees. Also an elective in the interior design retail sales/manufacturers representative certificate.

### **ITMD 148 HIST ASIAN Furniture/Design**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

This course provides in-depth knowledge in the study of Asian furniture and ornament. Upon successful completion of this course, the student will be able to analyze and compare furniture, ornamentation, design motifs and textiles of the Near East and Far East during historical periods from antiquity to modern times. The student should be able to identify the religious, political and social influences on the ornamentation and furnishings of each period. In addition, the student should be able to identify the craftsmanship and materials used in the furniture of each historical period and to demonstrate the use of correct vocabulary related to each era. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 150 Asian Rugs And Carpets**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

This course provides in-depth knowledge in the study of Asian carpets and rugs. Upon successful completion of this course, the students will be able to analyze and compare materials, ornamentation, design motifs and textiles of the Near East and Far East during historical periods from antiquity to modern times. The student should be able to identify the religious, political and social influences on the ornamentation and furnishings of each period. In addition, the student should be able to demonstrate the use of correct vocabulary. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 175 Advanced Floral Design**

*Offered at Johnson County Community College*  
1 credit. 1.5 hours. (Lecture 1 hour. Laboratory .5 hours.)

*Prerequisite: ITMD 127.*

This course is a continuation of Elements of Floral Design and provides the student with a more comprehensive application of floral design for home interiors. Upon successful completion of this course, the student will be able to determine the appropriate floral design for an existing home, design a variety of florals for specific placement, work with other students on a specific project and learn how to buy and price interior floral designs. This is an elective course for the interior design associate of applied science degree program.

### **ITMD 180 Leadership In Design**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

Upon successful completion of this course, the student should be able to identify leadership skills necessary to have successful involvement in the field of interior design and professional organizations. Topics include group communication methods, time management, team-building skills, and organizing and facilitating meetings. Students desiring leadership opportunities in the ASID or other organizations are encouraged to enroll. This course is an elective in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 223 Contract Design**

*Offered at Johnson County Community College*  
3 credits. 4 hours. (Lecture 1 hour. Laboratory 3 hours.)

*Prerequisites: ITMD 122 and DRAF 264.*

This is an advanced course focusing on contract design. Upon successful completion of this course, the student will be able to define and use vocabulary related to contract design, identify and use proper architectural symbols common to contract floor plans and elevations, and explain the differences between residential and contract design. Additionally, the student should be able to demonstrate the skills necessary to convert, redesign and create contract design space; explain the concept of open office planning; and compare and analyze the costs and benefits of open planning versus closed planning. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 231 Furniture and Ornamentation/ Renaissance to 20th Century**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 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 the Renaissance to the 20th century. Additionally, the student should be able to define the social, religious and political influences on the ornamentation and furnishings of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each historical period and correctly use vocabulary related to each era. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degrees and an elective in the interior design retail sales/manufacturers representative certificate program.

### **ITMD 234 Kitchen and Bath: Planning and Design**

*Offered at Johnson County Community College*  
3 credits. 5 hours. (Lecture 1 hour. Laboratory 4 hours.)

*Prerequisites: DRAF 264 and ITMD 122.*

This is a comprehensive course in kitchen and bath design and planning. Upon successful completion of this course, the student should be able to define and use proper vocabulary related to kitchen and bath design and construction, identify and use proper architectural symbols common to kitchen and bath plans and elevations, state the space relationships required for proper kitchen and bath usage, convert to metric measurements, and draw a kitchen and bath floor plan and elevation. This is a required course in the interior design associate of applied science degree program and an elective in the interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 239 Capstone: Portfolio and Presentation**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: approval of program facilitator.*

This course is designed as a capstone for the interior design program. It should be taken in conjunction with or after completion of the final interiors studio course or in the graduating semester. 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 resume, conduct a job search, and present written and oral presentations based on resource and product files from other classes. This is a required course in the interior design, interior merchandising and interior entrepreneurship associate of applied science degree programs.

### **ITMD 250 20th Century Designers**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

This course provides in-depth knowledge in the study of the 20th-century designers. Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles of various 20th-century designers. Recognition of periods and individual styles is stressed. The student will have an opportunity to study a specific designer in depth. This is an elective course in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship.

### **ITMD 273 Seminar: Practices and Procedures**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: ITMD 121.*

Upon successful completion of this course, the student should be able to demonstrate the use of proper interior design industry terminology, appropriate business forms and contracts, define the types of business legal structure, and solve business organizational and ethical problems through use of case studies. This course is required in the associate of applied science degree in interior design, interior merchandising or interior entrepreneurship and is an elective in the interior design retail sales/manufactures representative certificate program.

### **ITMD 275 Seminar: Budget and Estimating**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 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. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior design retail sales/manufacturers representative certificates.

### **ITMD 282 Interiors Internship I**

*Offered at Johnson County Community College*  
1 credit. 15 hours. (Internship 15 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. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior product sales and interior design retail sales/manufacturers representative certificates.

### **ITMD 284 Interiors Internship II**

*Offered at Johnson County Community College*  
1 credit. 15 hours. (Internship 15 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. This course is required in the associate of applied science degrees in interior design, interior merchandising and interior entrepreneurship and in the interior product sales and interior design retail sales/manufacturers representative certificates.

### **ITMD 295 Field Study: Design and Merchandising**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Field study 3 hours.)

*Prerequisites: ITMD 121 and approval of the division administrator.*

This travel-for-credit course consists of visits to manufacturing plants, a market showroom and a merchandise mart in a major market city. This is an elective course for the interior design, interior merchandising and entrepreneurship associate of applied science degree programs.

### **ITMD 296 Interior Design: The Orient**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Field study 3 hours.)

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. This is an elective course for the interior design, interior merchandising, and interior entrepreneurship associate of applied science degree programs.

### **MKT 121 Retail Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to describe and analyze retail store organization and operation, including customer markets, store location and design, human resource management, merchandise planning, and control and retail promotion.

### **MKT 134 Creative Retail Selling**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

Upon successful completion of this course, the student should be able to describe the process of successful selling in the retail environment. In addition, the student should be able to define the steps of selling and identify appropriate application. The student should also be able to apply selling principles through role-play. Students who have received credit for MKT 133 may not receive credit for MKT 134.

### **MKT 221 Sales Management**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisite: MKT 134 or MKT 133.*

Upon successful completion of this course, the student should be able to identify skills necessary to manage a sales force and develop a plan for recruitment selection, training, motivation and evaluation. In addition, the student should be able to describe and analyze techniques to forecast and plan sales and audit results.

*The following courses are offered as part of the Railroad Operations Technology program.*

### **MATH 134 Technical Mathematics II**

*Offered at Johnson County Community College*  
5 credits. 5 hours. (Lecture 5 hours.)

*Prerequisite: MATH 133 or an equivalent course with a minimum grade of C.*

This course is the second of a two-semester sequence on technical applications of algebra and trigonometry. Topics will include factoring, algebraic fractions, quadratic equations, exponents, radicals, an introduction to coordinate geometry, logarithmic and exponential functions, trigonometric graphs and identities.

*The following courses are offered as part of the Mortuary Science program.*

### **MTSC 101 Orientation to Funeral Service**

*Offered at Kansas City Kansas Community College*  
2 credits.

This orientation course is designed primarily as a history of funeral activities of various cultures and eras, with emphasis on the growth of the American funeral profession and funeral service ethics.

### **MTSC 105 Mortuary Law**

*Offered at Kansas City Kansas Community College*  
3 credits.

Mortuary Law involves the laws, rules, and regulations governing the practice of embalming and funeral directing. Also included are the aspects of business law as they relate to ownership, contracts, and agencies.

### **MTSC 108 Mortuary Chemistry**

*Offered at Kansas City Kansas Community College*  
3 credits.

Students learn basic inorganic, organic, and biochemistry and how their theories and laws form a sound scientific basis for the embalming procedure. Also covered are embalming fluid composition, embalming reactions, and difficult cases encountered by the embalmer.

### **MTSC 110 Restorative Art**

*Offered at Kansas City Kansas Community College*  
4 credits.

*Prerequisite: BIOL 141.*

Restorative Art serves to help restore an appearance of normality to visible parts of a dead human body which may have been mutilated or destroyed by injury, disease, or post-mortem tissue change. Principles, practices, and nomenclature involved with restoration are included.

### **MTSC 201 Pathology**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisite: BIOL 261.*

An introduction to the study of disease, Pathology places special emphasis on public health and how disease may relate to the field of embalming.

### **MTSC 205 Embalming Theory**

*Offered at Kansas City Kansas Community College*  
4 credits.

*Prerequisites: BIOL 141 and BIOL 261.*

Embalming is the foundation upon which rests the entire funeral service profession. This course covers the history, principles, and practices as they relate to American customs and culture.

### **MTSC 210 Mortuary Management**

*Offered at Kansas City Kansas Community College*  
3 credits.

The funeral home and its management are introduced. Vocabulary of terms, methods of public relations, accounting, truth in lending laws, funeral sales contracts, insurance, pre-need contracts, and automated data processing are covered.

### **MTSC 212 Funeral Service Merchandising**

*Offered at Kansas City Kansas Community College*  
3 credits.

Funeral Service Merchandising explores the manufacture, purchase, pricing, and sale of the whole range of funeral merchandise.

### **MTSC 225 Funeral Service Counseling**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisites: PSYC 101 and PSYC 115.*

Students are prepared to recognize the psychological and sociological needs related to death, grief, and bereavement.

### **MTSC 240-41 Mortuary Science Practicum I-II**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisites: MTSC 205 and consent of the Coordinator of the Mortuary Science Program.*

Each semester This is a two-semester course involving training and experience while working in local mortuaries. Students work a given number of funerals and embalmings each semester under the supervision of a licensed funeral director and/or embalmer.

*The following courses are offered as part of the Audio Engineering and Music Technology programs.*

### **MUSC 102 Music Literature I**

*Offered at Kansas City Kansas Community College*  
3 hours credit

Music Literature I is intended for the music major who plans to transfer to a four-year institution. It is designed to introduce students to music literature through listening, discussion, and score study. Style periods covered include the Baroque through the Twentieth Century.

### **MUSC 106 Music Applications for Computer**

*Offered at Kansas City Kansas Community College*  
3 credits.

This course is an introduction to the basic procedures and skills of general computing and music computing. Basic familiarity with the Macintosh operating systems and software including word processing and other office applications, music notation, music sequencing, and other MIDI applications are covered. Students will create pieces of music using sequencing software, music scores using notation software, and learn the function and operation of basic MIDI components. This course is a prerequisite for all other courses listed below.

### **MUSC 107 Advanced Music Computing**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisite: MUSC 106.*

This course is an introduction to the advanced skills of music computing, expanding skills learned in MUSC 106, with emphasis on advanced music notation with Finale software and advanced MIDI topics using digital audio sequencing software. MIDI and audio studio setup with particular emphasis on the equipment used in the Advanced MIDI Studio, study of digital audio and audio editing/sound design software, software-based sound synthesis, and other programs for composing music will be covered.

### **MUSC 111 Music Theory I**

*Offered at Kansas City Kansas Community College*  
4 credits.

A required course for music majors, Music Theory I includes work in elementary harmony, dictation, sight-singing, and keyboard harmony.

### **MUSC 112 Music Theory II**

*Offered at Kansas City Kansas Community College*  
4 credits.

*Prerequisite: MUSC 111.*

This course is a continuation of work begun in Music Theory I, MUSC 111.

### **MUSC 136 Introduction to the Music Business**

*Offered at Kansas City Kansas Community College*  
3 credits.

This course will introduce students to the history, procedures, practices, economics, and careers of the music industry. The focus will be on the development of business related knowledge necessary to effectively obtain or maintain a professional music career. In addition, business techniques and legal concepts central to many aspects of the music business will be introduced. Although this is not a law or accounting course, the student will be taught to recognize situations requiring the services of an entertainment attorney and will be familiarized with the concepts of contracts, royalties, agents, management, and various aspects of the recording industry.

### **MUSC 206-209 Music Composition**

*Offered at Kansas City Kansas Community College  
1 credit.*

*Prerequisite: MUSC 106 or MUSC 111.*

Music Composition introduces students to the basic procedures and skills of composing music. Emphasis is placed on writing both acoustic and electronic music. Students also study scores and listen to a variety of classical music in order to help them understand the techniques that are typical of various compositional styles. A minimum of three original works, preferably written for a variety of media, is required. Students present a neat, hand-written or computer-generated copy of each work to the instructor for an end-of-semester evaluation.

### **MUSC 213 Music Theory III**

*Offered at Kansas City Kansas Community College  
4 credits.*

*Prerequisites: MUSC 111 and MUSC 112.*

Students are provided with a thorough grounding in the field of chromatic harmony. The study of harmony is integrated with sight-singing, ear-training, dictation, analysis, and keyboard harmony. Students develop an understanding of the elements that create music, learn to analyze and describe processes in music, and gain an acquaintance with a wide variety of 19th century musical styles and forms.

### **MUSC 214 Music Theory IV**

*Offered at Kansas City Kansas Community College  
4 credits.*

*Prerequisites: MUSC 111, MUSC 112, and MUSC 213.*

Music Theory IV completes the study of chromatic harmony and includes a thorough discussion of music of the 20th century. The study of harmony is integrated with advanced sight-singing, ear-training, dictation, analysis, and keyboard harmony. Students develop an understanding of the procedures used in 20th century composition and study atonal, twelve-tone, and other 20th century techniques.

### **MUSC 230 Music and Multimedia**

*Offered at Kansas City Kansas Community College  
3 credits.*

*Prerequisite: MUSC 106.*

This course is an introduction to the procedures and skills of multimedia computer programs and design. Students will learn the use of a scanner and Adobe Photoshop and HTML programming to create World Wide Web pages containing sound, graphics, movies, etc. Each student will upload his/her own home page onto the KCKCC web server. Each student will create a music video, using the department's cameras and non-linear digital video editing software.

### **MUSC 233 Music Video Practicum**

*Offered at Kansas City Kansas Community College  
1 credit.*

*Prerequisite: MUSC 230.*

This course will build on the skills developed in MUSC 230, Music and Multimedia. This course is for students who wish to work on additional music video projects, with supervision and critiques from the instructor and fellow students. The course will emphasize advanced digital video camera techniques, lighting, the use of digital special effects, lip-syncing, scrolling titles, and advanced computer software for non-linear digital video editing. Students will be expected to complete at least one music video project during the semester.

### **MUSC 240 Sound Editing and Synthesis**

*Offered at Kansas City Kansas Community College  
3 credits.*

*Prerequisite: MUSC 106.*

This course covers advanced issues in music computing, including the creation of synthesized sound on both hardware and (computer) software synthesizers. Introduction to technical and theoretical concepts and techniques of analog synthesis, digital synthesis and sampling. Editor/Librarian software will also be used extensively. Newly created/edited sounds will be used in a sequencing project.

### **MUSC 250 Audio and Recording Techniques**

*Offered at Kansas City Kansas Community College  
3 credits.*

*Prerequisite: MUSC 106.*

This course is an introduction to the recording studio, equipment, and recording techniques. Emphasis is placed on demonstrating an understanding of specific equipment and techniques through the completion of a sequence of assignments, leading to a group "band" recording session. Microphones, analog and digital equipment and recording systems, computer software, sound manipulation, and mixing and production techniques will be studied.

### **MUSC 260 Advanced Recording Techniques I**

*Offered at Kansas City Kansas Community College  
3 credits.*

*Prerequisite: MUSC 250.*

This course will build on the skills acquired in MUSC 250. Topics that will be studied include mixing techniques, microphone techniques, synchronization and console automation, mastering, multi-band compression and EQ, basic studio acoustics and design considerations, location recording and sound reinforcement, and digital studio issues. An emphasis will be placed on acquiring the necessary aural skills, and producing a portfolio of completed projects.

### **MUSC 261 Advanced Recording Techniques II**

*Offered at Kansas City Kansas Community College*  
3 credits.

*Prerequisite: MUSC 260.*

This course will build on the skills acquired in MUSC 250 and MUSC 260. Topics that will be studied include audio for broadcast, sound effect recording, Foley sound effect production and use, sound for picture, dialog replacement, and sound design. An emphasis will be placed on acquiring the necessary aural skills, and producing a portfolio of completed projects.

### **MUSC 262 and 263 Recording Practicum and Portfolio**

*Offered at Kansas City Kansas Community College*  
1 credit.

*Prerequisite: MUSC 261. May be enrolled concurrently*

This course will build on the skills acquired in MUSC 250 and MUSC 260. Topics that will be studied include audio for broadcast, sound effect recording, Foley sound effect production and use, sound for picture, dialog replacement, and sound design. An emphasis will be placed on acquiring the necessary aural skills, and producing a portfolio of completed projects.

***The following course is offered as part of the Railroad Operations Technology program.***

### **PHIL 138 Business Ethics**

*Offered at Johnson County Community College*  
1 credit. 1 hour. (Lecture 1 hour.)

This course applies classical and contemporary theories of morality to problems, questions and dilemmas arising in business. Using the major concepts and principles of deontological, consequentialist and perfectionist theories, it examines and analyzes cases involving such areas as employer/employee relations, corporate responsibility, truth telling in business and workplace diversity. Emphasis is on the development of moral reasoning skills that allow for meaningful analysis and evaluation of moral situations.

***The following course is offered as part of the Biotechnology program.***

### **PHYS 133 Applied Physics**

*Offered at Johnson County Community College*  
5 credits. 7 hours. (Lecture 4 hours. Laboratory 3 hours.)

*Prerequisite: MATH 133 or higher.*

This is a one-semester, comprehensive physics course intended for students enrolled in the biotechnology certificate program or an associate of applied science degree program. The course will cover all areas of applied physics, including mechanics, heat, thermodynamics, waves, electricity, magnetism, light, optics and some elements of modern physics. Emphasis will be placed on concepts and applications to real-life problems. This course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package.

***The following courses are offered as part of the Power Plant Technology program.***

### **PPT 140 Generating Plant Fundamentals**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This is an introductory course designed to give a general overview of power plant operations and functions. Upon successful completion of this course, the student will be able to describe the concepts involved in converting energy to electricity through a stream generation power plant and identify the major components and their functions. Topics will include fossil fuels, boilers, turbines, feedwater heaters, ash removal, condensate, power plant controls, and temperature and pressure relationships. This course is appropriate for power plant technology majors or other interested students.

### **PPT 230 Intro/Water Chemistry/Treatment**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

This introductory course is designed to give a general overview of water chemistry and water treatment in power plants. Upon successful completion of this course, the student should be able to describe the concepts and solve the problems associated with water treatment in boiler operations. Topics will include hydrology, specific gravity of liquids, acids, bases, measurements, cooling towers, clarification, ion exchange and filtration. This course is appropriate for power plant technology majors and other interested students.

### **PPT 250 Intro Power Plant Combustion/Exhaust**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisite: PPT 140.*

Upon successful completion of this course, the student should be able to describe the concepts involved in the combustion of fuel for energy generation. Topics will include fuel handling, combustion requirements, combustion control and by-products of combustion. This course is appropriate for power plant technology majors and other interested students, with the permission of the instructor.

### **PPT 251 Intro to Power Plant Steam Cycle**

*Offered at Johnson County Community College*  
3 credits. 3 hours. (Lecture 3 hours.)

*Prerequisite: PPT 140.*

Upon successful completion of this course, the student will be able to describe the steam water cycle in a steam generation plant. Topics will include boilers, turbines, feedwater heaters, condensers, cooling towers and auxiliary equipment. Enrollment in the course is limited to power plant technology majors or by permission of the instructor.

### **PPT 271 Power Plant Internship**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Internship 3 hours.)*

*Prerequisite: PPT 140; minimum of 15 credit hours of completed work; minimum of 6 credit hours of completed PPT course work; and approval of the assistant dean.*

The internship will provide advanced students with on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employees, college staff and each student to provide a variety of actual job experience directly related to the student's career goals. This course is only available to students who have declared a power plant technology major. 20 hrs. on-the-job training/wk., or a minimum of 40 hrs./wk. on the job for summer semester.

### **PPT 280 Power Plant Operational/Process Controls**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Lecture 3 hours.)*

*Prerequisites: PPT 250 and PPT 251.*

Upon successful completion of this course, the student should be able to describe the concepts involved in operating a steam generation power plant and identify the major components and their functions. Topics will include cold start-up, warm start-up, shutdown, normal operations, load changes, safety checks, and power plant controls. This course is designed to integrate and build on previous power plant technology course work. This course is appropriate for power plant technology majors and other interested students with the permission of the instructor.

***The following courses are offered as part of the Railroad Operations Technology program.***

### **RRT 120 History of Railroad**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Lecture 3 hours.)*

This course covers the history and traditions of railroading and the industry's role in North American economic development. Upon successful completion of this course, students will be able to list and explain the significance of major events in North American railroading.

### **RRT 121 Railroad Technical Careers**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Lecture 3 hours.)*

This course includes information about technical careers in railroading, enabling students to choose suitable career paths. This course includes field trips that will demonstrate the relationships among technical work groups in day-to-day railroad operations. Upon successful completion of this course, students should be able to describe basic technical job functions, requirements and characteristics.

### **RRT 150 Railroad Operations**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Lecture 3 hours.)*

This course includes information about the industry, its major assets, structure and typical operations. Upon successful completion of this course, students will be able to define the current North American railroading industry characteristics, basic operations components and processes, and industry structure and administrative processes.

### **RRT 165 Railroad Safety, Quality and Environment**

*Offered at Johnson County Community College  
3 credits. 3 hours. (Lecture 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 need 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**

*Offered at Johnson County Community College  
4 credits. 5 hours. (Lecture 5 hours.)*

*Prerequisite: Admission to the JCCC's Railroad Operations Program, conductor option.*

This is an introductory course for the conductor service option within the railroad operations program. 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**

*Offered at Johnson County Community College  
2 credits. 2.5 hours. (Lecture 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**

*Offered at Johnson County Community College  
2 credits. 2.5 hours. (Lecture 2.5 hours.)*

*Prerequisite: Admission to the JCCC's Railroad Operations Program, conductor option, and successful completion of RRTC 175 with a grade of C or better.*

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 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**

*Offered at Johnson County Community College  
4 credits. 5 hours. (Lecture 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 completion of this course, the student should be able to demonstrate abilities to apply the General Code of Operating Rules to safe and efficient train movement and operations.

### **RRTC 265 Conductor Field Application**

*Offered at Johnson County Community College  
9 credits. 16 hours. (Lecture 1 hour. Internship 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.

*The following courses are offered as part of the Respiratory Care program.*

### **RC 125 Beginning Principles of Respiratory Care**

*Offered at Johnson County Community College  
4 credits. 22 hours. (Lecture 6 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 roles 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.

### **RC 130 Respiratory Care Equipment**

*Offered at Johnson County Community College  
4 credits. 14 hours. (Lecture 6 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.

### **RC 135 Cardiopulmonary Medicine I**

*Offered at Johnson County Community College  
1 credit. 2 hours. (Lecture 2 hours.)*

*Prerequisite: Admission to the Respiratory program.*

This is the first of three courses that provides a detailed review of the respiratory and cardiac system anatomy and physiology and the clinical implications of normal and abnormal function. Summer.

### **RC 220 Cardiopulmonary Physiology**

*Offered at Johnson County Community College  
2 credits. 2 hours. (Lecture 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.

### **RC 230 Clinic Topics and Procedures I**

*Offered at Johnson County Community College*  
4 credits. 3 hours. (Lecture 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, perioperative 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.

### **RC 231 Clinic Topics and Procedures II**

*Offered at Johnson County Community College*  
4 credits. 6 hours. (Lecture 3 hours. Laboratory 3 hours.)

*Prerequisite: Successful completion of the fall 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 understandings 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 be addressed. Spring.

### **RC 233 Respiratory Care of Children**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisite: RC 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.

### **RC 235 Cardiopulmonary Medicine II**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 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 the physical and diagnostic assessments of the cardiopulmonary patient and the related clinical implications of the assessment finding. Fall.

### **RC 236 Cardiopulmonary Medicine III**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 2 hours.)

*Prerequisites: Successful completion of the fall sequence of respiratory care courses.*

This is the third in a series of three courses that provide a detailed review of pulmonary disorders, their pathology and their management. Spring.

### **RC 240 Cardiopulmonary Pharmacology**

*Offered at Johnson County Community College*  
2 credits. 2 hours. (Lecture 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. Fall.

### **RC 245 CRT-RRT Clinical Topics and Procedures**

*Offered at Johnson County Community College*  
4 credits. 4 hours. (Lecture 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.

### **RC 271 Clinical Practice I**

*Offered at Johnson County Community College*  
6 credits. 24 hours. (Clinical 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 basic respiratory care procedures for adults and children. The course objectives progress throughout the semester to involve the student initially in basic care of the less critically ill patient and as the students' comfort level and exposures progress, the students are allowed to work with the more critically ill patients. Fall.

## **RC 272 Clinical Practice II**

*Offered at Johnson County Community College  
6 credits. 24 hours. (Clinical 24 hours.)*

*Prerequisite: Successful completion of the fall  
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.

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Education and Technology  
Administrative Center  
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Ph.D., Arizona State University
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M.S., University of Kansas  
Ed. D., University of Kansas
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M.S., Wayne State University  
Ed.S., University of Missouri–Kansas City
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Blue River  
B.A., Kentucky State University  
M.A., Murray State University

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Ed.S., Eastern New Mexico University  
Ph. D., University of Missouri–Kansas City
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M.S., Pittsburg State University
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M.A., University of Iowa
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M.S., Jackson State  
Ed.D., Northern Illinois University
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M.Ed., Howard University–Washington, DC  
Ed.S., University of Missouri–Kansas City
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Administrative Center  
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B.A., University of Missouri–Kansas City  
M.S., Kansas State University
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M.Ed., William Woods University
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M.A., Ottawa University
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and Student Services  
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M.S., University of Central Arkansas
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and Assistant to the Chancellor  
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M.A., University of Alabama  
Ed. D., University of Missouri–Columbia

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M.S., Florida State University  
Ed.D., University of Georgia

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Administrative Center

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M.S., University of Missouri–Columbia

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Administrative Center

A.A., Penn Valley  
B.S., Avila College

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Blue River

A.A., Cerritos College  
B.A., Mid-America Nazarene College  
M.Ed., Mid-America Nazarene College

JANET CLINE ..... Dean of Student  
Development & Support Services  
Longview

B.A., Avila College  
M.A., University of Missouri–Kansas City

LINDA F. CRABTREE ..... District Director  
Professional Development and Instructional Support  
Administrative Center

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M.S., Central Missouri State University  
Ed.D., University of Missouri–Columbia

REBECCA R. CURTIS ..... Resource Center Coordinator  
Francis Child Development Institute  
Penn Valley

B.S., University of Kansas  
M.S., University of Kansas

HEATHER N. DAUBENBERGER ..... District Director  
of Accounting  
Administrative Center

B.S./B.A., Rockhurst College

KAREN DEXTER ..... Associate Dean of Instruction  
Longview

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M.S., Kansas State University

ALBERT DIMMITT, JR. .... Acting Associate Dean  
Penn Valley

B.A., Southwestern College  
M.S., Kansas State University

MARILYN DONATELLO ..... Dean of Student Services  
Maple Woods

B.S., University of Tennessee–Chattanooga  
M.A., University of South Florida

CHARLES E. DUBE ..... Associate Dean  
Maple Woods

B.S., New Mexico State University  
M.B.A., Kansas State University  
M.S.Ed., Kansas State University

JAMES D. EVERETT ..... District Director  
Technical Education  
Business & Technology College

A.A.S., Maple Woods Community College  
B.A., MidAmerica Nazarene  
M.Ed., MidAmerica Nazarene  
Ed.D., University of Missouri–Columbia

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Financial Planning  
Administrative Center

B.S., Alma College

DEBORAH GOODALL ..... Director, Career Education  
Consortium  
Business & Technology College

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M.S., Central Missouri State University

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Physical Facilities  
Administrative Center

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M.B.A., Baker University

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Distance Education  
Penn Valley

B.S., University of Missouri–Kansas City  
M.S., University of Missouri–Kansas City

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Financial Services  
Administrative Center

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M.S., University of Missouri–Kansas City

ELIZABETH LINDQUIST ..... Dean of Instruction  
Longview

B.A., University of Kansas  
M.Phil., University of Kansas  
Ph.D., University of Kansas

TERESAA. LONEY ..... Director of Tech Prep.  
Business & Technology College

B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City

MINDY MCCALLUM ..... Acting Dean of Instruction  
Maple Woods

B.A., University of Missouri–Kansas City  
M.S., University of Kansas

MARY MCMULLEN-LIGHT ..... Administrative Intern  
Longview

B.A., University of Missouri–Columbia

DARRELL MEYER ..... District Director  
Physical Facilities  
Administrative Center

B.S., Kansas State University

DOROTHY MILLER ..... Administrative Intern - Purchasing  
Administrative Center

B.S., Southeast Missouri State University  
M.S., Arkansas State University

MONICA MINGUCCI ..... Director  
Applied Language Institute  
Penn Valley  
A.A., Faculdades Alcantara Machado  
M.A., Central Missouri State University  
Ph.D., University of Missouri at Kansas City

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 ..... District Director of  
Applications Development  
Administrative Center  
A.A., Maple Woods Community College  
A.C.S., 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 ..... Director of Training  
and Performance Consulting  
Business & Technology College  
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.P.A., University of Missouri

GARY SCHIEBER ..... District Director  
of Computer Services  
Administrative Center  
B.S., University of Missouri

JIM SEAMAN ..... Dean of Economic and Resource  
Development  
Business and Technology College  
B.S., William Jewell College  
M.B.A., Avila College

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Management Systems and Procedures  
Administrative Center  
B.S., University of Missouri–Columbia  
M.B.A., University of Missouri–Kansas City

DAVID L. SMITH ..... Dean of Instruction  
Blue River  
B.A., Old Dominion College  
M.A., Old Dominion University  
Ph.D., University of North Carolina–Chapel Hill

MARY TRUEX ..... Associate District Director  
Human Resources  
Administrative Center  
B.A., University of Northern Iowa

THOMAS M. VANSAGHI ..... Associate Vice Chancellor  
of College and Community Relations  
Administrative Center  
B.S., Northwest Missouri State University  
M.P.A., University of Missouri–Columbia

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

KAREN WEST ..... Associate Dean  
Penn Valley  
A.A., El Camino College  
B.A., California State University  
M.A., Pacific School of Religion  
Ed.D., University of Missouri–Columbia

SUSAN WILSON ..... District Director  
Student Development  
Administrative Center  
B.S., Emporia State University  
Ed.D., University of Missouri–Columbia

WESLEY WINGFIELD ..... District Director  
Network and User Services  
Administrative Center  
B.A., University of Miami

JANE ZEITNER ..... Director of PACE  
Longview  
B.S., Brigham Young University  
M.S., Avila College

## FACULTY

TONI Y. ALEXANDER ..... Project Success  
Penn Valley  
B.S., University of Kansas  
M.B.A., Baker University

WILLIAM ALLYN ..... Drafting  
Business and Technology College  
B.S., Central Missouri State University

PAMELA JO ANTHONY ..... Nursing  
Penn Valley  
R.N., Research Medical Center  
B.S.N., University of Missouri–Kansas City  
M.S.N., University of Missouri–Kansas City

BRUCE APPEL ..... Outreach Counselor  
Longview  
M.A., University of Missouri–Kansas City  
Ed.S., University of Missouri–Kansas City

JOHN D. ARNOLD .....	Automotive Longview	MARY ANN BLITT .....	Foreign Language Maple Woods
A.S.E., Master Automobile Technician G.M., Master Technician		B.A., University of Colorado–Colorado Springs M.A., Colorado State University	
SHARON BAGG .....	History Blue River	GRETCHEN BLYTHE .....	Counselor Longview
<i>Chair, Division of Natural/Social Sciences and Math</i> B.M.E., Emporia State University M.A., University of Missouri–Kansas City Ph.D., University of Missouri–Kansas City		B.A., Ottawa University M.S., Drake University	
HOSSEIN BAHMAIE .....	Economics Longview	MARY SUSANNE BOATRIGHT .....	Librarian Blue River
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CANDICE K. BALDWIN .....	Librarian Longview	TODD I. BOWDISH .....	Biology Penn Valley
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CRAIG BARTHOLOMAUS .....	English Penn Valley	ARTHUR M. BRADY JR. ....	EMT – Paramedic Penn Valley
B.A., University of Illinois M.A., The Ohio State University Ph.D., University of Colorado		A.A., Penn Valley Community College B.A., University of Missouri–Columbia	
DIANNE GRAFENTINE BEEDLE .....	Nursing Penn Valley	LINDA D. BROWN .....	History Blue River
A.S.N., Neosho County Community College B.S.N., Pittsburg State University		B.A., Southern Methodist University M.A., University of Kent at Canterbury	
PAMELA BEERS .....	Practical Nursing Penn Valley–Pioneer Campus	REBECCA L. BURNS .....	Music Blue River
Diploma, Providence Hospital School of Nursing B.S., St. Mary College		A.A., McCook Community College B.A., University of Northern Colorado M.M., University of Nebraska	
JAMES Q. BEISEL .....	Business Longview	DENISE CALLAHAN .....	Dental Assisting Penn Valley
B.S., Kansas State University, Agriculture B.S., Kansas State University, Business Administration M.B.A., University of Kansas		A.A.S, Metropolitan Community Colleges B.S., Graceland College	
LINDA F. BELL .....	Child Development Penn Valley	KURT CANOW .....	English Longview
B.S., University of Arkansas, Pine Bluff M.S., Emporia State University		<i>Chair, Division of Humanities</i> B.A., Doane College M.A., Rice University M.A., Southern Illinois University	
SUSAN S. BENOIT .....	Longview Psychology	ALICIA L. CHAMPLAIN .....	Drafting Business & Technology College
B.A., California State University M.S., Tennessee State University Ph.D., Tennessee State University		B.S., Central Missouri State University M.S., Central Missouri State University	
PATRICIA A. BERGE .....	Office Systems Maple Woods	SYBIL CHANDLER .....	Environmental, Health and Safety Business and Technology College
A.B., University of Kentucky M.A., University of Missouri–Kansas City		B.S., Louisiana State University M.S., University of Southern Mississippi	
ROGER BIDWELL .....	Practical Nursing Penn Valley	KIMBERLY CHAPMAN .....	Psychology Blue River
B.S.N., St. Lukes College of Nursing M.S.N., University of Kansas		B.A., University of Missouri–Kansas City M.A., University of Missouri–Kansas City	
JULIA BISHOP .....	Psychology Maple Woods	TIM CHAPPELL .....	Mathematics Penn Valley
B.A., University of Nebraska M.A., University of Nebraska Ph.D., University of Nebraska		M.S., Pittsburg State University	
		BRYAN CHASTEEN .....	Counselor Penn Valley
		A.B., William Jewell College M.S., Emporia State	

KIMBERLY CHRISTENSEN.....	Mathematics Maple Woods	TERRENCE DAVIN.....	Biology Penn Valley
B.A., Aurora University		B.S., Pennsylvania State University	
M.S., Northern Illinois University		M.S., Frostburg State University	
M.S., Northern Illinois University			
THERESA CHOP.....	Occupational Therapy Assistant Penn Valley	THEODORE M. DINGES.....	Business Longview
B.S., University of Kansas		B.B.A., Washburn University	
M.S., University of Kansas		J.D., Washburn University	
JOHN CHURCH.....	Mathematics Longview	PARAMJIT (RANI) K. DUGGAL.....	Biology Maple Woods
B.A., University of Chicago		B.S., Rajasthan University, India	
M.A., University of Texas-Austin		M.S., MS University, India	
		M.S., Bowling Green State University	
LYNDA W. CLARK.....	Business Maple Woods	JESSICA R. DUMAS.....	Sociology Maple Woods
B.S., Central State University, Oklahoma		B.S., Emporia State University	
M.Ed., Central State University, Oklahoma		M.A., University of Missouri–Kansas City	
Ph.D., University of Oklahoma			
SUSAN W. CLARK.....	Reading Longview	EDWARD DURANT.....	Computer Science/ Information Systems Penn Valley
B.S.Ed., University of Delaware		B.A., Westminster College	
M.Ed., University of Delaware		M.B.A., University of Missouri–Kansas City	
Ph. D., University of Missouri–Kansas City			
MICHAEL J. CONNELLY.....	Philosophy Longview	JOYCE ANNE DVORAK.....	English Longview
B.A., Salisbury State University		B.S., Northern Illinois University	
M.A., University of Delaware		M.A., Northern Illinois University	
		Ph.D., Northern Illinois University	
BARBARA COOKE.....	Counselor Maple Woods	MARTHA J. EAGLE.....	Mathematics Blue River
B.A., University of Missouri–Kansas City		A.B., William Jewell College	
M.A., University of Missouri–Kansas City		M.A., Central Missouri State University	
GENE F. COTA.....	Biology Penn Valley	MARGARET EASTER.....	Computer Science/ Information Systems Penn Valley
A.A., Johnson County Community College		B.S., Missouri Western State College	
B.A., Emporia State University		M.S., University of Missouri–Kansas City	
M.S., Emporia State University			
DEBORAH CRAIG-CLAAR.....	Speech Penn Valley	SYLVIA L. EDWARDS.....	English Longview
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Ph.D., University of Missouri–Kansas City			
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<i>Chair, Division of Social Science</i>		B.A., University of Missouri–Kansas City	
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Ed.S., University of Missouri–Kansas City		B.S.Ed., Pittsburg State University	
Ph.D., University of Missouri–Kansas City			
PAUL D. DAMMINGA.....	Automotive Longview		
B.S., Ferris State University			

ALBERT D. FARR .....	English Penn Valley		
B.S., Iowa State University			
M.A., Iowa State University			
EUGENE J. FENSTER .....	Biology Longview		
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M.Ph., The Graduate School and University Center of CUNY			
Ph.D., The Graduate School and University Center of CUNY			
CONNIE FLICK-HRUSKA .....	Counselor Longview		
B.S., Slippery Rock University			
M.Ed., University of Missouri–Columbia			
JUDITH FLYNN .....	Reading Penn Valley		
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B.A., University of Missouri–Kansas City			
M.A., University of Missouri–Kansas City			
IRENE FORCH .....	Office Systems Penn Valley		
B.S., Pittsburg State University			
M.S., Drake University			
Ph.D., University of Iowa			
RANDALL FORCHEE .....	Engineering Districtwide		
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M.S., University of Missouri–Rolla			
CORA E. FRANKLIN .....	Nursing Penn Valley		
B.S., University of Missouri–Kansas City			
JENNIE FREDERICK .....	Art Maple Woods		
B.F.A., Kansas City Art Institute			
M.F.A., Indiana State University			
MOIRA R. FREY .....	Chemistry Longview		
B.S., University of Wyoming			
M.S., University of Washington			
CAROLE R. GILMORE .....	Foreign Language Penn Valley		
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M.A., University of Missouri–Columbia			
PATRICIA GOODWIN .....	Director, ABLE Program Penn Valley		
B.S., University of Minnesota			
M.A., University of Missouri–Kansas City			
ZOLA GORDY .....	Academic Achievement Center Maple Woods		
B.A., University of Missouri–Kansas City			
M.A., University of Missouri–Kansas City			
DIANA J. GRAHN .....	English Longview		
B.A., University of Missouri–Kansas City			
M.A., University of Missouri–Kansas City			
SHARON L. GRAVES .....	Nursing Penn Valley		
<i>Chair, Division of Nursing</i>			
B.S.N., Central Missouri State University			
M.S.N., Bishop Clarkson College			
TAMMY GREATHOUSE .....	Nursing Penn Valley		
B.S.N., University of Arkansas			
CHERYL S. GROSSER .....	English Blue River		
<i>Chair, Division of Humanities</i>			
B.A., University of Illinois			
M.A., University of Illinois			
M.Phil., University of Kansas			
MARTHA HAEHL .....	Mathematics Penn Valley		
B.S., Wayland College			
M.A., University of Kansas			
TRACY D. HALL .....	Speech Penn Valley		
B.A., University of Missouri–St. Louis			
M.A., Wichita State University			
SHARON HAMSA .....	Mathematics Longview		
B.A., Benedictine College			
M.A., St. Louis University			
M.A., Notre Dame University			
THERESA HANNON .....	English Blue River		
B.A., Indiana University			
M.F.A., Arizona State University			
SHARI HARDEN .....	Biology Blue River		
B.A., University of North Colorado			
M.S., Utah State University			
JESS HARDING .....	Heating/Air Conditioning Business and Technology College		
A.A.S., Penn Valley			
PAUL HARDING .....	Heating/Air Conditioning Business and Technology College		
A.A.S., Business and Technology College			
CATHY K. HARDY-PARCELL .....	Music Longview		
B.M.E., Wheaton College			
M.M., University of Missouri–Kansas City			
NANCY E. HARRINGTON .....	Biology Penn Valley		
B.A., San Francisco State University			
M.A., San Francisco State University			
KENNETH G. HARTMAN .....	Political Science Longview		
B.A., Wake Forest University			
M.A., University of Texas at Austin			
JOHN HAWKINS .....	Physics Penn Valley		
B.S., University of Missouri–Columbia			
M.S., University of Missouri–Columbia			

- JOAN HENSON..... Mathematics  
Penn Valley  
B.A., Molloy Catholic College for Women  
M.S., Adelphi University
- CINTHIA A. HERBERT ..... Computer Science/  
Information Systems  
Longview  
B.S., Southwest Missouri State University
- RICHARD HIGGASON..... English  
Blue River  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City  
Ph.D., Indiana University of Pennsylvania
- ELIZABETH HILL ..... Speech and Theater  
Maple Woods  
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  
Penn Valley  
M.A., University of Kansas
- WILLIAM HODGKINSON ..... English  
Penn Valley  
B.S., Central Michigan University  
M.A., Central Michigan University
- TERRY HOBBS ..... Mathematics  
Maple Woods  
B.S., Harding University  
M.S., University of Mississippi
- SHARON E. HOGAN..... Sociology  
Blue River  
B.S., Central Missouri State University  
B.S.E., Central Missouri State University  
M.A., Central Missouri State University  
Ph. D., University of Missouri–Kansas City
- VICTORIE J. HOLLWELL..... Child Growth and  
Development  
Penn Valley  
B.S., Central Missouri State University  
M.S., Kansas State University  
Ed.S., University of Missouri–Kansas City
- JIMMY HOLIMAN ..... Criminal Justice  
Blue River, Police Academy  
A.A., Longview Community College  
B.A., Park University
- ROBERT J. HOLMAN ..... Business  
Blue River  
*Chair, Division of Business, Technology and Public Safety*  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- PATRICIA P. ILLING ..... Reading  
Longview  
B.S.Ed., University of Missouri–Columbia  
M.S., University of Kansas
- PRISCILLA JACKSON-EVANS ..... History  
Longview  
*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  
Penn Valley  
B.S., University of Florida  
M.Ed., University of Maryland
- MARY ELLEN JENISON ..... Director, ABLE Program  
Longview  
A.A., Longview Community College  
B.A., Avila College  
M.A., University of Missouri–Kansas City
- DENNIS J. JIRKOVSKY ..... Computer Science/  
Information Systems  
Maple Woods  
A.A.S., Maple Woods Community College  
B.S., Missouri Western College  
M.B.A., Rockhurst College
- GARY H. JOHNSON ..... Computer Science/  
Information Systems  
Longview  
A.S., Metropolitan Junior College–Kansas City  
B.S.B.A., Avila College  
M.B.A., Avila College
- MONICA JOHNSTON..... Computer Software  
Penn Valley  
B.S., University of Kansas  
M.B.A., Keller Graduate School of Management
- THOMAS B. JONES..... History  
Maple Woods  
B.A., University of Minnesota  
M.A., Cornell University  
Ph.D., Cornell University
- DAN JUSTICE..... Engineering  
Districtwide  
B.S., University of Missouri–Rolla  
M.S., University of Texas  
Ph.D., University of Texas
- JAMES E. KARASIEWICZ ..... English  
Maple Woods  
*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
- MAUREEN KENNEDY ..... Counselor  
Penn Valley  
B.A., Fontbonne College, St. Louis, MO  
M.Ed., University of Missouri–Columbia
- HAROLD KENYON ..... EMT–Paramedic  
Penn Valley  
A.A.S., Penn Valley Community College
- RANDY KIDD ..... Business  
Penn Valley  
B.S., University of Kansas  
M.B.A., Central Missouri State University

KATHRYNE KISER .....	Speech Communication Longview	MARK LIDMAN.....	English Maple Woods
B.A., University of Kansas		B.A., University of Virginia	
M.A., University of Kansas		M.A., Purdue University	
KAREN S. KOMOROSKI.....	Nursing Penn Valley	Ph.D., University of Missouri–Columbia	
B.S.N., Graceland College		D. KIM LINDABERRY.....	Art Longview
M.N., University of Kansas		B.F.A., Kansas City Art Institute	
Ed.S., University of Missouri–Kansas City		M.F.A., Georgia State University	
KEET KOPECKY .....	Biology Longview	WILLIAM G. LOFTIN .....	Biology Longview
B.S., University of Missouri–Kansas City		B.S., University of Missouri–Kansas City	
M.S., University of Missouri–Kansas City		M.A., University of Missouri–Kansas City	
M.A., University of Missouri–Kansas City		TRISTAN LONDRÉ .....	Mathematics Blue River
JOYCE S. KUHN.....	Speech and Theater Longview	B.A., University of Missouri–Kansas City	
B.A., Northern Colorado University		M.A., University of Missouri–Kansas City	
M.A., Northern Colorado University		Ph.D., University of Missouri–Kansas City	
CAROL JEAN KUZNACIC.....	Spanish Longview	PAUL D. LONG.....	Philosophy Maple Woods
A.A., University of Wisconsin–Sheboygan		<i>Chair, Division of Social Science</i>	
B.A., University of Wisconsin–Green Bay		B.A., University of Missouri–Kansas City	
M.A., Pennsylvania State University		M.A., University of Kentucky	
NIC LAHUE .....	Mathematics Penn Valley	LEANN I. LOTZ .....	Mathematics Longview
<i>Chair, Division of Physical Sciences, Math, CSIS</i>		B.A., William Jewell College	
A.S., Kansas City Kansas Community College		M.A., University of Missouri–Kansas City	
B.S., Kansas State University		J. DENNIS LOWDEN .....	Philosophy Blue River
M.S., University of Missouri–Kansas City		B.A., Regents College/University of the State of New York	
PERRI L. LAMPE .....	Political Science Maple Woods	M.A., University of Kansas	
B.A., William Woods College		TERRI LOWRY .....	English Longview
M.S., University of Missouri–Columbia		B.A., University of Missouri–Kansas City	
SANDRA L. LANDUYT.....	Biology Penn Valley	M.F.A., University of Montana–Missoula	
<i>Chair, Division of Life Sciences</i>		JERRY MACKE .....	Computer Science Penn Valley
B.A., University of Missouri–Kansas City		B.A., St. Thomas College	
B.S., University of Missouri–Kansas City		OPZERINE D. MADISON.....	Nursing Penn Valley
M.S., University of Missouri–Kansas City		A.A., Penn Valley Community College	
Ph.D., University of Missouri–Columbia		R.N., General Hospital and Medical Center	
J. RONALD LEAKE.....	Computer Science/ Information Systems Penn Valley	B.S.N., Avila College	
B.A., University of California, Berkeley		M.A., Central Michigan University	
MARY A. LEE .....	English Longview	ANNE MAHONEY .....	Speech & Drama Blue River
B.A., Clarke College, Iowa		B.A., University of Arkansas	
M.A., Bradley University, Illinois		M.A., University of Kansas	
STEVEN W. LEWIS.....	Biology Penn Valley	CAROLE J. MALTBY.....	Veterinary Technology Maple Woods
B.A., Kansas University		B.S., University of Missouri–Kansas City	
B.S., Kansas University		D.V.M., University of Missouri–Columbia	
M.A., University of Missouri–Kansas City		DANIEL L. MARK .....	Biology Maple Woods
CHERYL SMITH LEWKOWSKY .....	Mathematics Maple Woods	B.A., Drake University	
A.B., William Jewell College		M.A., Drake University	
M.S., Kansas State University		Ph.D., University of Illinois	

DOUGLAS MARTIN .....	Chemistry Penn Valley	SANDRA MCILNAY .....	Occupational Therapy Assistant Penn Valley
B.S., Clarkson College of Technology		B.S., University of Kansas	
M.S., Clarkson College of Technology		M.S. Ed., University of Kansas	
Ph.D., Clarkson College of Technology			
TODD C. MARTIN .....	Biology Blue River	MURVELL V. MCMURRY .....	Counselor Penn Valley
B.S., Kansas State University		B.S., Lincoln University	
Ph.D., University Of Minnesota–Twin Cities		M.Ed., Iowa State University	
STEPHANIE J. MASQUELIER.....	Business Longview	LINDA SPOTTS MICHAEL.....	Business Maple Woods
B.S., Virginia Commonwealth University		B.S., Central Missouri State University	
M.Ed., Virginia Commonwealth University		M.B.A., Central Missouri State University	
PAMELA G. MATTHIESEN.....	Computer Science/ Information Systems Maple Woods	CONNIE MIGLIAZZO .....	Librarian Blue River
B.S., Central Missouri State University		B.S., University of Missouri–Columbia	
J. BURKE MAXTED .....	Counselor Blue River	M.L.S., University of Missouri–Columbia	
B.A., University of Missouri–Kansas City		DAVID C. MILLER .....	History Longview
M.S., Central Missouri State University		A.A., Hutchinson Community College	
GLORIA MAXWELL.....	Librarian Penn Valley	B.A., University of California at Riverside	
B.A., Central Missouri State University		M.A., University of Kansas	
M.A., Central Missouri State University		Ph.D., University of Kansas	
M.L.S., Emporia State University		DONALD MILLER.....	Chemistry Blue River
GARY D. MAY .....	Computer Science/ Information Systems Maple Woods	B.A., Taylor University	
B.S., School of the Ozarks, Missouri		M.S., Purdue University	
M.S., Central Missouri State University		MARGARET A. MILLER.....	Reference Librarian Longview
M.S., Webster University		B.A., Bethany College	
TAMMIE B. MAY .....	Sociology Longview	M.A., University of Kansas	
B.S., Sterling College		M.S., Emporia State University	
M.A., Central Missouri State University		MARJORIE A. MILLER.....	Office Systems Longview
DEBRA LEWIS MCCARTY .....	Reading Maple Woods	B. S., Pittsburg State University	
B.S., Northwest Missouri State University		M.S., Central Michigan University	
M.A., University of Missouri–Kansas City		BRIAN MITCHELL.....	Biology Longview
CATHERINE MCCLENDON.....	Nursing Penn Valley	B.S., Illinois State University	
B.S., Pittsburg State University		M.S., Illinois State University	
GARY F. MCDANIEL .....	Automotive Longview	Ph.D., University of Missouri–Columbia	
A.S., Missouri Western State College		GREGORY A. MITCHELL .....	Mathematics Penn Valley
B.S., Northwest Missouri State University		B.S., University of Missouri–Rolla	
M.S., Central Missouri State University		M.S., University of Missouri–Columbia	
MICHELE MCGEENEY .....	Reading Maple Woods	MARY ELIZABETH MOLEY .....	Art Penn Valley
B.A., University of Missouri–Kansas City		B.A., University of Missouri–Kansas City	
M.A., University of Missouri–Kansas City		M.A., University of Kansas	
M.A., University of Missouri–Kansas City		CHAD P. MONTUORI.....	Foreign Language Maple Woods
JAMES MCGRAW .....	Counselor Longview	B.A., University of New Mexico	
B.S., University of Iowa		M.A., University of Missouri–Columbia	
M.A., University of Iowa		R. RANDALL MOORE.....	History Longview
Ed.D., University of Northern Colorado		B.A., Virginia Wesleyan College	
		M.A., University of Richmond	
		Ph.D., University of South Carolina	
		ROBERT L. MORRIS .....	Art Penn Valley
		B.A.E., Kansas City Art Institute	
		M.F.A., University of Kansas	

VERLE D. MUHRER .....	Philosophy Penn Valley		RORY PERRODIN .....	Automotive Longview
B.A., University of Missouri–Columbia			A.A.S., Dodge City Community College	
M.A., University of Missouri–Columbia			B.S., Pittsburg State University	
DAVID MULRY .....	English Longview		M.S. VTE, Pittsburg State University	
B.A., Middlesex Poly, United Kingdom			MICHAEL PETERS .....	EMT–Paramedic Penn Valley
Ph.D., University of Kent, United Kingdom			B.S., Quincy College	
PATRICIA L. MUNN .....	Biology Longview		MICHELLE POTTS.....	English Maple Woods
B.S., University of Missouri–Columbia			B.A., Park College	
M.S., University of Missouri–Columbia			M.A., University of Missouri–Kansas City	
JAMES J. MURRAY III .....	Music Maple Woods		DEANNA POUDEL .....	Physics Longview
B.S., William Jewell College			B.A., Grinnell College	
M.M., University of Denver			M.S.M., Iowa State University	
MELISSA J. NAPPER.....	Computer Science/ Information Systems Blue River		RUSSELL T. POWLAS .....	Education Maple Woods
A.A., Longview Community College			B.S., University of Kansas	
B.S., Park College			M.S., University of Kansas	
MARY NORTHRUP .....	Librarian Longview		JUDITH A. PRATT .....	Counselor Longview
B.A., St. Norbert College			B.S., Southeast Missouri State University	
M.L.S., University of Wisconsin–Milwaukee			M.A., Southeast Missouri State University	
PATSY O'BRIEN.....	Nursing Penn Valley		ROBYN PRESTON-MCGEE .....	English Blue River
B.S.N., Webster University			B.A., University of Central Oklahoma	
M.S.N., University of Missouri–Kansas City			M.A., University of Central Oklahoma	
JOHN R. O'CONNELL.....	Physical Education Longview		CARL PRIESENDORF .....	Geology/Geography Longview
B.A., Fort Lewis College, Colorado			A.A., State Fair Community College	
M.A., Adams State College, Colorado			B.S., Central Missouri State University	
MICHAEL L. PALMER .....	Business Maple Woods		M.S., University of Missouri–Columbia	
<i>Chair, Division of CSIS and Business</i>			VIRGINIA RAGAN .....	Geology and Geography Maple Woods
B.S., Kansas State University			A.A., Maple Woods Community College	
M.B.A., Rockhurst College			B.S., University of Missouri–Kansas City	
JASON R. PALLETT.....	Mathematics Longview		M.S., University of Missouri–Kansas City	
B.S., University of Tulsa			Ph. D., University of Missouri–Kansas City	
M.S., University of Tulsa			VICKI D. RAINE.....	Reading Penn Valley
CAROLYN A. PARKS .....	Surgical Technology Penn Valley–Pioneer Campus		<i>Chair, Division of Humanities</i>	
A.D.N., Illinois Central College			B.A., University of Missouri–Kansas City	
B.A.N., University of Illinois–Springfield			M.A., University of Missouri–Kansas City	
DAVID A. PATIENCE .....	Automotive Longview		LAURIE A. RAY .....	Nursing Penn Valley
B.A.S., Sienna Heights University			B.S., University of Missouri–Kansas City	
THOMAS S. PENNINGTON.....	Computer Science/ Information Systems Longview		J. MICHAEL RAYNOR.....	English Longview
<i>Chair, Division of Business</i>			A.A., Junior College of Kansas City	
B.S., University of Missouri–Columbia			B.A., University of Nebraska–Omaha	
M.Ed., University of Missouri–Columbia			Ph.D., University of Florence, Italy	
CARLOS PEREZ.....	Speech and Drama Maple Woods		LARRY A. REICHARD.....	Biology Maple Woods
B.F.A., Avila University			A.S., Delta College	
M.A., University of Missouri–Kansas City			B.S., Central Michigan University	
			M.S., Michigan State University	
			Ed.D., West Virginia University	

STEPHEN L. REINBOLD .....	Biology Longview	KRISTI K. ROTTINGHAUS .....	Mathematics Longview
B.S., Eastern Illinois University		A.A., Barton County Community College	
M.S., Eastern Illinois University		B.S., Fort Hays State University	
Ph.D., Illinois State University		M.A., University of Missouri–Kansas City	
BETTY REYNOLDS .....	Practical Nursing Penn Valley–Pioneer Campus	GREGORY SANFORD .....	History Penn Valley
Diploma, Mathers School of Nursing/Southern .....		B.A., Iowa State University	
Baptist Hospital		M.A., Iowa State University	
B.S.N., University of Mobile		BARBARA SCHAEFER .....	Counselor Blue River
M.S.N., University of South Alabama		B.S., Southeast Missouri State University	
KEITH S. RHODES .....	Writing Across the Curriculum Coordinator Maple Woods	M.A., Southeast Missouri State University	
B.A., University of North Dakota		MARY HEATHER SCHARFF .....	Human Services Longview
J.D., University of North Dakota		B.S.W., Southeast Missouri State University	
M.S., University of Missouri–Kansas City		M.S.W., Southeast Missouri State University	
Ph.D., University of Nebraska		EDWARD W. SCHAUFFLER .....	Automotive Longview
KAREN SUE RICHARDS .....	Computer Science/ Information Systems Maple Woods	A.A., Longview Community College	
B.S., Calvary Bible College, Kansas City, Missouri		B.S., Central Missouri State University	
B.S., St. Mary College, Leavenworth, Kansas		ELLIOTT SCHIMMEL .....	History Longview
M.S., Central Missouri State University		B.A., Fairleigh Dickinson University	
MELANIE ROBERTS .....	Counselor Penn Valley	M.A., Syracuse University	
B.S., Iowa State University		Ph.D., Florida State University	
M.A., University of Iowa		STEPHANIE L. SCHOENING .....	Counselor Longview
GWENDOLYN K. ROBERTSON .....	Physical Therapist Assistant Penn Valley	B.A., Buena Vista University	
B.S., University of Kansas		M.S., University of Nebraska–Omaha	
M.A., University of Missouri–Kansas City		JENNIFER SCOTT .....	Health Information Technology Penn Valley
CLAYTON ROBINSON JR. ....	Counselor Maple Woods	B.S., University of Kansas	
B.S., Emporia State University		CYNTHIA SEXTON PROCTOR .....	Physics Maple Woods
M.A., Webster University		B.A., Hendrix College	
DAWNIELLE ROBINSON-WALKER .....	English Longview	M.S., University of Arkansas	
B.A., University of Missouri–Columbia		DAVID SHARP .....	English Maple Woods
M.A., Kansas State University		B.A., University of Missouri–Columbia	
TRACY ROCKWELL .....	Health Information Technology Penn Valley	M.A., University of Missouri–Columbia	
B.S., College of St. Mary		CORRINE E. SHAW .....	Practical Nursing Penn Valley–Pioneer Campus
JENNIFER ROGERS .....	Spanish Blue River	A.D.N., Kansas City Kansas Community College	
B.A., University of Missouri–Columbia		B.S.N., Mid-America Nazarene College	
M.A., University of Missouri–Columbia		M. CATHERINE SHEELY .....	English Penn Valley
JAN A. ROSENBLUM .....	Counselor Educational Opportunity Center Penn Valley	B.A., Aquinas College, Michigan	
B.A., College of Emporia, Kansas		M.L.A., Baker University	
M.S., Emporia State University		LEAH SHELTON .....	Access Counselor Blue River
JUANITA L. ROSS .....	Office Systems Maple Woods	B.A., William Jewell	
B.S., Bishop College		M.A., University of Missouri–Kansas City	
M.S., Central Missouri State University		JAMES A. SHIMEL .....	Manufacturing Technology Business and Technology College
		B.S., Finlay Engineering College	
		ROSEMARY SHOCKLEE-FUSARO .....	Nursing Penn Valley
		B.S.N., Avila College	
		M.Ed., University of Missouri–Kansas City	
		M.S.N., University of Missouri–Kansas City	

MARY A. SIMPSON .....	Learning Assistance Center Blue River	JOHN G. STOCKMYER .....	History Maple Woods
B.A., Claflin College M.A., Florida A & M University		B.S., Kansas State University M.S., Kansas State University	
CEBRA SIMS .....	Psychology Penn Valley	KENT STOLZ .....	Telecommunications/Electronics Business and Technology College
B.S., University of Kansas M.A., University of Kansas M.A., University of Missouri–Kansas City Ph.D., University of Missouri–Kansas City		A.A.S., DeVry University B.A., Mid-America Nazarene University M.B.A., Keller Graduate School	
BOB SKRUKRUD .....	Mathematics Maple Woods	J. MICHAEL STURGEON .....	Computer Science/ Information Systems Penn Valley
<i>Chair, Division of Math, Science</i> B.S., Winona State University M.S., Truman State University		B.S., Missouri Western State College	
CLARENCE SMITH .....	Music Penn Valley	MARY SVOBODA-CHOLLET .....	Child Growth and Development Penn Valley
B.Ed., Central Methodist College M.Ed., Lesley University		M.S., University of Kansas	
JAMES SMITH .....	Art Longview	DONALD S. SWANSON .....	Foreign Language Longview
B.F.A., Kansas City Art Institute M.A., M.F.A., University of Iowa		A.A., Skagit Valley College B.A., Western Washington University M.A., Washington State University M.A., Bowling Green State University	
ROBERT E. SMITH .....	Chemistry Longview	JUDITH E. TAYLOR .....	Radiologic Technology Penn Valley
B.S., Brigham Young University Ph.D., Brigham Young University		B.H.S., University of Missouri–Columbia M.Ed., University of Missouri–Columbia	
ROBERT J. SMITH .....	Counselor Educational Opportunity Center Penn Valley	RONALD L. TAYLOR .....	Reading Blue River
M.A., University of Missouri–Kansas City		B.A., Simpson College M.A., University of Missouri–Kansas City Ed.S., University of Missouri–Kansas City Ph.D., University of Missouri–Kansas City	
VICKI SMITH .....	Counselor, Project Success Penn Valley	PENNY TEPESCH .....	Manufacturing Technology Business and Technology College
B.S., Montana State University—Northern M.Ed., Montana State University—Northern		<i>Chair, Division of Technology</i> A.A., Longview Community College B.S., Central Missouri State University M.S., Central Missouri State University	
ANDREA W. SPALTER .....	Surgical Technology Penn Valley	KIMBERLY THEBEAU-SIERCKS .....	Radiologic Technology Penn Valley
B.S., College of Notre Dame		B.S., Avila College M.S., Kansas State University	
PATRICIA MCKEOWN SPARKS .....	English Longview	NANCY THOMSON .....	Education Penn Valley
B.A., University of Missouri–Kansas City M.A., University of Missouri–Kansas City		<i>Chair, Division of Child Growth and Development</i> <i>Education</i> B.A., Barat College, Illinois M.A., College of Holy Names, California Ph.D., University of Kansas	
LISA SPAULDING .....	English Penn Valley	ALANA TIMORA .....	Counselor Longview
B.A., Westminster College M.A., University of Nebraska–Lincoln Ph. D., University of Nebraska–Lincoln		B.S., University of Southern Colorado M.A., University of Missouri–Kansas City	
HELEN Y. SPEED .....	Child Growth and Development Penn Valley	JIM TJADEN .....	Travel and Tourism Maple Woods
B.S., University of Arkansas at Pine Bluff M.A., University of Missouri–Kansas City		B.A., Macalester College M.A., University of Iowa Ed.S., University of Missouri–Kansas City Ph.D., University of Missouri–Kansas City	
CONNIE SPIES .....	Counselor Penn Valley		
B.S., Missouri Western State College M.S., University of Wisconsin/Stout			
PAMELA B. STOCKMAN .....	Physical Therapist Assistant Penn Valley		
B.S., St. Louis University M.S., University of Kansas			

BERNADETTE E. TORRES.....	Art Penn Valley		
B.F.A., Kansas City Arts Institute			
M.F.A., University of Miami			
LETA H. TYHURST.....	Learning Center Longview		
B.S., University of Missouri–Columbia			
M.S., University of Missouri–Columbia			
JENNIFER WALK.....	Child Growth and Development Penn Valley		
B.S., Central Missouri State University			
M.S., University of Kansas			
MICHAEL WARREN.....	English Maple Woods		
B.A., University of Kansas			
M.F.A., University of Montana			
M.A., Central Missouri State University			
W. DOUGLAS WASHER.....	Philosophy Longview		
B.A., Southwest Missouri State University			
M.A., University of Missouri–Columbia			
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			
DORETHEA WELCH.....	Sociology Penn Valley		
B.S., Avila College			
M.S., Central Missouri State University			
M.A., Webster University			
M.S., University of Kansas			
Ph.D., University of Missouri–Kansas City			
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			
MICHAEL R. WIEMANN.....	Computer Science/ Information Systems Blue River		
B.S., Central Missouri State University			
M.S., Central Missouri State 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			
JEANNÉ C. WILLERTH.....	Computer Science/ Information Systems Longview		
B.A., Wayne State College			
M.S., University of Missouri–Columbia			
M.S.D., University of Kansas			
F. ULA WILLIAMS.....	Sign Language Interpreting Maple Woods		
B.S., Emporia State University			
M.S., University of Kansas			
ROBERT H. WILLIAMS.....	Psychology 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			
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 Blue River		
A.A., Metropolitan Community Colleges			
B.A., Avila College			
M.S., Central Missouri State University			
BENJAMIN WOLFE.....	Geology/Geography Blue River		
B.S., University of Nebraska–Lincoln			
M.S., University of Alaska–Fairbanks			
JANET K. WYATT.....	Mathematics Longview		
B.S., University of Arkansas			
M.A., University of Arkansas			
GAYLA R. WYNN.....	Computer Science/ Information Systems Longview		
A.A., Southwest Baptist College			
B.S., Oklahoma Baptist University			
M.A., Central Missouri State University			
CHRISTINE A. YANNITELLI.....	Counselor Maple Woods		
B.A., Michigan State University			
M.Ed., University of Missouri–Columbia			
M.A., University of Missouri–Kansas City			
DEMPSEY A. YEARRY.....	Computer Science/ Information Systems Maple Woods/BTC		
B.S., DeVry Institute of Technology			
WILLIAM YOUNG.....	History Maple Woods		
B.A., Iowa State University			
M.A., Iowa State University			

RUTH YUNKER..... Nursing  
Penn Valley  
B.S.N., University of Kansas  
M.Ed, University of Missouri–Kansas City  
M.S.N., University of Missouri–Kansas City.

STEPHANIE ZERKEL .....English  
Maple Woods  
B.S.E., University of Arkansas at Little Rock  
M.A., University of Arkansas at Little Rock

DENISE ZORTMAN ..... Learning Resources  
Penn Valley  
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.

JOSEPH H. ANWAY (1973-1998) .....Business  
Longview  
A.A., Graceland College  
B.S., Central Missouri State University  
M.A., Central Missouri State University  
Spec. in Bus.Adm., Central Missouri State University

RITA K. AUSTIN (1969-1986)..... Foreign Language  
Longview  
A.B., New York State College for Teachers  
A.M., University of Kansas

MELVIN A. AYTES (1961-1995) ..... Political Science  
Longview  
B.S., Central Missouri State University  
M.A., Central Missouri State University

HAROLD E. BAGGERLY (1964-1995) ..... Engineering  
Longview  
B.S., University of Kansas  
M.S., University of Kansas

JOHN W. BANKS (1969-1986)..... Office Systems  
Maple Woods  
B.S., Central Missouri State University  
M.A., University of Northern Iowa

NANCY J. BANKS (1990-2000) ..... Nursing  
Penn Valley  
B.S. in Ed., Southwest Missouri State University  
B.S.N., Avila College  
M.S.N., Kansas University

EDITH BARTHOLOMEW (1957-1985).....English  
Penn Valley  
A.B., Wheaton College  
A.M., Northwestern University

EDWARD BEASLEY (1968-1993)..... History  
Penn Valley  
B.A., Lincoln University  
M.A., Emporia State University  
Ph.D., University of Missouri–Kansas City

MICHAEL E. BENSON (1972-1997) ..... Criminal Justice  
Penn Valley  
A.A., Kansas City, Kansas Community College  
B.S., Central Missouri State University  
M.A., University of Missouri – Kansas City  
M.S.E., Central Missouri State University

MILTON BENZ (1974-1990) .....Business  
Penn Valley  
B.S.C., University of North Dakota at Grand Forks  
M.B.A., Central Missouri State University

LEWIS E. BERG (1957-1986) ..... Mathematics  
Maple Woods  
A.B., De Pauw University  
M.A., Syracuse University

DALE R. BIAGI (1965-1998) ..... Geology and Geography  
Longview  
A.A., Kaskaskia College  
B.S., Illinois State University  
M.S., Illinois State University

SARAH F. BIVINS (1972-2001) ..... Human Sciences  
Penn Valley  
B.S., Tuskegee Institute  
M.S., University of Wisconsin

ALDINE BLANKENSHIP (1951-1979)..... Office Systems  
Penn Valley  
A.A., Northeast Junior College  
A.B., University of Northern Colorado  
M.A., University of Northern Colorado

SHERYL L. BLASCO (1966-1994) ..... Data Processing  
Penn Valley  
B.S., Emporia State University  
M.P.A., California State University

ANN E. BOEHM (1983-1989)..... Psychology  
Penn Valley  
B.A., College of St. Catherine  
M.Ed., St. Louis University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City

ELEANOR SMITH BOWIE (1971-2002)..... Director of  
Title II Project  
Penn Valley  
B.A., St. Augustine's College  
M.A., North Carolina Central University

STEPHEN BRAINARD (1970-1998) ..... President  
Maple Woods  
B.S., State University of New York  
M.S., Syracuse University  
Ph.D., University of Missouri–Columbia

LOREE D. BREED (1970-1986)..... English  
Longview  
B.A., Avila College  
M.A., University of Missouri–Kansas City  
M.Ph., University of Kansas

RONALD L. BRINK (1969-1998) ..... Speech and Theater  
Maple Woods  
*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 Longview		
B.S., Harding College			
M.A., University of Kansas			
SUZANNE BROWN (1984-1994) .....	Health Information Technology Penn Valley		
B.S., Texas Woman's University			
M.S., Texas Woman's University			
ROBERT S. BUCHANAN (1971-1993) .....	English Maple Woods		
A.B., University of Missouri-Columbia			
M.A., University of Missouri-Columbia			
RALPH E. BUGLEWICZ (1965-1993) .....	History and Russian Penn Valley		
B.A., University of Kansas			
M.A., University of Kansas			
GEORGE A. BUNCH (1956-1989) .....	Social Science Penn Valley		
B.S., Northwest Missouri State University			
M.S., University of Kansas			
WALTER M. BURKS (1970-1981) .....	Social Science Maple Woods		
A.B., Rockhurst College			
A.M., University of Missouri-Kansas City			
Ph.D., University of Missouri-Kansas City			
WILMA J. BURNETT (1973-1997) .....	Office Systems Penn Valley		
B.S., Southwest Missouri State University			
M.S., Central Missouri State University			
AARON C. BUTLER (1974-1982) .....	Business Maple Woods		
A.B., Pittsburg State University			
M.B.A., Harvard University			
Ed.D., Harvard University			
CAROL Y. BYRD (1996-2001) .....	Associate Dean of Nursing Penn Valley		
Nursing Diploma, St. Margaret Hospital			
B.S.N., Avila College			
M.S.N., University of Missouri-Kansas City			
Ph.D., University of Missouri-Kansas City			
JEREMIAH CAMERON (1963-1989) .....	English Penn Valley		
A.B., University of Indiana			
A.M., University of Chicago			
Ph.D., Michigan State University			
PATRICK R. CAPRANICA (1965-1995) .....	Social Science Longview		
B.S., Pittsburg State University			
M.S., Pittsburg State University			
KENNETH M. CARTER (1975-1992) .....	Automotive Technology, Heavy Equipment Longview		
A.A.S., Longview Community College			
CLYDIA A. CASE (1971-2002) .....	Counseling Blue River		
B.A., Eastern Kentucky University			
M.Ed., Xavier University			
Ph.D., University of Missouri-Kansas City			
VERNON L. CASE (1967-1993) .....	Data Processing Penn Valley		
B.A., William Jewell College			
M.B.A., University of Missouri-Kansas City			
GREGORY A. CHRISTY (1981-1992) .....	Drafting Longview		
B.S., Central Missouri State University			
M.S., Central Missouri State University			
JOHN P. COLEMAN (1969-1988) .....	Art Longview		
B.F.A., Kansas City Art Institute			
M.F.A., Kansas City Art Institute			
OMAR G. CONRAD (1965-1995) .....	Geology Maple Woods		
B.S., University of Kansas			
M.S., University of Kansas			
M.A., Dallas Theological Seminary			
HARVEY J. COOKE (1968-1995) .....	Business Penn Valley		
<i>Chair, Division of Business</i>			
B.S., Emporia State University			
M.S., Emporia State University			
WILLIAM PATRICK COYNE (1970-2000) .....	Automotive Technology Longview		
B.S., Pittsburg State University			
M.S., Pittsburg State University			
BETTY L. CRAFT (1975-2000) .....	Office Systems Longview		
B.B.A., Washburn University of Topeka			
DARLENE CUMMINGS-HILL (1972-1995) .....	Nursing Penn Valley		
R.N., General Hospital and Medical Center			
B.S.N., University of Kansas			
M.A., University of Missouri-Kansas City			
M.S.N., University of Missouri-Kansas City			
WILLIAM DAVID CRIM (1964-1991) .....	Mathematics Penn Valley		
B.S.E.E., University of Missouri-Columbia			
M.S., New Mexico Highlands University			
M.S.E.E., University Missouri-Columbia			
DESMOND U. DANIELS (1969-1998) .....	Music, Physical Fitness Maple Woods		
B.A., Huston Tillotson College			
M.Mus.Ed., University of Kansas			
Ed.D., Nova University			
ORVILLE L. DARBY (1956-1982) .....	Economics Longview		
B.A., Wichita State University			
M.A., University of Colorado			

DONALD H. DAY (1974-1986) .....	Electronics Maple Woods	EDWIN MATTHEW FLYNN (1961-1995) .....	Speech and Theater Penn Valley
B.S.E.E., Finlay Engineering College		A.B., University of Missouri–Columbia	
THOMAS E. DEWEY (1969-2000) .....	Counseling Penn Valley	A.M., University of Missouri–Columbia	
B.S., Pittsburg State University		ELLEN P. FORREST (1971-2000) .....	Associate Vice Chancellor and Assistant to the Chancellor Administrative Center
M.S., Pittsburg State University		B.A., Marymount Manhattan College	
RICHARD DIKLICH (1972-2002) .....	Automotive Technology Longview	M.A., Fordham University	
B.S., Pittsburg State University		WILLIAM L. FOSTER (1987-1999).....	Associate Director Occupational and Continuing Education Administrative Center
M. ALBERT DIMMIT SR. (1990-2000).....	History Penn Valley	B.S.E., University of Arkansas	
B.S., Kansas State University		M.Ed., University of Arkansas	
M.A., Kansas University		WILLIAM C. FRANKEN (1981-2003) .....	Industrial Technology Business and Technology College
Ph.D., Kansas University		A.A., Penn Valley Community College	
LAWRENCE DOWNS (1969-1986).....	Architecture Longview	B.S., Ottawa University	
B.Arch., Washington University		M.Ed., University of Missouri–Columbia	
M.A., University of Missouri–Kansas City		THOMAS R. GARRETT (1966-1989).....	Counseling Longview
PERRY A. DOYLE JR. (1966-1998).....	Physics Maple Woods	A.S., Flat River Junior College	
A.B., William Jewell College		B.S., University of Missouri–Columbia	
M.S., University of Missouri–Rolla		M.Ed., University of Missouri–Columbia	
RICHARD W. DRUMM (1983-1999).....	District Director Human Services and Risk Management Administrative Center	JOHN M. GAZDA (1957-1993).....	English Penn Valley
B.A., Long Island University		B.A., University of Kansas	
M.A., New York University		M.A., University of Kansas	
MATTIE J. ELEY (1973-2002).....	Practical Nursing Penn Valley/Pioneer	Ph.D., University of Kansas	
R.N., General Hospital and Medical Center		W. ANDREW GEOGHEGAN JR. (1973-2003).....	Psychology Longview
B.S.N., University of Kansas		B.A., College of William and Mary	
M.Ed., University of Missouri–Columbia		M.A., University of Missouri–Kansas City	
M.S.N., Bishop Clarkson College of Nursing and .....	Health Sciences	GARY F. GIBSON (1968-1992).....	Business Maple Woods
PRICE ELLIS (1969-1995) .....	History Penn Valley	B.S.B.A., University of Missouri–Columbia	
B.S., Central Missouri State University		M.Ed., University of Missouri–Columbia	
M.S., Central Missouri State University		KENNETH W. GILLESPIE (1971-1998) .....	District Director Physical Plant Administrative Center
JOHN K. ENENBACH (1969-1995).....	Criminal Justice Penn Valley	B.S., Central Missouri State University	
B.A., Wichita State University		M.S., Central Missouri State University	
J.D., University of Missouri–Kansas City		LOUIS E. GILLHAM (1965-1993).....	Counseling Maple Woods
WILLIAM J. ENGEL JR. (1969-1995).....	Business Longview	B.S., Southwest Missouri State University	
B.S., Rockhurst College		M.S., Central Missouri State University	
M.B.A., University of Missouri–Kansas City		FLORENCE W. GOLDMAN (1976-1986).....	Reading Longview
Ed.D., Nova University		B.S.Ed., Temple University	
MARY LOU EUBANK (1980-2000) .....	Computer Science/ Information Systems Longview	M.Ed., University of Illinois	
A.A., Longview Community Colleges		Ph.D., University of Missouri–Kansas City	
B.S.B.A., Central Missouri State University		MARVIN GOLDSTEIN (1962-1999) .....	Mathematics Longview
LUIS M. FLORES, JR.(1973-2001) .....	Psychology Longview	B.S., University of Oklahoma	
A.B., University of the Philippines		M.A., University of Oklahoma	
M.S., Kansas State University			

- CHARLES M. GOSSELIN (1970-1998)..... Associate Dean of  
Instructional Technology  
Penn Valley  
B.S., Rockhurst College  
M.S., University of Missouri–Kansas City
- RONALD E. GREATHOUSE (1969-2000)..... Vice Chancellor  
Administrative Services  
Administrative Center  
B.S., Pittsburg State University  
M.S., Pittsburg State University
- RADHEY GUPTA (1974-2003)..... Mathematics  
Longview  
B.Sc., Agra University  
M.Sc., Agra University  
M.S., Ohio State University  
Ph.D., Ohio State University
- RICHARD L. HAIR (1973-2000)..... Sociology  
Longview  
B.S., Rockhurst College  
M.A., University of Notre Dame  
M.Ed., Xavier University
- DOROTHY HAMILTON (1973-1986)..... Nursing  
Penn Valley  
B.A., Point Loma Nazarene College  
M.A., Point Loma Nazarene College
- CECIL N. HAMMONDS (1959-1996)..... District Director  
Management Systems  
Administrative Center  
B.S., University of Missouri–Kansas City  
M.S., University of Kansas  
Ph.D., Louisiana State University
- BARBARA M. HANKINS (1971-1997)..... Art  
Longview  
B.F.A., University of Kansas  
M.F.A., University of Kansas  
Ed.D., Nova University
- ROBERT M. HANKINS (1952-1985)..... Biology  
Longview  
B.S., Emporia State University  
M.S., Emporia State University  
Ed.D., Nova University
- LILLIAN HARRINGTON (1972-1988)..... Speech and  
English  
Penn Valley  
A.B., Benedictine College  
M.A., Catholic University of America
- ELBERT C. HEATH (1972-1999)..... Physics  
Penn Valley  
A.A., Graceland College  
B.S., Central Missouri State University  
M.S., University of Missouri–Rolla
- CHARLES F. HENRY (1984-1994)..... District Director  
High Technology Training Resource Center  
Administrative Center  
B.S., Northeast Missouri State University  
M.A., Central Missouri State University
- JOHN F. HERBST (1966-1988)..... Dean of  
Instructional Support Services  
Penn Valley  
A.B., Benedictine College  
M.L.S., Case Western Reserve University
- DAVID E. HERRON (1965-1992)..... Mathematics  
Longview  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- DONALD J. HERZOG (1971-2000)..... English  
Longview  
B.S., Wisconsin State University at LaCrosse  
M.A., Kansas State University  
Ed.D., University of Kansas
- KAREN HERZOG (1971-1999)..... Dean of Instruction  
Penn Valley  
B.S.L., Ozark Christian College  
M.A., Kansas State University  
Ph.D., University of Kansas
- JULIA HILL (1975-1992)..... Recruitment Coordinator  
Penn Valley  
B.S., Lincoln University  
M.S., University of Southern California  
Ed.D., Nova University
- THOMAS J. HILLENBRAND (1988-2002)..... English  
Longview  
A.B., Loyola University of Chicago  
M.A., Loyola University of Chicago
- E. JAY HILTY JR. (1963-1992)..... Philosophy  
Maple Woods  
B.Mus., University of Colorado  
M.A., University of Colorado  
M.Phil., University of Kansas  
Ph.D., University of Kansas
- JOYCE S. HILTY (1986-1993)..... Data Processing  
Maple Woods  
A.A.S., Maple Woods Community College  
M.A., University of Colorado  
M.Mus., University of Colorado
- SARAH A. HOPKINS (1972-1998)..... Director of PACE  
Program for Adult College Education  
Longview  
B.S. in Ed., Central Missouri State University  
M.A., Central Missouri State University  
Ph.D., University of Kansas
- DENNIS HRONEK (1973-2000)..... Associate Dean of  
Occupational /Continuing Education  
Blue River  
A.S., Hutchinson Junior College  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City
- RUTH M. HULSE (1966-1983)..... Nursing  
Penn Valley  
A.A., Moberly Junior College  
R.N., Kansas City General Hospital and Medical Center  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City

- ASHLEY L. JOHNSON (1975-1989) .....Assistant  
to the President  
Maple Woods  
B.A., Valparaiso University  
M.S., Indiana University
- ELBERT B. JOHNSON (1982-1993) ..... Economics  
Longview  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Iowa
- JANE B. JONES (1966-1984) .....Biology  
Penn Valley  
A.A., Junior College of Kansas City  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- JOHN A. KACZYNSKI (1966-2001)..... Dean of Instruction  
Longview  
A.S., Flint Community College  
A.B., University of Michigan–Flint  
M.S., University of Arizona  
Ph.D., University of Missouri–Kansas City
- MICHAEL K. KEELE (1973-2003) ..... District Director  
Marketing Services  
Administrative Center  
B.S., Central Missouri State University  
M.A., Webster University
- LEON H. KEENS (1964-1995) .....English, History  
Maple Woods  
B.A., University of Kansas  
M.A., University of Kansas  
M.A., University of Missouri–Kansas City
- KENNARD D. KELLY (1969-1989) ..... Criminal Justice  
Maple Woods  
B.A., Kansas Wesleyan University  
J.D., University of Nebraska
- MARGARET S. KELLY (1969-1996) ..... Computer Science/  
Information Systems  
Longview  
B.S., Kansas State University  
M.B.A., University of Missouri–Kansas City
- PATRICIA A. KEMNER (1970-1990) .....Biology  
Longview  
B.A., University of Missouri–Columbia  
M.S., University of Missouri–Kansas City
- RICHARD KIMBERLY (1990-2003).....Business  
Blue River  
B.S., University of Wisconsin–Madison  
M.B.A., University of Wisconsin–Oshkosh  
Ed.S., University of Wisconsin–Stout  
Ph.D., Texas A & M University
- HARRY A. KING (1973-1980) ..... Social Science  
Maple Woods  
A.A., Junior College of Kansas City  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- KAREN KISTNER (1970-1997) ..... District Director  
Occupational Systems  
Administrative Center  
B.S., University of Kansas  
M.S., Emporia State University  
Ed.D., Nova University
- HAROLD B. KOCH (1966-2000) ..... Psychology  
Penn Valley  
*Chair, Division of Social Science*  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- CARL H. KOENIG (1980-2002) ..... Computer Science/  
Information Systems  
Maple Woods  
B.S.Ed., Wayne State University  
M.S.Ed., University of Kansas  
Ph.D., University of Kansas
- IRENE G. KOROTEV (1973-1999)..... Librarian  
Maple Woods  
B.A., North Texas State University  
M.A., University of Missouri–Columbia
- HERBERT F. KRAMER (1956-1991)..... Mathematics  
Longview  
B.S., University of Missouri–Columbia  
M.S., University of Missouri–Columbia
- JOANN KREKEL (1973-1994)..... Media Specialist  
Penn Valley  
A.A., Penn Valley Community College  
B.A., Baker University  
M.S., Central Missouri State University
- VIRGINIA KRUSE (1959-1979) ..... Foreign Language  
Penn Valley  
A.B., University of Kansas  
A.M., University of Kansas
- MARILYN S. LANDER (1973-1993) ..... Nursing  
Penn Valley  
R.N., Tuskegee Institute  
B.S.N., Avila College  
M.A., University of Missouri–Kansas City
- RUSSEL G. LEE (1954-1983) ..... Mathematics  
Longview  
B.S., University of Missouri–Columbia  
M.S., University of Missouri–Columbia
- JOHN E. LEHENEY (1970-1991) ..... Counseling  
Maple Woods  
B.S., Central Missouri State University  
M.Ed., University of Missouri–Columbia
- ALDO W. LEKER (1971-1997) ..... President  
Longview  
B.S., Southwest Missouri State University  
M.B.A., University of Missouri–Kansas City
- ORLYN O. LOCKARD (1966-1989)..... Drafting and Design/  
Engineering Technology  
Longview  
B.S.Ed., Central Missouri State University  
M.A., George Peabody College for Teachers  
Ed.S., Central Missouri State University

- A. K. LONGFELLOW (1955-1977) ..... Dean  
of Students  
Penn Valley  
B.S., Central Missouri State University  
M.S., University of Kansas
- WANDA F. LORD (1962-1985) ..... Office Systems  
Penn Valley  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City
- PATRICIA A. LORENZ (1971-2000) ..... Biology  
Penn Valley  
*Chair, Division of Life Sciences*  
A.A.S., Penn Valley Community College  
B.S., St. Louis University  
Ph.D., University of Kansas
- L. DOONE LOUGHERY (1972-1991) ..... Office  
Systems and Careers  
Maple Woods  
B.S.Ed., Northeast Missouri State University  
M.A.Bus.Ed., Northeast Missouri State University
- FORREST G. LOWE (1959-1993) ..... Physics  
Longview  
B.S., Northwest Missouri State University  
M.S., Texas Christian University  
Ed.D., Nova University
- ROBERT LOWE (1971-1999) ..... District Director  
Computer Services  
Administrative Center  
B.S., Pittsburg State University
- WILLIAM J. MANN (1977-1993) ..... Chancellor  
Administrative Center  
B.S., Northern Illinois University  
M.S., Northern Illinois University  
Ed.D., Northern Illinois University
- CARDER H. MANNING JR. (1969-1995) ..... Music  
Penn Valley  
A.A., Junior College of Kansas City  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- JOSÉ MARTINEZ (1989-2000) ..... Aviation  
Maintenance Technology  
Maple Woods  
B.S., Central Missouri State University
- LOUISE S. MCCANTS (1983-1988) ..... District  
Director of Instructional Services  
Administrative Center  
B.S., Oklahoma State University  
M.S., Oklahoma State University  
Ph.D., Ohio State University
- JOHNNIE W. MCCLINTON (1971-2001) ..... Dean of Campus  
Student Services  
Blue River  
B.A., Baylor University  
M.S.Ed., Baylor University  
Ph.D., University of Missouri–Columbia
- THOMAS L. MCCLURE (1969-1999) ..... Psychology  
Maple Woods  
B.S., Purdue University  
M.A., Ball State University
- FLIN C. MCGHEE (1966-2000) ..... Chemistry  
Penn Valley  
*Chair, Division of Physical Science*  
B.S., University of Houston  
M.S., Texas A & M University  
Ph.D., University of Kansas
- FERN MEEK (1969-1992) ..... Librarian  
Longview  
B.S., University of Kansas  
M.L.S., Emporia State University
- BARBARA MEHNERT (1971-1997) ..... Counselor  
Longview  
B.A., Vassar College  
M.Ed., University of Pittsburgh  
Ed.D., University of Kansas
- JOHN MICHAEL (1987-2002) ..... District Director  
Enrollment Services  
Administrative Center  
B.S., Central Missouri State University  
M.S.Ed., Central Missouri State University
- LAUREN F. MILLER (1972-1997) ..... Philosophy  
Longview  
*Chair, Division of Social Science*  
B.A., Antioch College  
M.A., University of Pittsburgh
- MICHAEL E. MILLER (1964-1997) ..... English  
Longview  
*Chair, Division of Humanities*  
A.A., Junior College of Kansas City  
B.A., University of Kansas  
M.A., University of Kansas  
Ph.D., University of Kansas
- GEORGE E. MONTAG (1976-1985) ..... English  
Longview  
A.B., University of Cincinnati  
M.Ed., Xavier University  
M.A., Xavier University
- GERALD N. MOORE (1971-1997) ..... Electronics  
Maple Woods  
Diploma, DeVry Institute of Technology  
A.A., Metropolitan Community Colleges  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- THOMAS F. MORRIS (1965-1996) ..... English  
Longview  
B.A., University of Kansas  
M.S., University of Kansas
- ELNA B. MORROW (1981-1994) ..... Counselor  
Longview  
B.A., Alabama State University  
M.S., University of Nebraska–Omaha
- STEWART E. NELSON (1963-1999) ..... History  
Maple Woods  
A.B., Park College  
M.A., University of Kansas
- HILDA OGILVIE (1994-2003) ..... Nursing  
Penn Valley  
B.S.N., University of Kansas  
M.S.N., University of Missouri–Kansas City

- LEON P. OGILVIE (1970-2000) ..... Social Science  
Maple Woods  
*Chair, Division of Social Science*  
A.A., Junior College of Kansas City  
B.S., Central Missouri State University  
M.A., Louisiana State University  
Ph.D., University of Missouri–Columbia
- JEROME L. OMMEN (1971-1993) ..... Counselor  
Longview  
B.S., Concordia Teachers College  
M.S., Central Missouri State University  
Ph.D., University of Missouri–Kansas City
- PAT KIPP O'NEIL (1987-2000) ..... Counselor  
Blue River  
B.S., Molloy College  
M.A., Hofstra University  
M.A., University of Missouri–Kansas City
- REBECCA M. OWENS (1974-2002) ..... Fashion and  
Human Sciences  
Penn Valley  
*Chair Division of Business and Human Sciences*  
B.S., Northwest Missouri State University  
M.Ed., University of Missouri–Columbia
- CLIFFORD NAYSMITH (1964-2001) ..... Sociology  
Maple Woods  
B.A., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City
- LEE ROY PITTS (1972-1997) ..... Biology  
Penn Valley  
B.S., Pittsburg State University  
M.S., Pittsburg State University
- MARY JO PODREBARAC (1982-1995) ..... Chemistry  
Penn Valley  
B.A., Avila College  
M.A., University of Kansas
- JAMES L. PRATT (1970-2000) ..... Computer Science/  
Information Systems  
Longview  
*Chair, Division of Business*  
A.G.E., Flint Junior College  
B.S., University of Michigan  
B.S.E.E., University of Missouri–Columbia  
M.P.H., University of Michigan
- NORMAN C. PRESTON (1972-1983) ..... Mechanical  
Technology  
Penn Valley  
B.S., Northwest Missouri State University  
M.S., University of Arkansas
- A. RAE PRICE (1966-1992) ..... English  
Penn Valley  
B.S., Northwestern University  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- CARROLL S. PRICE (1969-1992) ..... Criminal Justice  
Penn Valley  
B.S., University of Missouri–Columbia  
M.Ed., University of Missouri–Columbia  
Ed.D., University of California–Los Angeles
- DONALD L. RAYMOND (1969-1983) ..... Geology  
Maple Woods  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Kansas City
- HAROLD REESE (1939-1974) ..... English  
Longview  
B.A., Dakota Wesleyan University  
M.A., Northwestern University
- BURTON W. RICHARDSON (1985-1993) ..... Electronics  
Longview  
B.S., North Carolina State University
- ROBERT D. RICHEY (1983-1993) ..... Dean of  
Instructional Services  
Maple Woods  
B.S.Ed., Illinois State University  
M.A., University of Illinois
- ROBERT D. RICHMOND (1965-1995) ..... English  
Penn Valley  
B.S., Central Missouri State University  
M.S., University of Missouri–Kansas City
- RONALD G. ROWLAND (1965-1998) ..... Chemistry  
Maple Woods  
B.S., Kansas State University  
M.S., Kansas State University
- DAVID E. SACHEN (1969-1997) ..... German, Mathematics  
Maple Woods  
B.S., Rockhurst College  
M.A., University of Kansas
- JAMES H. SAMPSON (1963-1983) ..... Director  
of Personnel  
Administrative Center  
A.B., William Jewell College  
A.M., University of Wyoming
- ALBERT W. SANDRING (1990-1995) ..... Drafting  
Longview  
B.S.M.E., Kansas State University  
M.B.A., University of Missouri–Columbia
- MARGARET P. SANDRING (1985-1995) ..... Office Systems  
Longview  
B.S., Central Methodist College  
M.S., Central Missouri State University
- EUGENE SCHIEBER (1990-2003) ..... Dean of  
Technical Education  
Maple Woods/BTC  
B.S., Northwest Missouri State  
M.A., Northwest Missouri State  
Ed.Spec., University of Missouri–Kansas City
- BEVERLY J. SCHWAAB (1980-1989) ..... Librarian  
Longview  
A.A., Junior College of Kansas City  
B.A., Baker University  
M.S., Central Missouri State University
- JEAN BARTZ SCURLOCK (1957-1986) ..... Chemistry  
Longview  
A.B., University of Kansas  
A.M., Smith College

- LARRY E. SHERWOOD (1971-1996) ..... Mathematics  
Penn Valley  
B.S., University of Missouri–Kansas City  
M.A., University of Missouri–Kansas City  
Ph.D., University of Missouri–Kansas City
- CHARLES E. SHIELDS (1967-1995) ..... District Director  
Purchasing & Auxiliary Services  
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
- ROBERT A. SLATER (1969-1998) ..... English  
Maple Woods  
B.S., Northeast Missouri State University  
M.F.A., University of Iowa
- SHIRLEY FIETH SMITH (1969-1991) ..... Office Systems  
Longview  
B.S., Central Missouri State University  
M.A., Central Missouri State University
- THEDA Y. SORENSON (1987-1994) ..... Counseling  
Longview  
A.A., Hutchinson Community College  
B.A., Sterling College  
M.A., Fort Hays State University
- PHYLLIP P. STANDLEA (1971-1996) ..... District Director  
Instructional Services & Professional Development  
Administrative Center  
B.S., Northwest Missouri State University  
M.S., Emporia State University  
Ph.D., University of Missouri–Columbia
- EVELYN R. STAATZ (1969-1996) ..... Librarian  
Longview  
B.S., University of Missouri–Columbia  
M.A., University of Missouri–Columbia
- SALLY STEINBACK (1964-1986) ..... Political Science  
Penn Valley  
B.A., Beloit College  
M.P.A., Syracuse University  
J.D., University of Missouri–Kansas City
- BILL STILL (1974-1998) ..... Machine Tool Technology  
Maple Woods/BTC  
B.S., Central Missouri State University
- SUZANA SWAGER (1985-1997) ..... Basic Skills  
Blue River  
B.A., Southwest Baptist College  
M.S., Central Missouri State University
- NANCY M. TAYLOR (1983-1993) ..... Business and  
Office Reentry  
Longview  
A.A., Longview Community College  
B.S., Avila College  
M.Ed., Central Missouri State University
- G. DALE THOMAS (1987-2001) ..... Dean of Instruction  
Blue River  
B.S.Ed., Central Missouri State University  
M.S., Emporia State University  
D.A., Idaho State University
- CLAUDE W. THOMSON (1971-1995) ..... Management  
Longview  
B.S., 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  
Ph.D., Southern Illinois University
- GEORGE E. THORNTON (1970-1997) ..... Automotive  
Technology  
Longview  
A.A.S., Longview Community College  
B.S.E., Central Missouri State University  
M.S., Central Missouri State University
- HELEN M. TURNER (1969-1993) ..... Art  
Maple Woods  
B.A., University of Arkansas  
M.Sec.Ed., University of Arkansas
- DORA WALSH (1994-1999) ..... Practical Nursing  
Penn Valley–Pioneer Campus  
R.N., Hammersmith, England  
S.C.M., Midwifery, London, England  
B.S.N., Graceland College
- HELEN G. WEAVER (1960-1984) ..... Psychology  
Penn Valley  
B.A., University of Missouri–Columbia  
M.S., University of Pennsylvania
- CHARLES H. WHEAT (1970-1997) ..... Aviation Maintenance  
Technology  
Maple Woods  
A.A.S., Oklahoma State University  
B.S., Oklahoma State University  
M.S., Pittsburg State University
- BEVERLY D. WHITAKER (1983-1994) ..... Learning Center/  
Reading  
Maple Woods  
B.R.E., Northern Baptist Theological Seminary  
B.S., Sioux Falls College  
M.A., University of Missouri–Kansas City
- LEVORA B. WHITMORE (1971-1995) ..... Nursing  
Penn Valley  
*Chair, Division of Nursing*  
B.S.N., University of Kansas  
M.A., University of Missouri–Kansas City
- JAMES P. WHITWORTH (1965-1991) ..... Counseling  
Maple Woods  
B.S., Missouri Valley College  
M.S., Central Missouri State University

ARTHUR N. WILKINS (1956-1990).....District  
Director Academic Affairs & Research  
Administrative Center

A.A., Junior College of Kansas City  
A.M., University of Chicago  
Ph.D., Washington University

DOROTHY M. WRIGHT (1955-1995) ..... Office Systems  
Penn Valley

A.A., Penn Valley Community College  
B.S., Central Missouri State University  
M.A., University of Iowa  
Ed.D., Nova University

VIRGINIA D. YATES (1968-1984)..... Reading  
Penn Valley

B.S., Pittsburg State University  
M.A., University of Missouri–Kansas City

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