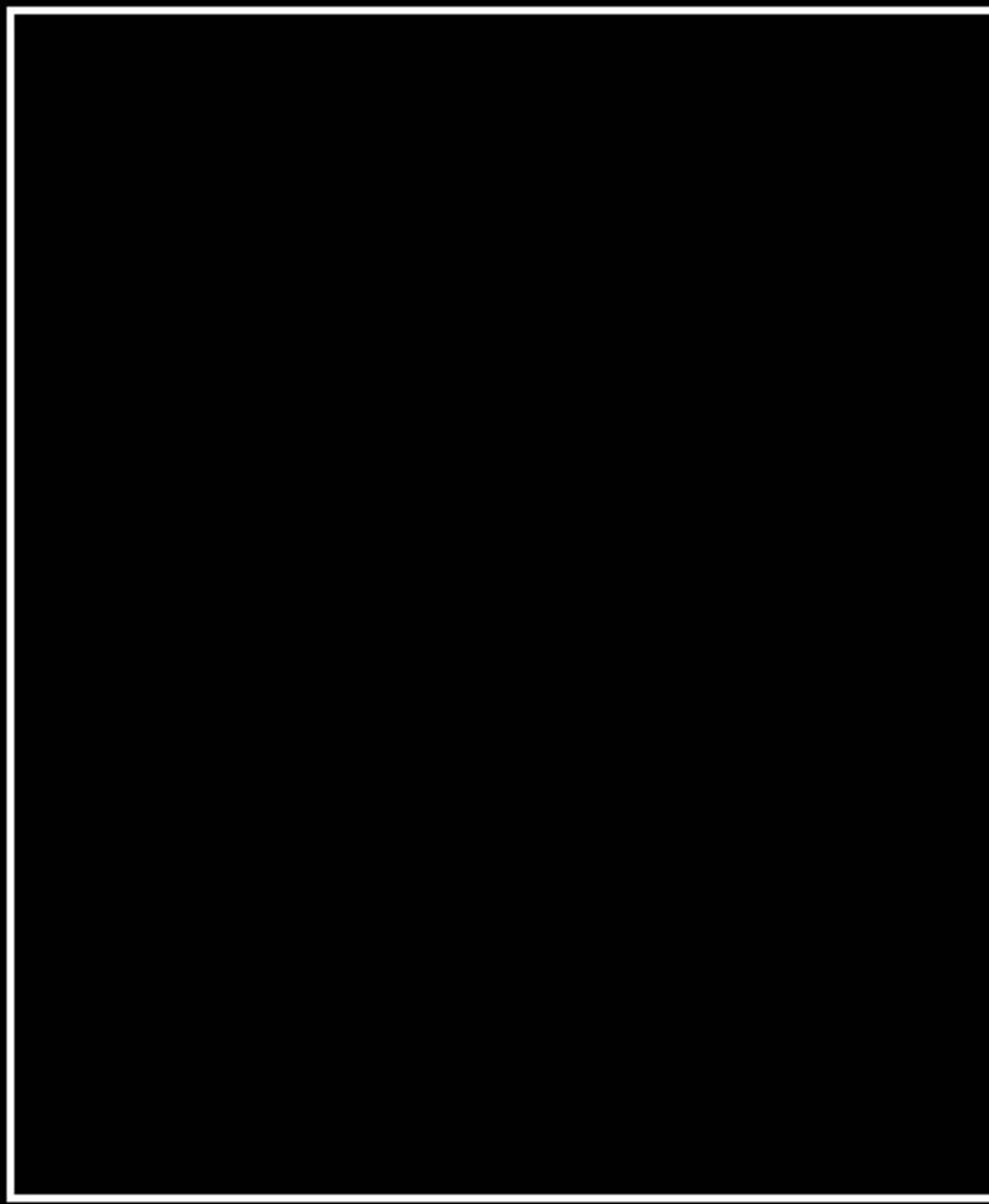
JCCC

Johnson
County
Community
College



Catalog of Courses 1994-1995
and General Information

JCCC

Johnson County Community College

Johnson County Community College
12345 College Boulevard
Overland Park, Kansas 66210-1299
(913) 469-8500

The Johnson County Community College Values, Mission and Vision Statements

Values

As an institution of higher education, Johnson County Community College supports a statement of values identified by the Carnegie Commission as applicable and enduring for all communities of learning. More specifically, we believe that Johnson County Community College should be:

- a place where all faculty, students and staff share goals and work together to strengthen teaching and learning;
- a place where freedom of expression and civility are practiced, encouraged and protected among all groups;
- a place where every person is respected and where diversity is encouraged;
- a place where individuals accept their obligations to the group and where well-defined governance processes guide behavior for the good of the institution;
- a place where the well-being of each member is supported and where service to others, internally and externally, is encouraged;
- a place which shares its ideas and resources with other members of the educational community – locally, regionally, nationally and internationally; and
- a place in which the institution's rituals affirming both tradition and change are shared and where the accomplishments of its staff and students are recognized.

We believe in the dignity and worth of each individual and the fundamental right of each person to realize his or her fullest potential; therefore:

- JCCC programs and services should be affordable and accessible to all who can benefit from them;
- programs and services need to be comprehensive in order to meet the diverse lifelong educational needs of the community; and
- high quality should be the hallmark of all programs and services and should not be compromised by growth or reduction.

We believe that the college is held in trust for the people of Johnson County; therefore:

- the college assets are a community investment; accountability and responsibility must be exercised in fiscal management and in maintaining those assets for future generations;
- the college must exercise prudence in the management of the nonmonetary assets entrusted to it, seeking maximum return on the community's investment of time, trust and intellectual capital;
- the college should, through continuous assessment, assure that its programs and services are of the highest quality, continually improved, current and that defined purposes and outcomes are achieved;
- the student learning goals established by the college's instructional programs should be continuously refined and measured;
- the college should assure that students achieve the learning outcomes established by its instructional programs; and
- JCCC should provide leadership in making Johnson County a better place to live and work.

Mission

Johnson County Community College is a comprehensive community college committed to serving the current and emerging needs of the residents of Johnson County for higher academic education, technical/vocational education and lifelong learning, incorporating diverse instructional methods and current technology in the teaching and learning process. The college seeks to respond to identified needs of the community by providing high-quality educational programs and student and community services that are accessible to all who can benefit from them. This is fulfilled through:

General education – innovative, high-quality general education courses integrated throughout the curriculum, enabling students to communicate effectively, use mathematics, employ appropriate methods of inquiry and problem solving and understand ethical issues and the importance of cultural and international diversity.

Degree preparation – coursework leading to an associate's degree and/or lower-division preparation for college/university transfer.

Career education – programs for occupational/technical preparation, upgrading and retraining to meet industry standards for work force development.

Continuing education/community services/cultural education – lifelong educational programming for personal and professional growth, for cultural and recreational enrichment and for international education leading to an understanding and appreciation of diversity.

Developmental education – instruction and programming that focus on basic skills development.

Student development/student services – admissions, testing, student activities, counseling and placement services to assist in the development and meet the needs of a diverse and changing student population.

Cooperative partnerships/economic development – educational partnerships with business, industry, government and other community groups; programs promoting economic development; and programs and services promoting articulation and collaboration with secondary schools, colleges and universities, and other educational organizations.

Vision

In its first 25 years, Johnson County Community College has emerged as one of the premier community colleges in the United States and earned a reputation for high-quality, comprehensive and flexible programming to meet the needs of the citizens of Johnson County. The college will continually strive to maintain and enhance its leadership role in delivering collegiate education, promoting economic development and providing cultural enrichment. In all its endeavors, the college, as an educational community, will affirm its commitment to the highest standards of quality in a caring and supportive atmosphere for students, staff and county residents, thereby maintaining a creative, vibrant environment for learning. Finally, the college will continue its proactive, innovative traditions and approaches to emerging issues in order to maintain its position at the forefront of community colleges in Kansas and nationwide.

Major issues

As the college prepares for the year 2000 and beyond, it must recognize and respond to several issues, resolution of which will determine, in large measure, whether it realizes this vision and maintains itself as a leading, forward-looking, top-quality community college.

Growth

The college will continue to grow, and this growth will take place in a climate in which resources will become even more limited. Such growth can be controlled to some degree and, as is clear from experiences in the last several years, will be affected by explicit actions the college takes. It is critical that this growth be planned for and that the college make specific decisions to accommodate it.

Accountability

Demands for accountability from local, state and regional accrediting entities have been growing for some time and will continue to do so. The college must emphasize and expand its efforts to assess and demonstrate its overall effectiveness and achievement of student outcomes.

Diversity

College graduates live and work in an increasingly diverse world. JCCC must ensure that its graduates are prepared to do so, in spite of Johnson County's relatively homogeneous and insular environment, by continuing to encourage diversity in all areas of the college. It will be necessary to continue to diversify and internationalize the curriculum, to diversify the student body and to promote diversity in student services and activities. In this way, the college will facilitate greater understanding within the institution and adequately prepare graduates for the changing world they will face. In addition, to promote diversity in the faculty, staff and administration, the college must continue to attract and promote highly qualified individuals regardless of race, gender or creed.

Technological innovation

Being at the forefront of technological progress, as much as any other single factor, will help the college maintain its leadership locally, statewide and nationally. Thus, the college must ensure that it has a viable, comprehensive plan to acquire and incorporate appropriate cutting-edge technology for both instructional and administrative uses. Further, JCCC must make an unequivocal commitment to implementation of that plan and provide appropriate staff training in order to be at the forefront of technological innovation.

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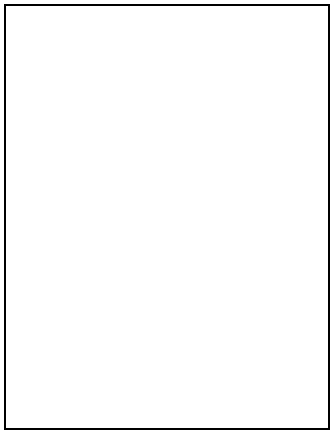
Message from the President



Charles J. Carlsen

Dear Friends:

Welcome to Johnson County Community College!

For 25 years, Johnson County Community College has served the residents of Johnson County by providing higher academic education, technical/vocational education and lifelong learning. The college first opened its doors in 1969 in rented storefronts and a church basement in Merriam, Kan., and then moved to its present 234-acre site in 1972. The campus opened with six buildings; now 13 major structures adorn the campus. From the initial enrollment of 1,380, enrollment has risen to more than 15,000 credit and an equal number of noncredit students in just 25 years.

JCCC is now starting its 26th year and is looking ahead to what the future will bring. We know some things will stay the same. We will continue to serve the 380,000 people who live in the county. We will continue to be the first educational choice for many of the county's most academically eligible high school graduates. We will maintain the more than 100 transfer agreements we have established with area colleges and universities, which allow students to begin their first two years of a four-year degree program at JCCC and then complete that degree on schedule at a four-year school. And we will continue to maintain a strong commitment to career training, with our more than 40 one- and two-year career and certificate programs, which allow students quick entrance to high-employment fields.

In addition, JCCC will continue its commitment to providing lifelong learning for all county residents, from the very young to the most experienced. The college offers the area's most comprehensive continuing education program. Part of the college's mission is to serve the entire community with a wide range of technical, business and personal enrichment courses, workshops, seminars and events. The college will also maintain its position as the county's cultural center. On campus, the Cultural Education Center contains the area's most spectacular performing arts spaces, with the 1,250-seat Yardley Hall, The Theatre, Recital Hall and the Gallery of Art.

As it looks ahead at the next 25 years, JCCC will continue to concentrate on excellence in teaching and learning in the classroom. The college now has about 730 full-time faculty and staff. Many of the faculty have doctorates, and almost all have master's degrees. Faculty consistently receive top national awards for excellence in teaching and for developing innovative approaches to classroom work.

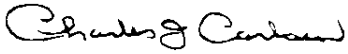
In the future, JCCC will also continue to return economic benefits to the county that supports it. The college returns $2.50 to the community for every tax dollar spent to support it, and JCCC has a total economic impact on the metropolitan area of more than $100 million annually. Through its Business and Industry Institute, JCCC has contracted for more than 65 percent of the training sponsored by the state of Kansas to encourage the development of new business and industry.

What will be different in its next 25 years? To begin with, college graduates will live and work in an increasingly diverse world. JCCC encourages diversity in all areas of the college, as it diversifies and internationalizes the curriculum, the student body and student services and activities.

Technological change will also challenge college graduates in the next 25 years. Technological changes will affect teaching and learning methods as well as the kinds of subjects being taught. Remaining at the forefront of technological progress will help JCCC maintain its leadership position, locally, statewide and nationally. Other changes — in the workforce, in society and in the world — will be reflected in the challenges facing the community college. JCCC has adapted to the changes of the last 25 years, and I can say we're looking forward to what the 21st century will bring.

For the past 25 years, JCCC has striven to offer the best education and support services available at a two-year college anywhere in the nation. That effort won't cease in the next 25 years. Indeed, we have consistently been ranked as one of the nation's top 10 community colleges because we are committed to excellence at all levels. We intend to keep that ranking. I trust that your experience at JCCC will be positive and that we can help you achieve your educational and life goals. I look forward to having you on campus and to having you become part of JCCC's second 25 years of history.

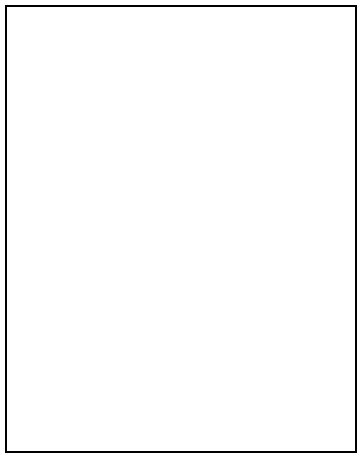
Sincerely,



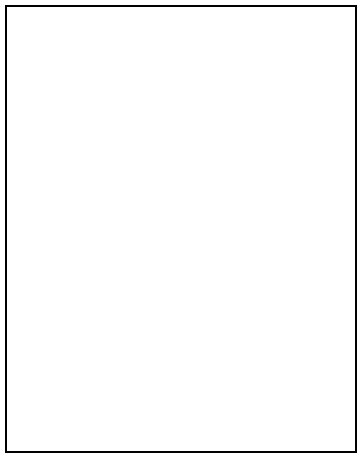
Charles J. Carlsen

President

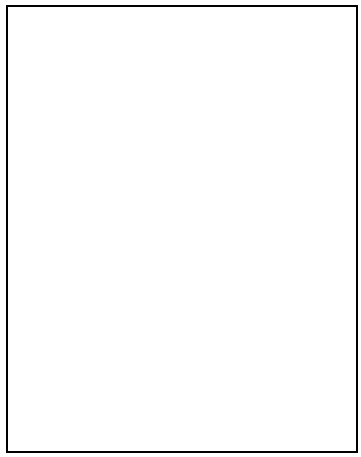
Board of Trustees



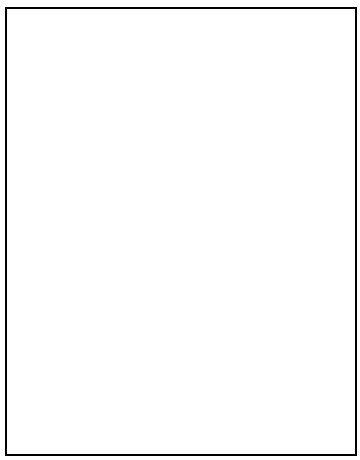
Molly Baumgardner



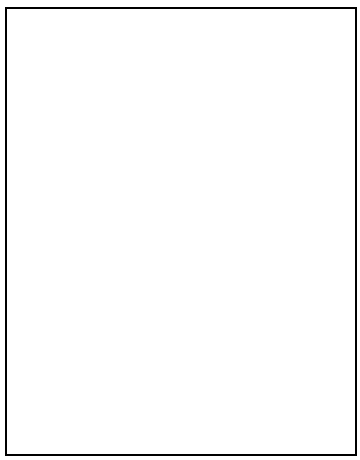
Virginia Krebs



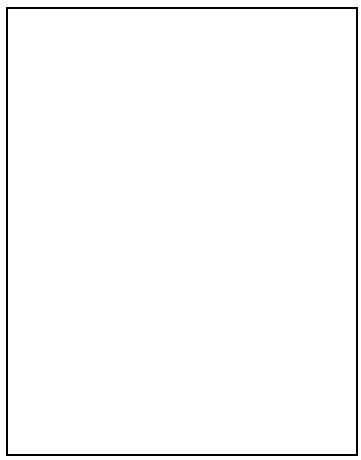
Fred Logan



Dennis Moore



Dr. Hugh Speer



Dr. Mary Lou Taylor

Academic Calendar

Please check the current credit class schedule. Dates listed are subject to change.

April 1	Last day to apply for and be guaranteed consideration for summer and fall graduation.

Summer Session 1994

June 6	First day of 8-week and first 4-week classes.
June 30	Last day of first 4-week classes.
July 4	Independence Day holiday. Classes not in session. College offices closed.
July 5	First day of second 4-week classes.
July 28	Last day of summer session.

Fall Semester 1994

Aug. 18	First day of fall credit classes.
Sept. 5	Labor Day. Classes not in session. College offices closed.
Nov. 1	Last day to apply for spring graduation.
Nov. 15	Last day to drop a 16-week class.
Nov. 24-25	Thanksgiving holiday. Credit classes not in session. College offices closed.
Dec. 13-16	Final exams.
Dec. 19	Last day of fall semester.
Dec. 26-Jan. 2	Christmas and New Year's holiday. College offices closed.

Note: Saturday credit classes begin Aug. 20 and end Dec. 17. Saturday and Sunday classes will not meet Nov. 26 and 27.

Spring Semester 1995

Jan. 16	Martin Luther King's birthday. College offices closed.
Jan. 18	First day of spring credit classes.
March 20-25	Spring break. Credit classes not in session. College offices open.
April 1	Last day to apply for summer and fall graduation.
April 17	Last day to drop a 16-week class.
May 15-18	Final exams.
May 19	Commencement.
May 19	Last day of spring semester.
May 26-29	Memorial Day holiday. College offices closed.

Note: Saturday credit classes begin Jan. 21 and end May 13. Saturday and Sunday credit classes will not meet March 25 and 26.

Summer Session 1995

June 5	First day of 8-week and first 4-week classes.
June 29	Last day of first 4-week classes.
July 3	First day of second 4-week classes.
July 4	Independence Day holiday. Classes not in session. College offices closed.
July 27	Last day of summer session.

Admission

Admission Policies

Admission Procedures – Credit

New Students
Continuing Students
Affiliate Programs
International Students
Resident Aliens
Foreign Students
Visiting Foreign Students
College Credit Class Options for High School Students

Programs with Selective Admission

Nursing
Articulation of Licensed Practical Nurses
Dental Hygiene
Interpreter Training
Mobile Intensive Care Technician
Paralegal
Railroad Operations
Respiratory Therapy

Admission Procedures – Noncredit

Admission Policies

To be admitted to Johnson County Community College, you must meet one of the following requirements: You must be a high school graduate, have passed the GED exam or have reached the age of 18 and demonstrated through the JCCC student assessment process the ability to benefit from attending the college.

You may be admitted with special student status as defined below. People in this category are considered non-degree-seeking students.

1. If you are under 18 years old and have not received a high school diploma and are currently enrolled in grades 11 or 12 of high school, you may obtain special student status and be admitted to JCCC with written authorization from your high school.
2. If you are 18 or older and do not have a high school diploma or GED certificate, have not completed the student assessment process and are not degree-seeking, you also may be admitted with special student status.

Priority for admission will be considered in this order: Johnson County residents, other Kansas residents, out-of-state students and foreign students.

The college reserves the right to deny you admission, readmission or registration if you have violated the student code of conduct and are currently suspended from the college, are not making academic progress as outlined on page 34 or when the college is unable to provide the services, courses or program needed to assist you to meet your educational objectives.

Admission Procedures – Credit

New Students

To apply for admission to JCCC for the first time, you should follow these steps:

1. Complete an application form and return it to the Admissions and Records Office. Application forms are available from the Admissions and Records Office or in the credit class schedule. All new and readmitted students must complete a new application and pay the appropriate application fee. The application fee must be paid at the time you submit the application to the Admissions and Records Office.

   The new student application fee is $10.

2. Have official copies of your transcripts sent to the Admissions and Records Office at JCCC.

   a. You must submit an official high school transcript, including final grades and graduation date, or the results of the GED exam. (If you graduated more than five years ago or have 15 or more hours of college credit, you may disregard this requirement.)

   b. You must submit an official transcript from each college or university you have attended.

      If you are currently attending another institution, you should have your transcript sent at the end of the semester. (If you have a bachelor's or higher degree and are not pursuing a degree at JCCC, you may disregard this requirement.)

The issuing institution must mail the official transcript to JCCC. Hand-carried copies are not acceptable. You will not be allowed to re-enroll after one semester unless all outstanding transcripts are received.

Notes:

1. Currently, Kansas law requires that you live in the state six months prior to the first day of the semester or session in order to be eligible for resident tuition rates. This law is subject to change at the discretion of the Kansas State Legislature. The six-month requirement may be waived, upon appeal to the director of admissions and records, if you were transferred or recruited by a Kansas company as a full-time employee to work in the state and have established a residence in Kansas. If you are a nonresident, foreign or visiting international student at JCCC, you must pay out-of-state tuition and fees. Address changes that result in a change to Kansas residency may require validation through a residency appeal. Contact the Admissions and Records Office for details.
2. You are encouraged – but not required – to submit American College Testing scores. If you plan to submit scores, you should take the ACT test as early as possible and request that scores be sent to JCCC.

Continuing Students

An application for admission to JCCC is valid for one year beginning with the summer session and ending with the spring semester. To be considered a continuing student for the following year, you must have been enrolled during the previous spring semester. If a student misses the spring semester, a new application for admission is required.

Affiliate Programs
(Cooperative Programs)

Johnson County Community College and the Metropolitan Community College District have developed cooperative agreements that allow Johnson County residents to enroll in selected career programs at resident tuition and fee rates. Affiliate programs include Aviation Maintenance Technology, Grounds and Turf Management, Health Information Technology, Occupational Therapy Assistant, Physical Therapist Assistant, Radiologic Technology and Veterinary Technology. For more information about specific criteria required for individual program acceptance, contact the Metropolitan Community College District.

To participate in an affiliate program, the following requirements must be met:

1. Only Johnson County residents are eligible for admission to the affiliate program.
2. You must complete and sign the affiliate student contract, available at the JCCC Admissions Office.
3. JCCC will pay your tuition at the affiliate school for courses that are not being offered at JCCC. If you elect to take a course at the affiliate school that is offered at JCCC, you will be responsible for paying the out-of-state tuition at the affiliate school.
4. JCCC will not pay for any repeated course work. If you elect to repeat a course at the affiliate school, you must pay for the out-of-state tuition at the affiliate school.
5. You must apply for and receive all your financial aid at JCCC.
6. JCCC has the right to limit enrollment in the affiliate program and can make changes in the program at any time.

International Students

International students must meet all college admission policies and provide required documentation as found in the guidelines established by the director of Admissions and Records. International students are students who are not U.S. citizens, as categorized below:

1. Resident aliens are international students who have been granted permanent resident status by Immigration and Naturalization Services.
2. Foreign students are international students who are applying for an I-20 from JCCC to obtain a student "F" visa.
3. Visiting foreign students are international students who currently hold a valid visa or current I-20 from another institution.

Resident Aliens

Resident aliens must meet the following requirements:

1. Provide a "green card" or copies of your permanent residency application, along with the U.S. Department of Immigration and Naturalization Services receipt of filing. An employment authorization card is not sufficient.
2. Submit official transcripts from all U.S. secondary and postsecondary educational institutions you have attended. The issuing institution must send the transcript directly to the JCCC Admissions and Records Office. Hand-carried transcripts are not acceptable. Transcripts from foreign institutions are not required.
   Note: If you have been out of high school five or more years, you need not submit your high school transcript.
3. Complete the JCCC assessment and enrollment process.
   a. Complete the JCCC ESL assessment test.
   b. Discuss course selection, based on your assessment results, with a JCCC counselor. Course selection may be restricted because of JCCC assessment test results.
   c. Enroll in classes approved by a counselor.

If you want your foreign credits evaluated for a JCCC certificate or degree, you should submit transcripts from all foreign postsecondary institutions to Educational Credential Evaluators Inc. in Wisconsin.
Note: This is not required for admission to JCCC. Applications for Educational Credential Evaluators Inc. are available from the Admissions and Records Office. There is a fee for their services.

Foreign Students

Foreign students applying for an I-20 from JCCC to obtain a student "F" visa must meet all college admission policies in addition to the following requirements:

1. Complete a Foreign Student Application Packet. The packets are available from the Admissions and Records Office.
2. Submit to the Admissions and Records Office your completed application packet and all requested supporting documents including, but not limited to, a valid TOEFL score and verification of your ability to pay tuition, fees and other supporting costs. Specific information concerning application deadlines and other admission requirements is in the packet.

If you are accepted for admission, the JCCC assessment process as described above under "Resident Aliens" must be completed before you enroll in classes. Course selection may be restricted because of JCCC assessment test results.

If you are a foreign student and have completed one or more semesters at another U.S. postsecondary institution and are transferring to JCCC, you may be eligible to apply for institutional-based financial aid. Other foreign students will not be eligible to apply for institutional-based financial aid until they have satisfactorily completed one semester of credit courses at JCCC.

If you attend JCCC as an international student on an I-20 issued from JCCC, you will be required to purchase medical insurance. You need to budget a minimum of $500 a year to cover this expense.

The Internal Revenue Service now considers all F, J and M visa holders to be engaged in a trade or business in the U.S. Therefore, all aliens on these visas must file a 1040NR tax return even if they have no income from U.S. sources.

Foreign students are assessed the out-of-state tuition rate.

Visiting Foreign Students

Visiting foreign students who hold a valid visa other than an F visa must meet all college admission policies in addition to the following requirements each semester:

1. Complete a foreign student application.
2. Present your current passport and I-94 card to the director of admissions and records. Your I-94 card must be valid through the end of the semester in which you wish to enroll. This procedure must be repeated prior to enrollment each semester.
3. Complete the JCCC assessment and enrollment process as described under "Resident Aliens." Course selection may be restricted because of JCCC assessment test results.

Visiting foreign student who hold a valid F visa must meet the following requirements each semester:

1. Complete a foreign student application.
2. Obtain and return the completed Confidential Reference for Visiting Students form to the Admissions and Records Office. A new form must be submitted prior to enrollment each semester.
3. Complete the JCCC assessment and enrollment process as described under "Resident Aliens." Course selection may be restricted because of JCCC assessment test results.

Note: Visiting F-1 students are limited to 6 credit hours each semester.

If you are considered a visiting foreign student, you will be assessed tuition at the same rate as foreign students.

You will not be eligible to apply for institutional-based financial aid until you have satisfactorily completed one semester of credit courses at JCCC.

College Credit Class Options for High School Students

High school students may enroll in college credit classes by selecting one or both of the following options:

- College Now – This program is for high school students enrolled in selected honors or advanced placement classes for which college credit equivalency has been established. Instruction is provided on the high school campus. Your high school transcript is not required at the time of enrollment. Approval from your high school principal or counselor is necessary. A schedule of College Now classes and registration forms will be available early each semester at participating high schools.
- Quick Step – This program is for high school juniors and seniors. Instruction is provided by JCCC faculty on the college campus. You must submit a JCCC application for admission and a signed Quick Step form at the time of enrollment indicating your high school counselor's or principal's approval to take college classes. Your high school will send a transcript at the end of the current semester. You can find a complete list of classes each semester in JCCC's credit class schedule.
- Tech Prep – This program is for high school students enrolled in selected technical courses for which JCCC college credit equivalency has been established. Instruction is provided on the high school campus or at the JCAVTS.

For more information about these college credit class options, see your high school counselor or call JCCC's Admissions and Records Office.

Programs with Selective Admission

Admission to the college does not guarantee enrollment in any specific course or program. Selective admission programs have a limited number of openings each year and have specific entry-level admission requirements that must be met before selection for admission to the program. If you are interested in any of the following programs, obtain an admission packet from the Admissions Office. The packet provides the specific selection criteria. In addition, you should meet with a JCCC counselor as early as possible.

Nursing

Maximum number selected	55
Application deadline	Feb. 1
Classes begin	Fall semester

Articulation of Licensed Practical Nurses

Maximum number selected	Based on number of available positions in NURS 221
Application deadline	Jan. 15
Classes begin	Fall semester

Dental Hygiene

Maximum number selected	26
Application deadline	Jan. 15
Classes begin	Fall semester

Interpreter Training*

Maximum number selected	30
Application deadline	June 1*
Classes begin	Fall semester

Mobile Intensive Care Technician (Paramedic)

Maximum number selected	20
Application deadline	Oct. 15
Classes begin	Spring semester

Paralegal Training**

Maximum number selected	50
Application deadline	March 1 for fall semester July 1** for fall semester Oct. 1 for spring semester April 1** for summer session

Respiratory Therapy

Maximum number selected	20
Application deadline	Oct. 15 (if openings exist, applications will be accepted through Feb. 15)
Classes begin	Summer session

Respiratory Therapy CRTT-RRT Transition

Maximum number selected	Based on number of available clinical positions
Application deadline	Oct. 15 for spring semester Feb. 15 for fall semester

Railroad Operations

Contact the director of Admissions and Records.

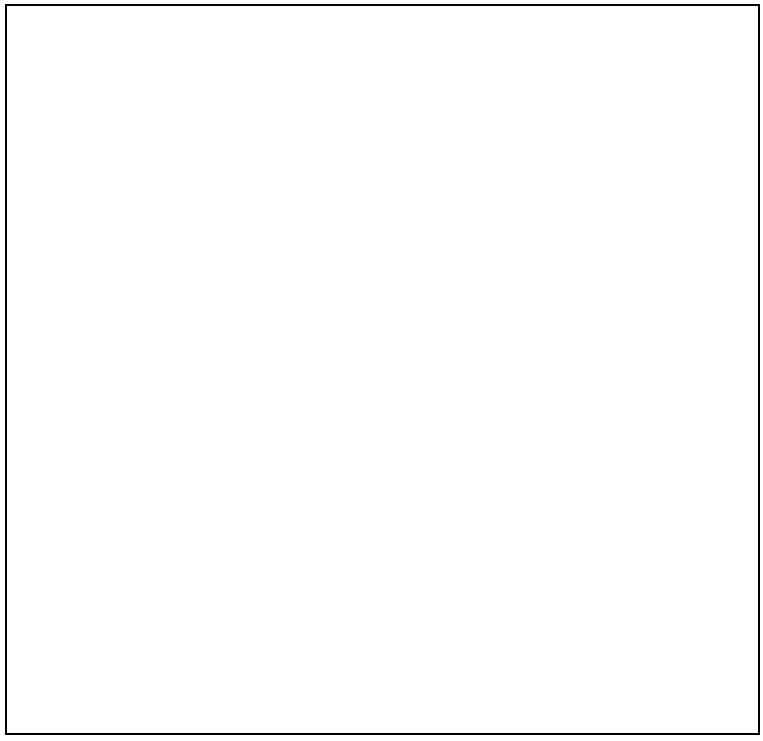
*Admission to each of the selective admission programs is highly competitive. Therefore, you should request and submit an application packet as early as possible. This is especially true for the Interpreter Training program since selection decisions are based on the date your file is complete.

**The Paralegal program has a number of options that can be considered. Deadline dates and beginning semesters will depend on your admission status and the option you choose. You should contact the Admissions Office or the program director of the Paralegal program to obtain specific information about the admission process and the program options.

Admission Procedures – Noncredit

Admission to noncredit classes is usually open to any person 18 years of age or older. Any exception to this age restriction will be stipulated in college publications.

Registration, Tuition and Fees



Registration Procedures

- Counseling
- Assessment
- Scheduling Classes
- Student Course Load
- Early Registration
- On-campus Registration
- Late Registration
- Registration for Late-start Classes

Adding and Dropping a Class

- Adding a Credit Class
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Tuition and Fees

- Credit Class Tuition
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- Credit Class Refunds
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Registration Procedures

Counseling

Counselors will work with you to identify your educational and career interests in order to create an educational plan. Counselors also will inform you about course prerequisites, the transferability of courses and the sequence in which courses should be taken.

When your questions have been answered and your educational plan developed, you are ready to register. The exact time and day to register will be listed in the credit class schedule available each semester at the Admissions and Records Office.

Assessment

As part of JCCC's philosophy of assisting all students who enroll in credit classes to successfully achieve their academic goals, you are required to participate in the assessment process with the following exceptions:

- If you have earned a two-year or higher degree from an accredited postsecondary institution.
- If you plan to enroll in courses offered through contract arrangements between JCCC and an outside agency.
- If you plan to enroll in courses offered through the JCCC Business and Industry Institute.
- If you plan to enroll in courses that have been specially designed for specific populations. (These specific courses will be designated by the division administrator and the dean of instruction.)

You may be required to participate in all or part of the assessment process based on the following:

- If you have satisfactorily completed a college-level composition course, you are not required to take the English or reading sections of the assessment test.
- If you have satisfactorily completed the first college-level mathematics course required for your JCCC degree program, you are not required to take the math section of the assessment test.
- If you indicate that your educational objective is "personal interest or self-improvement" or "improving skills for present job" on the JCCC application for admission, you may enroll in any credit course except mathematics, English or reading without participating in the assessment process.
- If you have an ACT English score of 19 or higher, or an ACT math score of 23 or higher, you may substitute your ACT results for some sections of the assessment test.

Scheduling Classes

You are responsible for scheduling your own classes and for being aware of all schedule changes. The college reserves the right to cancel, combine or change the time, day or location of any class without obligation. The college also reserves the right to change the instructor and/or instructional methodology without obligation.

Student Course Load

For the fall or spring semester, you are considered full-time if you are enrolled in 12 credit hours or more; if you are enrolled in nine to 11 credit hours, you are three-quarter-time; if you are enrolled in six to eight credit hours, you are half-time.

In the summer session, you are considered a full-time student if you are enrolled in six credit hours or more; if you are enrolled in fewer than six credit hours, you are a part-time student.

If you wish to enroll in more than 18 semester hours of credit for a fall or spring semester or more than nine hours of credit in the summer, you must, before enrolling, receive written permission from a counselor and have a 2.5 cumulative G.P.A. for all hours attempted in college. All appeals should be made in writing and reviewed by the dean of instruction and the dean of student services for resolution.

Early Registration

Early registration is open to you if you are currently enrolled or have submitted an admission application to the Admissions Center by the deadline dates listed in the credit class schedule. During early registration, you may register according to procedures listed in the credit class schedule.

On-campus Registration

On-campus registration takes place before the beginning of the semester. Specific dates, times and locations are listed each semester in the credit class schedule.

Late Registration

Late registration takes place during the first two days of classes. Specific dates, times and locations are listed each semester in the credit class schedule. A $10 late registration fee will be assessed if you initially register for the semester or session during late registration.

Registration for Late-start Classes

You may register for classes listed in the "Late-start Classes" section of the credit class schedule up until the day before the beginning of the class. A late fee of $10 is charged for registration after the class begins.

Adding and Dropping a Class

Adding a Credit Class

You may add a credit class through the first five working days during a nine- to 16-week semester, and on the first three working days of an eight-week term. The last day to add a class less than eight weeks in length will be determined by the director of Admissions and Records and published each semester in the credit schedule of classes.

Dropping a Credit Class

16-week Class: You may drop a class up to Nov. 15 for the fall semester and April 15 for the spring semester.

Classes Less than 16 Weeks: You may drop a class up to completion of three-fourths of the class. Specific dates may be obtained in the Admissions Office.

A "W" grade is recorded on your permanent record if you drop a course after one quarter of the semester or session has passed.

Note: If your records are on "hold," you will not be allowed to drop a class. See the "Records on Hold" policy, page 39.

Exceptions to these policies may be authorized by the dean of student services. All appeals must be made in writing.

Adding and Dropping Credit Classes – Effect on Tuition and Fees

Courses with the same number of credit hours that are dropped and added simultaneously will be treated as an even exchange of tuition and fees during the refund and add/drop period of each semester or session. For courses with different total credit hours that are dropped and added simultaneously, you will receive the appropriate refund percentage for the dropped course and pay the total tuition and fees for the added course. If you drop a class on one day and add a class on another, you will be required to pay for the added class.

After the expiration of the refund period, only changes in sections of the same course or class level changes will be treated as an even exchange for tuition purposes. Either change requires written approval by the division administrator of the academic division under which the class is offered. If you drop a course and add a different course after the expiration of the refund period, you will be required to pay the additional tuition. If you drop the class after one-fourth of the semester or session has passed, you will be given a "W" for the course.

Adding a Noncredit Class

You may add a noncredit class up until the day before the class begins.

Dropping a Noncredit Class

Because noncredit classes begin at different times throughout the semester, noncredit classes may be dropped according to procedures outlined in the community education noncredit class schedule.

Tuition and Fees

Credit Class Tuition

At the time of this catalog printing, the tuition and fee rates are as follows. However, the JCCC board of trustees has the right to change tuition and fees without notice.

Kansas Residents:

Tuition .....$27.00 a semester credit hour
Commons and
Student User Fee .....$4.00 a semester credit hour
Student Activity Fee .....$3.00 a semester credit hour
Total per Credit Hour $34.00

Out-of-state,
Foreign and Visiting International Students:

Tuition .....$93.00 a semester credit hour
Commons and
Student User Fee .....$4.00 a semester credit hour
Student Activity Fee .....$3.00 a semester credit hour
Total per Credit Hour $100.00

Some courses may require fees in addition to tuition. These fees are listed in the credit class schedule each semester. A $10 late fee will be assessed all late enrollees. A late payment fee may be assessed for students who register early and do not pay by the early payment date but do pay before the first day of on-campus registration.

If you register early, tuition and fees are due by the date listed in the credit class schedule. If you register during on-campus or late registration or to audit a class, tuition and fees are due the day you register.

The college has no deferred or partial payment policy. You will not be allowed to attend classes, enroll in classes, graduate or have a transcript issued until all tuition, fees and past-due obligations are paid.

Returned Check Policy

If your check made payable to the college is returned by a bank for any reason, your records will be placed on hold and you will be charged a returned check fee for each returned check.

If your check for tuition and fees is returned by a bank, you will be dropped immediately from classes. You may re-register during the registration dates published in the current class schedule; however, your payment of tuition and fees must be made by cash, money order, cashier's check or credit card. You will be charged a returned check fee.

If you write a check at the bookstore, you may not return the merchandise for a refund until seven days have passed to verify the check has cleared.

If you have had checks returned, your name will be placed on a Business Office hold and you will no longer be allowed to make payments by check or to cash checks. After you have been on a Business Office hold for four semesters (including spring, summer and fall), you may appeal in writing to the Business Office to have the hold removed. A letter of approval or denial will be mailed to you. If a bad check is written after the hold is removed, the hold is replaced and the opportunity to appeal again is forfeited. You must then pay in the future with cash, money order, cashier's check or credit card.

The Business Office will notify you by mail if your check is returned by the bank. Payment must be received within 10 days of receipt of the notice. Payment may be made only by cash, money order, cashier's check or credit card.

After 10 working days, if payment has not been received, returned items may be turned over to a collection agency. The collection agency may be allowed 60 days to collect items after which time uncollected items will be returned to the college. All items returned by the collection agency may be turned over to the Johnson County District Attorney.

Noncredit Class Tuition

Fees for noncredit classes are determined on an individual class basis. Check the community education noncredit class schedule for specific class fees.

Refunds

Credit Class Refunds

A full refund of tuition and fees will be issued if JCCC exercises its right to cancel a class. If you withdraw from classes, you may receive a partial refund. You may apply for a refund by completing a drop form in the Admissions and Records Office. If you have completed registration and want to withdraw from a class or classes in which you are enrolled, you will receive the following refund:

- 100 percent of tuition and fees if the drop form is processed by the Admissions and Records Office before – but not on – the first day of the semester or session.
- 80 percent of tuition and fees if the drop form is processed by the Admissions and Records Office
  – within two weeks after the beginning of classes for the fall and spring semester;
  – four calendar days after the beginning of classes for an eight-week term;
  – two calendar days after the beginning of classes for a four-week session;
  – one calendar day after the beginning of classes for a two-week mini-session, a short course or a seminar.
- No refund will be authorized for withdrawals or registration changes made after the specified calendar days listed in the credit class schedule. The only exceptions are if the class is canceled by the college or it is necessary to revise the class schedule, in which case a 100 percent refund of tuition and fees will be issued.

Refunds are calculated based on the day you officially drop a class in the Admissions and Records Office, not when you stop attending class.

Exceptions to this policy may be authorized by the dean of student services. All appeals must be made in writing. Appeals may not be considered after half of a course has been completed.

Noncredit Class Refunds

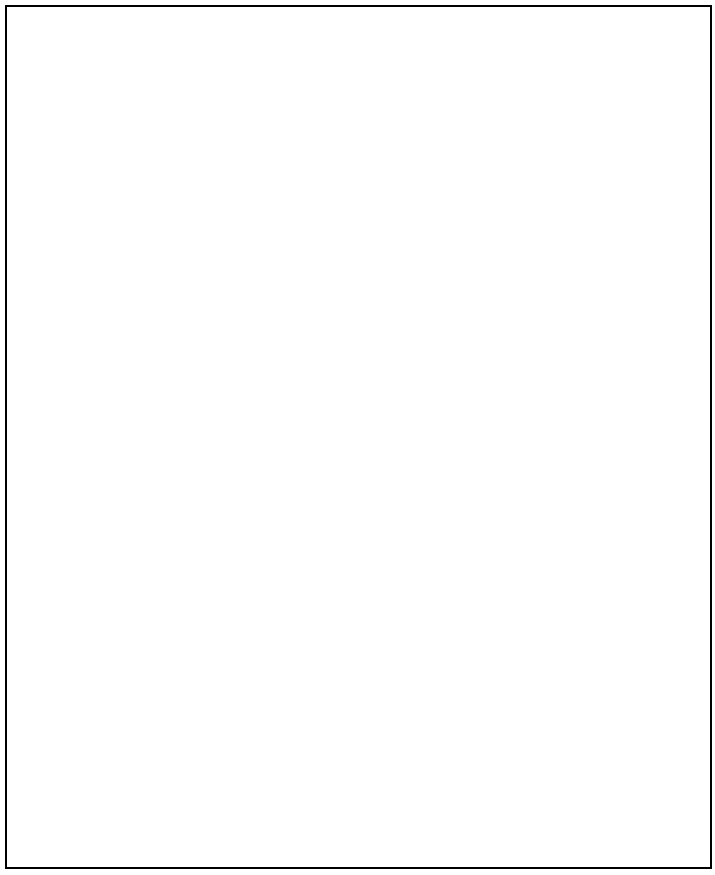
A full refund will be made if the college exercises its right to cancel a class or if the class is full when your registration is received. A request for refund will be honored if a written request is received in the JCCC Admissions and Records Office 48 hours before the class begins. Exceptions to this policy may be authorized by the dean of Student Services.

Textbook Costs

If you are a full-time student, you can expect to pay approximately $250 a semester for textbooks. Textbooks may be purchased in the JCCC bookstore.

Procedures for obtaining refunds for textbooks and for textbook buy-back are listed in the credit class schedule.

Student Financial Aid



Student Financial Aid

Application for Financial Aid

Types of Financial Aid

- Need-based Assistance
- Other Financial Assistance

Satisfactory Academic Progress

- Financial Aid Warning
- Terms of the Financial Aid Warning
- Financial Aid Exclusion
- Conditions for Reinstatement of Financial Assistance
- Appeal Process

Student Financial Aid

JCCC makes available grants, scholarships and loans to both full-time and part-time students. Some part-time employment opportunities also are available to students. In addition, JCCC is approved by the VA for educational benefits.

Most financial assistance is awarded to students who can demonstrate financial need. Your financial need is based on the amount of money your parent(s) and/or you can be expected to contribute to educational costs. The JCCC Student Financial Aid Office assesses your financial needs through a fair and objective analysis. Specific application and program information is given in the student financial assistance handbook, which is available from the Student Financial Aid Office.

The information on financial aid given here is subject to change without notice. Please contact the Student Financial Aid Office for details.

Application for Financial Assistance

You must complete an application for admission to JCCC. If applying for federal aid or other need-based assistance, you also must complete the Free Application for Federal Student aid. If the application is selected for verification by the federal government, signed copies of tax forms will be requested to verify information.

If applying for aid not based on need, submit only the JCCC scholarship application to the JCCC Student Financial Aid Office. The forms are available from the JCCC Student Financial Aid Office.

The JCCC Student Financial Aid Office will make every effort to meet the financial needs of each qualified student based on eligibility criteria and the availability of national, state, local and institutional funds. You should submit financial aid applications for the next academic year by April 15. Applications received after that date will be considered if funds remain available.

A written notification of financial assistance will be sent to you as soon as all requested or required forms and verification documents have been received and reviewed, and eligibility has been determined.

Financial aid will be used to pay tuition and fees first. Excess funds above tuition and fees will be disbursed directly to you on the first day of class. See the credit schedule for the term in which you are enrolled for specific disbursement information.

There are no tuition waivers or partial payment plans at JCCC. If the financial aid award is not enough to pay all enrollment expenses, you must pay the balance no later than the published due date.

If you have not received the written official notification of financial aid, you will be responsible for payment of tuition and fees.

Financial assistance may still be awarded after your tuition has been paid. In that instance, the award will be applied to tuition and fee expenses, and you will receive a tuition refund from the JCCC Business Office.

Types of Financial Aid

Several types of financial aid are available if you are enrolled in a minimum of six credit hours.

Need-based Assistance

- Federal Pell Grants are funded by the federal government. If eligible, you may receive up to $2,300 an academic year at JCCC. The grant can be applied toward any education-related expenses.
- The Federal Supplemental Educational Opportunity Grant is a government grant that ranges from $250 to $500 an academic year and can be applied toward any education-related expense.
- Need-based Board of Trustees Grants are financial awards that range from $200 to $800 an academic year made to JCCC students who have a 3.0 cumulative G.P.A. and demonstrate need. Only Johnson County residents are eligible. Funds are limited and competitive.
- Foundation Grants (need-based) are restricted to students who have completed the Free Application for Federal Student Aid. Each grant has unique qualifications. For a list of these grants and their qualifications, you should refer to the student financial assistance handbook.
- The Kansas State Scholarship is limited to students designated as Kansas High School Scholars who have financial need as defined by the state of Kansas. You must apply by completing the state of Kansas student aid application, available at college financial aid offices or from high school counselors. A small fee will be charged to process the application for the state of Kansas programs. Applicants must also complete a Free Application for Federal Student Aid to determine financial eligibility.
- Vocational Rehabilitation supports your educational costs through your area vocational rehabilitation office. You should contact that office to determine your eligibility. Eligibility for the Federal Pell Grant must be determined before vocational rehabilitation can be awarded.

- The Bureau of Indian Affairs offers grants to American Indian students. Eligibility requirements include demonstrated financialneedandsatisfactory academic progress. Additional information and application materials are available through the area agency office holding records of tribal membership.
- The Federal Perkins Loan, a 5 percent federal government loan, is processed through JCCC. The loan ranges from $400 to $3,000 a year. The loan is interest-free while you are enrolled in at least six credit hours. Repayment and interest begins nine months after you leave school.
- Federal Stafford Loan funds are provided by a participating bank, savings and loan or credit union of your choice. Eligibility for this loan is determined by the JCCC Student Financial Aid Office. A first-year JCCC student may borrow up to $2,625 (if eligible). A second-year JCCC student may borrow up to $3,500 (if eligible). This loan is interest-free while you are enrolled in at least six credit hours. You must begin repaying the loan six months after leaving school. The loan is subject to lender and guarantee fees that are deducted from the loan proceeds.
- Federal Unsubsidized Stafford Loan funds are provided by a participating bank, savings and loan or credit union of the student's choice. Eligibility for this loan is determined by the JCCC Student Financial Aid Office. A first-year JCCC student may borrow up to $2,625 in an unsubsidized federal Stafford loan or a combination of a subsidized and unsubsidized federal Stafford loan. A second-year JCCC student may borrow up to $3,500 in an unsubsidized federal Stafford loan or a combination of a subsidized and unsubsidized federal Stafford loan. This loan has a variable interest rate not to exceed 9 percent, and repayment of interest begins immediately. In some cases, interest payment may be deferred while continuous enrollment is maintained. However, interest will accumulate and will be added periodically to the balance due. You must begin repayment of the principal six months after leaving school. The loan is subject to an origination fee that is deducted from the loan proceeds.

  Eligible independent students may borrow up to an additional $4,000 a year. The amount borrowed may not exceed the cost of education (determined by JCCC) minus any other financial aid received.
- Federal Work-study Program is a federally funded program in which you work part-time on campus. The pay will vary according to the job position. Paychecks are issued twice a month.

Other Financial Assistance

- The Presidential Scholarship is awarded to students who were graduated from a Johnson County high school the previous year and were National Merit finalists or semifinalists.
- Academic Board of Trustees Grants are awards to JCCC students who have a 3.5 cumulative G.P.A. Only Johnson County residents are eligible. Funds are limited and competitive.
- JCCC Athletic Grants will pay only for tuition and books. Eligibility for athletic grants is based on academic standards established by the National Junior College Athletic Association. Awards are made upon the recommendation of the physical education department. Eligible applicants must enroll in a minimum of 12 credit hours each semester.
- Engineering Technology Scholarships are awarded to high school seniors or graduates enrolling in one of the engineering technology programs at JCCC. These programs include civil engineering technology, drafting technology and electronics technology. Scholarship awards are made on a competitive basis. The scholarship will cover tuition expenses up to $250 a semester.
- Marley Cooling Tower Scholarships are awarded on a competitive basis to students in drafting technology or civil engineering technology. The award provides one year of tuition and fees and one year of training and employment in the drafting department at Marley Company.
- Notetaker Stipends are available for students who wish to take notes for hearing-impaired students in their classes. This stipend will reimburse your tuition and activity fees for that class at the end of the semester. Contact JCCC Special Services for additional information.
- Talent Board of Trustees Grants require a faculty recommendation and a 2.0 cumulative G.P.A. Only Johnson County residents are eligible. Funds are limited and competitive.
- The Vocational Education Scholarship provided by the state of Kansas will award $500 a year for up to two years to Kansas residents enrolled in a vocational program. The award is made to those students with the highest DAT test scores. The DAT test is administered at JCCC the first Saturday in November and in March.
- The Paul Douglas Teachers Scholarship provided by the state of Kansas will award $5,000 a year to Kansas residents who are in preschool, elementary and secondary educational programs. To be an eligible applicant, you must have graduated in the upper 10 percent of your class. The application deadline is March 1 through the Kansas Board of Regents.

- Veterans Educational Benefits are typically approved for all of JCCC's degree programs. Veterans, reservists and eligible dependents requesting benefits must complete the appropriate forms, which are available through the JCCC Student Financial Aid Office.

  All applicants for VA educational benefits must have a degree program plan developed and approved (or updated) by a JCCC academic counselor before each registration. Benefit pay is authorized only for those courses specifically listed or indicated on your program plan. You must maintain enrollment to receive educational benefits. To maintain benefit eligibility, you are required to meet the same published standards of satisfactory academic progress as all financial aid recipients at JCCC.

  VA benefit pay rates are based on the following enrollment schedule:

*Credit Hours Enrolled**	*Eligibility Rate*
12 or more semester hours	full-time benefits
9-11 semester hours	3/4-time benefits
6-8 semester hours	1/2-time benefits

  * Fewer hours are needed to be eligible for veterans benefits during the summer session.

- Corporate Billing is available if your tuition is paid by your employer. You must provide the Business Office written authorization from your employer or agency verifying eligibility and specifying the terms and amount your employer agrees to pay before the date tuition is due. Please contact the JCCC Business Office for further information.
- Federal Parent Loan for Undergraduate Students (PLUS) are funds provided by a participating bank, savings and loan or credit union of the parent's choice. Eligibility is determined by the Student Financial Aid Office. Parents of eligible dependent students may borrow up to the yearly cost of education (as determined by JCCC) per child. The amount borrowed may not exceed the cost of education (as determined by JCCC) minus any other financial aid received. This loan has a variable interest rate not to exceed 10 percent, and repayment of the loan begins immediately. PLUS loan checks will be mailed to the school and made co-payable to the school and to the parent.
- Many employment opportunities, both on-campus and in the community, are available while you attend JCCC. Information concerning on-campus employment is available from the JCCC Human Resources Office, 252 GEB. Assistance in locating off-campus employment is available through the JCCC Career Center, 155 GEB.

Satisfactory Academic Progress

Federal and JCCC regulations require that you make "satisfactory academic progress" in a certificate, degree or transfer program leading to a bachelor's degree in order to be eligible to receive aid from any federal or institutional aid or entitlement program (this includes veterans educational benefits).

Minimum standards of satisfactory academic progress are:

1. The determination of satisfactory academic progress for each student who requests financial assistance at JCCC is based on an academic transcript review of all previous enrollments at JCCC, including enrollment periods when financial aid was not requested or received.
2. You must successfully complete two-thirds of all credit hours attempted at JCCC, up to a maximum of 97 hours. A Satisfactory Academic Progress Chart may be obtained from the Student Financial Aid Office. Courses in which a grade of "F" (failure), "I"(incomplete), "W" (withdrawn) and "R" (repeated) are recorded count toward the total hours attempted.
3. You must attain a minimum cumulative grade point average based on the number of credit hours completed with a grade of A, B, C, D or F.

Number of Completed Hours	*Minimum Cum. G.P.A.*
1-30	1.7
More than 30	2.0

4. If you are enrolled in six or more credit hours during any individual enrollment period and withdraw from total enrollment or fail to successfully complete any credit hours, you will automatically be placed on financial aid exclusion and will not be eligible for financial assistance. (See "Financial Aid Exclusion" on page 25 for further explanation.)
5. If you have attempted more than 97 credit hours, you are no longer considered to be making satisfactory academic progress.

Financial Aid Warning

If you are deficient in either percentage of hours completed or cumulative grade points earned, you will automatically be issued a financial aid warning for one semester.

If you are issued a financial aid warning, you will be notified in writing by the Student Financial Aid Office as soon as possible. However, notice of financial aid warning may be retroactively incurred based on an evaluation of your previous academic record at JCCC.

Terms of the Financial Aid Warning

During the financial aid warning period, you will remain eligible to receive financial aid/entitlements. At the end of the warning period, your academic performance will again be evaluated. At that time, one of the following actions will occur:

1. If minimum standards of progress have been met, you will be automatically reinstated in good academic standing.
2. If you are not yet meeting the minimum standards of progress, but did complete all attempted credit hours (a minimum of six hours attempted in a semester) with grades of "C" or above, the financial aid warning period will be renewed. (Grades of "W" and "I" count as hours attempted.)
3. If neither of the preceding terms are met, you will be placed on financial aid exclusion.

Financial Aid Exclusion

If you are enrolled in six or more credit hours during any individual enrollment period and withdraw from total enrollment or fail to successfully complete any credit hours, you will automatically be placed on financial aid exclusion and will be ineligible for financial aid/entitlements at JCCC.

If you attempt more than 97 hours, you will automatically be placed on financial aid exclusion (with the exception of veterans benefit recipients).

If you do not meet the conditions or terms of financial aid warning, you also will be placed on financial aid exclusion.

If you are placed on financial aid exclusion, you will be notified in writing by the Student Financial Aid Office as soon as possible. However, notice of financial aid exclusion may be retroactively issued based on an evaluation of your previous academic record at JCCC.

Financial aid exclusion does not mean you will be prohibited from attending JCCC. You still may attend JCCC, but you cannot receive any federal or institutional funds until one of the following conditions is satisfied.

Conditions for Reinstatement of Financial Assistance

If you are on financial aid exclusion, you will be denied financial assistance until one of the following occurs:

1. You meet the minimum standards of satisfactory academic progress at JCCC.
2. You complete all attempted credit hours at JCCC (a minimum of six hours attempted in a semester) with grades of "C" or above, and the sum total of all credit hours attempted and additional credit hours needed to complete a degree, certificate or transfer program does not exceed 97 hours. (Grades of "W" and "I" count as hours attempted.) If this condition is satisfied, you may have aid reinstated with a financial aid warning.
3. Your written appeal is approved by the Student Affairs Committee.

Appeal Process

If you are placed on financial aid exclusion, you may appeal. The appeal must be submitted to the Student Financial Aid Office in writing within 30 calendar days of the notice of aid termination. The appeal must be submitted on the Satisfactory Progress Appeal form available from the Student Financial Aid Office. An official JCCC program plan must be included with the appeal form. Appropriate supporting documentation such as medical bills, police reports or letters from counselors or employers also should be included.

Appeals will be reviewed by the Student Affairs Committee within 20 working days after receipt of the written appeal and supporting documentation. After reviewing the documentation the student provides, the Student Affairs Committee will make a determination. If the appeal is approved, you will be placed on financial aid warning. If the appeal is denied, you will remain on financial aid exclusion. All committee decisions will be communicated to you in writing.

Student Support Services

ACCESS Program
Alumni Association
Athletics, Intercollegiate and Intramural
Bookstore
Brown & Gold Club
Career Center
Cheerleading
Children's Center
Clubs and Organizations
Counseling Center
Dental Hygiene Clinic
Drama
Food Service
Forensics
Instructional Support Services
- Academic Achievement Center
- English for Speakers of Other Languages
- Flexible Training Lab for Basic Skills
- Learning Strategies Program
- Math Resource Center
- PALS Literacy System
- Project Finish
- Writing Center

Library
Music Organizations
Phi Theta Kappa
Special Services
- Disabled Students
- Hearing-impaired Program
- Notice of Nondiscrimination

Student Activities Program
Student Government
Student Housing
Student Publications
Testing/Assessment Center
Volunteer Program

ACCESS Program

The Adult Center for College Educational Services and Support program encourages lifelong learning for adults in the community. ACCESS promotes college activities and programs of interest to adults seeking new and continuing learning challenges. Through workshops and orientation sessions, ACCESS offers adults networking opportunities and alternate approaches to traditional classroom learning in a nonthreatening environment.

Alumni Association

The JCCC Alumni Association is an organization for graduates and people who have taken at least one year of credit courses at JCCC. Graduates and others interested in joining the Alumni Association should call the JCCC Foundation Office. You will be able to meet with fellow alumni, participate in college programs and plan the future of the organization.

Athletics, Intercollegiate and Intramural

Intercollegiate and intramural athletics play an important role at Johnson County Community College. JCCC offers a wide range of sports and athletics so you can participate, develop skills and make friends during your leisure time. Intercollegiate athletic teams and individuals have brought the college and themselves national recognition.

JCCC's athletic facilities are among the finest in the country, allowing JCCC to host a number of state and national tournaments. Talented coaching staffs and trainers combine to make the campus athletic programs for men and women outstanding.

Men compete in baseball, tennis, basketball, golf, soccer, cross-country and track at JCCC. Women may take part in tennis, volleyball, basketball, softball, cross country, golf and track. The college will participate in other intercollegiate athletics as approved by the board of trustees.

JCCC is a member of the National Junior College Athletic Association and the Kansas Jayhawk Community College Conference. You must meet NJCAA and conference eligibility rules to compete in intercollegiate activities.

Bookstore

Textbooks, classroom supplies and many miscellaneous items are available for purchase in the JCCC bookstore. Bookstore hours of operation are listed each semester in both the credit and noncredit class schedules.

Brown & Gold Club

The Brown & Gold Club of JCCC is organized to serve the senior adult population of Johnson County through education programs and special events.

Membership requirements:

- You must be 55 years of age or older.
- You must currently live in Johnson County with at least six months' residency.
- You must pay an annual nonrefundable membership fee of $5.

For more information, contact the Student Life Office in the Commons Building, 469-8500, ext. 3945.

Career Center

The center assists you in exploring career options and conducting job searches. The center's staff provides counseling in career/life planning and job search skills for individuals or groups. A resource center provides information on a walk-in basis about careers, occupations, job search and companies. The center is also available to help you find full- or part-time employment. Workshops and individual appointments are available throughout the year.

Cheerleading

In support of our athletic programs, JCCC offers a cheerleading squad consisting of male and female students. The squad participates at all home games and select away games. For tryout information and scholarship requirements, contact the Student Activity Office.

Children's Center

The Children's Center of Johnson County Community College is a licensed child-care center dedicated to serving the needs of young children by providing a high-quality early childhood program within a safe, nurturing environment. The program is designed to support the efforts of JCCC students to pursue their educational goals.

Through the use of developmentally appropriate practice, the Children's Center staff will encourage the physical, social, emotional and cognitive development of each child served. The center challenges the imagination and creativity of each child, providing group activities such as songs, games and storytelling, as well as individualized activities using dramatic play, manipulative toys, art, music and building materials.

You may use two different methods to schedule care at the Children's Center. Reserved care is used when a

routine schedule is needed for a child. Occasional care is most beneficial for irregular, sometimes unpredictable, child-care needs. Early enrollment is recommended to secure the schedule of your choice. The center accepts children ages 18 months through 8 years during daytime hours and ages 18 months through 10 years during late afternoon and evening hours.

An hourly fee is charged for all child care. For specific information, contact the Children's Center on the west side of the campus.

Clubs and Organizations

Recognized clubs and organizations at JCCC have the approval of the Student Senate and the Student Life Office. Once officially recognized, a club or organization is entitled to all the rights and privileges afforded other JCCC clubs.

Clubs and organizations recognized by the college may not discriminate in membership or participation practices based upon factors related to race, religion, sex, place of origin, age, creed, handicap or marital or parental status. Club funds may be used only for club activities that are open to all club or organization members.

A complete listing of approved clubs and organizations may be obtained from the Student Life Office.

Formation applications for starting a new club or organization may be picked up in the Student Life office.

Counseling Center

JCCC's counseling staff provides assistance with academic advising, career counseling or personal problems. Currently enrolled students may meet with a counselor on a walk-in basis. If you are not currently enrolled at JCCC, you must attend a pre-advising session.

A pre-advising session provides important information that you will need before consulting with a counselor. Schedules for pre-advising sessions are listed in the credit class schedule each semester. They are also available in 155 GEB or by calling the Counseling Center. The Counseling Center also provides:

- Academic advising. At JCCC, academic advising plays a significant role in the total process of educating students. Advising at JCCC is conducted in the Counseling Center and is performed by professional counselors. The counselor serves as a facilitator of communication and a coordinator of learning experiences through course and career planning and academic progress review. The counselor/advisee relationship involves making decisions through which you realize your maximum educational potential by exchanging information with a counselor. The process is ongoing, multifaceted and the responsibility of both you and the counselor.
- Academic advising that is developmental in nature. Developmental academic advising means that a counselor helps you clarify your life and career goals and develop an educational plan to realize those goals.
- Current transfer information. The Counseling Center maintains more than 100 transfer sheets with more than 20 colleges and universities. If you plan to transfer, you should consult a counselor to be sure that courses you enroll in will transfer.
- Help in solving personal problems. A counselor can provide guidance in evaluation of attitudes, goals and values. Community referrals also are available.

Dental Hygiene Clinic

At the Dental Hygiene Clinic, you and your family may have an oral examination and have your teeth cleaned, X-rayed and treated with fluoride for a small fee. Dental hygiene students, supervised by licensed dentists and dental hygienists, provide these services and explain proper oral care. Call the clinic, 469-3808, to make an appointment. Multiple visits to the clinic usually are required.

Drama

JCCC's drama department presents several full-length productions each year. Auditions are open to all students. Also, several programs of experimental one-act plays are produced and directed by students.

Food Service

The cafeteria on the first level of the College Commons serves breakfast, lunch and dinner, plus a variety of snacks and beverages throughout the day, evening and Saturday. A cafeteria on the lower level of the Commons is open from 10 a.m. to 3 p.m. Monday through Friday. Hours of operation are listed each semester in the credit class schedule. In addition, vending machines are in each building on campus.

Forensics

College debate teams participate in state, regional and national competition. JCCC's teams have won wide recognition for their outstanding record in competition with both community and upper-division colleges and universities.

Instructional Support Services

Academic Achievement Center

The Academic Achievement Center, a Kansas Excellence in Education program, helps you develop basic skills through individualized instruction, small classes and a tutor exchange. Instructors help plan a program of study and offer guidance as needed. You may work on any of the following:

Basic math review	Reading comprehension
Reading rate	Spelling improvement
Vocabulary development	English review
Algebra preparation	Chemistry preparation
Study skills	Tutor exchange

Supplemental instruction for other courses

English for Speakers of Other Languages

Whether you speak little or no English or speak English well, JCCC offers a course at your level. ESL courses are available to anyone 16 years of age or older who is not otherwise enrolled in school. Class size is limited. ESL staff will test and recommend the course most suitable for you. Courses include ESL level 1 through level 6, conversational English, pronunciation and accent reduction and citizenship preparation. For more information, contact JCCC's Division of Community Services.

Flexible Training Lab for Basic Skills

Our instructors will assist you in a step-by-step process using the latest in individualized computer-assisted instruction in basic skills. You can improve your reading, writing and computational skills and prepare for the GED in JCCC's new Flexible Training Lab. More than 400 individual courses are available. Each course includes a pretest, a tutorial and a post-test. An individualized learning plan is developed to help you meet your unique learning needs. There is no fee for currently enrolled students. For those not enrolled, the cost is $33 a course. For more information, contact JCCC's Division of Community Services.

Learning Strategies Program

This program offers you an opportunity to acquire the thinking and learning skills you need to be a successful learner. The program benefits a variety of students, including successful students who want to improve their learning efficiency and those who feel overwhelmed by the demands of college coursework. The information learned in Learning Strategies courses will improve your performance in the other courses you are taking. For more information, contact the Learning Strategies instructors.

Math Resource Center

The Math Resource Center offers individualized instruction and personal assistance to help you develop math skills. The center serves students on a drop-in basis. The MRC offers a variety of resources, including free peer tutoring, group study sessions, computer programs and videotapes. You may do homework and study for exams in the MRC, using the resources or requesting assistance as needed. If you are enrolled in alternative delivery math courses (such as self-paced trigonometry, *Business Math*, computer-assisted instruction and *Introduction to Algebra*), you use the MRC computers and equipment as an integral part of your learning.

PALS Literacy System

PALS teaches basic reading and writing skills using multimedia technology that combines the entertainment capabilities of television and laser discs with the capabilities of the personal computer. PALS integrates voice, music, still images, video, graphics, touch and text. You learn keyboarding and word processing skills through practice on IBM computers. There is no fee. Sessions are held at the Oak Park Library. For information, contact JCCC's Division of Community Services.

Project Finish

You can improve your skills in basic reading, writing and math, or prepare to pass the GED high school equivalency test through Project Finish. A program will be developed to meet your individual needs. Instruction is free.

Project Finish sessions are held at Roeland Park Community Center, JCCC's Olathe Center, Oak Park Library, Gardner Library/Multi-service Center, DeSoto Library/Multi-service Center, Spring Hill Library/Multi-service Center and Merriam Community Center. For information, contact JCCC's Division of Community Services.

Writing Center

The Writing Center, a Kansas Excellence in Education program, is designed to help you improve your writing skills through computerized and individualized instruction. You work at your own pace on proofreading, researching, writing sentences, composing paragraphs or other areas that need improvement. An instructor is available to help. You may also get tutor feedback on writing assignments from classes other than *Composition I* and *II*. For more information, contact the Writing Center.

Library

The JCCC library maintains a collection of books, periodicals, films, slides, tapes, microfilm and other resources available to students and Johnson County residents. A highly trained staff of librarians and library aides is available to help you find and use the resources.

Currently, the library houses 70,000 books, 600 current periodicals, 300,000 documents on microfiche and hundreds of slides, videotapes and audio recordings. The catalog of these materials is maintained and made available to the public through interactive computer terminals.

Books are arranged on shelves according to the Library of Congress classification. A printed outline of the LC classification is available at the circulation desk.

Reference books, most audiovisual material, and all magazines and newspapers must be used in the library. A coin-operated photocopier is available if copies are needed.

Books are due 21 days from the day they are checked out. No fines will be assessed for overdue books, but if you fail to return library materials, you will have your records placed on hold. If a book is lost, the cost of the book plus a $5 service charge will be assessed.

Occasionally, instructors may place materials on reserve and specify a loan period. You will be charged 25 cents an hour for each reserve item kept past the loan period or $5, whichever is less. Registration and transcript privileges will be restricted until all library obligations are met.

Music Organizations

The college jazz band, choirs, choruses and ensembles are open to all students with musical talents whether or not they are music majors. These groups present numerous programs each year, both on- and off-campus, and participate in various college events.

Phi Theta Kappa

Phi Theta Kappa is a national honor society that recognizes and encourages scholarship among community college students. The JCCC chapter of PTK provides opportunities for students to develop leadership abilities, be of service to their community and exchange ideas in a stimulating academic environment.

To be invited to become a member of PTK, you must be currently enrolled. An invitation to become a provisional member will be extended at the beginning of the fall or spring semester to all full-time and part-time students who have completed 12 hours of credit with a cumulative grade point average of 3.5 or above above. For more information, contact the Honors Office in 237 GEB.

Special Services

Disabled Student Services

Disabled students at JCCC have access to a variety of support services including reading, notetaking, tutoring and other services that allow them to fully participate in classes. Equipment especially designed for the visually impaired and the physically disabled (such as speech synthesizers and a braille printer) also is available. Campus buildings are equipped with ramps, elevators and restrooms designed to accommodate wheelchairs. Parking areas convenient to the buildings are reserved for disabled students. If you need more information about services, activities and facilities available to disabled students, contact the Disabled Student Services supervisor.

Deaf and Hard of Hearing Support Services

Deaf and Hard of Hearing services offers a range of support that prepares hearing-impaired students to enter the mainstream of regular career and transfer programs at JCCC. Services available through this program include academic counseling, support services (interpreting, tutoring, notetaking), developmental courses (English, reading, manual communication) and a summer preparatory program for incoming freshmen.

Notice of Nondiscrimination

Johnson County Community College is committed to a policy of nondiscrimination involving equal access to education and employment opportunity to all regardless of sex, race, age, religion, color, national origin, handicap or veteran status. The administration further extends its commitment to fulfilling and implementing the federal, state and local laws and regulations as specified in Title IX and Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. For assistance in these areas, contact Jackie Snyder; for questions regarding the Americans with Disabilities Act, contact Ed Franklin, Johnson County Community College, 12345 College Blvd., Overland Park, KS 66210-1299, (913) 469-8500, or The Director, Office of Civil Rights, HHS, Washington, D.C. 20201.

JCCC provides a range of services to allow persons with disabilities to participate in educational programs and activities. If you desire support services, contact the Office of Special Services, (913) 469-8500, ext. 3974, or TDD 469-8525.

Student Activities Program

JCCC's Student Activities Office, in cooperation with the Campus Activities Board, brings you a variety of activities (cultural, social, educational, recreational and vocational) throughout the year.

Activities are planned and implemented entirely by students for students through the committee structure of the Campus Activities Board. Activities include films (feature, captioned, specialty and recent releases), travel (trips during winter and spring break, skiing and canoeing), special events (comedians, novelty acts, blood drives and thematic programming), recreation (off-campus outings, intramural competition, students gathers and sports events), lectures (controversial issues and distinguished speakers), and concerts (bands, solo artists and karoake).

More information can be obtained at the Student Information Desk in the Commons Building.

Student Government

The Student Activities Office also works with the Student Senate, which acts as a sounding board for student issues. The Student Senate is involved in various activities and campus issues and participates with the faculty and administration in formulating appropriate policies. Elections for senate positions are held in early fall, and committee membership is open throughout the year.

Student Housing

Although JCCC has no housing on campus, the Student Activities Office will help you obtain information about housing in the Johnson County area. A housing brochure and a list of community members or students who wish to rent a room in their home are just a few of the services provided.

If you change your address, it should be reported to the Admissions and Records Office immediately.

Student Publications

The Campus Ledger is the award-winning student newspaper authorized by the board of trustees and published regularly throughout the academic year. The Ledger emphasizes news, features, entertainment, sports and campus events. Staff editors and writers are paid salaries and must be enrolled in a minimum of six credit hours each semester. If you are interested in writing for the Ledger, stop by the news office in the lower level of the Commons building.

Testing/Assessment Center

The Testing/Assessment Center provides a variety of services including administration of the assessment policy for all students enrolled in credit courses. Placement assessments include study skills, math and English. The English assessment includes components for both reading and writing skills.

Other services include career testing, proficiency examinations, telecourse testing and instructional make-up testing if you have missed a regularly scheduled exam. In addition, the center administers standardized tests such as the ACT, CLEP, GED and others.

If you have developed an educational plan in the Counseling Center, you may seek credit for life experience through the Assessment of Prior Learning Program, which is administered through the Testing/Assessment Center. If you are interested in taking a proficiency exam in lieu of normal course completion, contact the Testing/Assessment Center for more information.

Volunteer Program

Johnson County Community College offers students and community members a variety of volunteer opportunities both on-campus (assisting with programs, services and special events) and off-campus (individual referrals to community agencies, alternative spring breaks and activities through college clubs and organizations). The service learning program integrates community service options with the curriculum in a number of JCCC courses. For more information, contact the Student Life Office.

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Academic Progress

JCCC has implemented an academic progress policy to prescribe practices that may help you succeed. To maintain continuing enrollment at the college, you will be subject to the academic progress policy with the following exceptions:

1. If you enroll in courses offered through contract arrangements between JCCC and an outside agency.
2. If you enroll in courses that have been especially designed for specific populations.
3. If you have completed at least a bachelor's degree, unless you are seeking an associate degree or post-secondary certificate.
4. If you attend on a part-time basis, up to attempting 12 credit hours. Thereafter, all part-time students must meet these criteria:

Any student whose JCCC cumulative grade point average falls below the following guidelines will be placed on academic probation.

Credit Hours Attempted with a Grade of A, B, C, D or F	*Cumulative G.P.A.*
1-30	1.7
More than 30	2.0

If you have been placed on academic probation or were on academic probation the previous semester, you must raise your G.P.A. to the required cumulative level or achieve a 2.0 G.P.A. in the probationary semester.

You will be notified in writing of your probationary status no later than four weeks after the beginning of the next semester. You will be required to see a JCCC counselor.

If you are on probation, your records will be placed on hold and will not be released until grades have been posted for the current semester. You will not be allowed to enroll for the next semester until the current semester grades are posted and one of the conditions above is met.

If one of the conditions stated above is not met, you will be suspended from JCCC and will not be reinstated until one regular semester (fall or spring) has elapsed.

If you are readmitted on probationary status, you must maintain a 2.0 G.P.A. each semester while on probation or raise your JCCC cumulative G.P.A. to the designated level. If you are suspended a second time from JCCC, you cannot return for one full year.

Transfer students will be subject to the same requirements for continued enrollment as students who have attended only JCCC. However, all credit hours from another college or university will be calculated in the cumulative G.P.A. to meet the 2.0 requirement for graduation.

If you are receiving financial aid, you must meet the academic progress standards in the student financial aid handbook and on page 22 of this catalog. These requirements are not the same as the academic requirements to remain enrolled at JCCC.

If you are academically suspended from JCCC, you may appeal in writing through the office of the dean of Student Services. All appeals must provide written documentation substantiating your reasons for requesting that you be reinstated on probation and allowed to enroll for the next regular semester.

The Student Affairs Committee will make a determination after review of the appeal and documentation. Written results will be mailed to you 30 business days after receipt of the written appeal. A "business day" is a weekday during which regular classes are being held at the college. The decision of the Student Affairs Committee is final.

Academic Records Retention

When you apply for admission to JCCC, an application file is created for you. This file contains academic transcripts, academic program plans and various other documents. This file is maintained in the Admissions and Records Office as long as you maintain continuous enrollment. One year after you are no longer enrolled, all records are microfilmed.

If you apply for admission but do not enroll within one year after the application is filed, the original application and all submitted documents are destroyed.

More information is available from the Admissions and Records Office.

Academic Renewal

Academic renewal refers to the opportunity for a fresh start at the undergraduate level. Sometimes a prior academic record presents a major obstacle to your overall G.P.A., hence overall success. If you are in this category and want an opportunity to start fresh, you may apply for academic renewal. You must submit a written appeal for academic renewal according to the following guidelines:

1. All credits taken more than five years ago from all colleges or universities must be dropped.
2. Coursework to be dropped must have been completed at least five years prior to applying for academic renewal.
3. At least 12 semester credits must have been completed at JCCC within the last two years. The G.P.A. for all coursework taken during this time must be at least 2.0.

4. Academic renewal will be granted only once.
5. Academic renewal does not affect or alter your record for financial aid awards or athletic eligibility.
6. All previous coursework will continue to appear on your transcript. However, the dropped coursework will not be included in your JCCC cumulative G.P.A. when you apply for selective admissions programs, honors and/or graduation.
7. Credits dropped as a result of academic renewal cannot be used to meet course or program prerequisites.
8. You must meet with a counselor before applying for academic renewal to ensure that interpretation of a policy is correct.
9. This policy applies to your records at JCCC only. If you transfer from JCCC to another institution, you will have to follow the receiving institution's policy.

Access to Student Information

Your rights concerning access to educational records are spelled out in Public Law 90-380 as amended by Public Law 93-568 and in regulations published by the Department of Health, Education and Welfare in the June 17, 1976, Federal Register. The law and regulations published by HEW require educational institutions to:

1. Provide you the opportunity to inspect your educational records. If you wish to see your records, you should contact the JCCC Admissions and Records Office.
2. Provide you the opportunity to challenge through a hearing the content of your educational records if you believe the records contain information that is inaccurate, misleading or in violation of the right of privacy. (Grades are not subject to challenge.)
3. Limit disclosure of information from your record to those who have your written consent or to officials specifically permitted within the law, such as college officials and – under certain conditions – local, state and federal officials.

If you are a dependent student under 18 years of age, parents will have access to your educational record. The college will assume you are a dependent if parents provide a written statement that you are listed as a dependent on their federal income tax forms.

The college may provide the following information:

- Your name
- Address
- Telephone number
- Date and place of birth
- Major field of study
- Participation in officially recognized activities
- Sports – weight and height of an athletic team member
- Date of attendance
- Degrees
- Awards received
- Most recent previous educational institution attended

If you object to the disclosure of any of the information listed above, you may notify the Admissions and Records Office in writing of the items that should not be released without your consent.

You may obtain a copy of the college's policies on access to student information and implementation of these procedures from the Admissions and Records Office.

You may file a complaint with the Department of Education if you believe your rights under the law have been violated and if efforts to resolve the situation through JCCC appeal channels have proven unsatisfactory. You should send complaints to:
FERPA, Department of Education
Room 514 E
200 Independence Avenue SW
Washington, D.C. 20201

The college will comply with the Kansas Open Records Act, as found in Chapter 171 of the 1983 Kansas Legislative Session Laws. The act is to be liberally construed and applied to promote compliance.

Advanced Standing Credit

A maximum of 30 hours of credit may be earned through proficiency examinations, military credit, national standardized tests and assessment of prior learning. Advanced standing credit will not count toward satisfying the 15-credit-hour residency requirement. To apply for advanced standing credit, you must be currently enrolled or have successfully completed 12 credit hours in residence at the college. Advanced standing credit, with the exception of transfer credit, will be included on your permanent record after 12 credit hours have been successfully completed in residence at the college. Exceptions to the application transcripting policy may be made for specific career programs. Students may not be enrolled in the class for which they are applying for advanced standing credit.

Credit will not be awarded if:

1. You have received a grade for college classes representing the same content (advanced standing credit cannot be used to repeat classroom credit).

2. You have been awarded credit through other nontraditional programs in areas representing the same content.

The Testing/Assessment Center coordinates all programs leading to advanced standing credit, and maintains current advanced standing credit guidelines for each program. A fee will be charged for all advanced standing credit evaluation.

Assessment of Prior Learning

You may be granted credit if you have acquired, through prior learning experiences, knowledge and skills equivalent to that obtained in college classes. Credit may be awarded only in subject areas in which JCCC offers comparable classes and where assessment of prior learning is an option. A fee will be charged for each class.

Military Credit

You may be granted credit for educational experience completed while in the armed services if you have completed basic training. Applicants submitting DD form 214, Armed Forces of the United States Report of Transfer of Educational Achievement through the United States Armed Forces Institute, may receive credit and advanced placement as recommended by the Commission on Accreditation of Service Experience of the American Council on Education if the courses are equivalent to the courses offered by the college. A fee will be charged for the military credit evaluation.

National Standardized Tests

The college may grant credit to you if, through national standardized testing programs, you can demonstrate knowledge and skill equivalent to that obtained in undergraduate college classes. Credit will be awarded only in subject areas in which JCCC offers comparable classes. A fee will be charged for those examinations.

If you transfer to JCCC with credit awarded by another college for national standardized tests, you must submit an official score report to the Testing/Assessment Center to validate credit previously awarded.

Proficiency Examinations

You may be granted credit by proficiency examination for certain JCCC classes for which proficiency examinations are available. Credit will be granted if you can demonstrate a satisfactory level of performance. A fee will be charged for each examination.

Attendance

If, by the end of the second week of the semester (prorated for classes less than 16 weeks in length), you have not attended at least one session of each course in which you are enrolled, you will automatically be dropped from those courses not attended with no refund of tuition and fees.

You will be notified by mail if you are dropped and will have six working days to appeal for reinstatement. You will be reinstated only if an administrative error was made. Appeals for reinstatement must be signed by the appropriate division administrator and submitted to the Admissions and Records Office.

It is the policy of JCCC that punctual attendance at all scheduled classes is regarded as integral to all courses and is expected of all students. Each JCCC instructor will include attendance guidelines in his or her course syllabus; you will be responsible for knowing and adhering to those guidelines. Penalties for excessive absences may include reduction of grade. It is your responsibility to obtain class materials missed due to absence.

If you are under obligation to participate in jury duty, a generally recognized religious observance or activities where you are required to represent the college, you must give written notice to the instructor at least one week in advance of the observance. (Questions on whether a religious holiday is recognized or an activity is college-sponsored should be directed to the dean of Student Services.) You shall be accorded the opportunity to independently make up coursework for the day(s) the event was scheduled and take a scheduled exam at an alternate time determined by the instructor. Failure to provide timely written notice may result in loss of this opportunity. The instructor is not obligated to repeat any lab or other in-class experiences you miss while absent. You should be aware that the quality of your learning experience may suffer as a result of your absence.

For all other absences, authorization of excuse is the province of the individual instructor and subject to the standard appeal process.

If you receive benefits from a governmental agency, you must follow any policy the specific agency stipulates.

Auditing a Class

Auditing a course means that you attend a class regularly without being required to take exams, complete assignments or perform other tasks required by the instructor. You receive no credit for courses completed by auditing. Registering to audit a class does not constitute continuous enrollment for graduation purposes. Credit registration cannot be converted to audit status at any time.

Tuition and fees for audited classes will be assessed at the same rate as that charged for enrolling in credit courses. Financial aid will not pay for courses completed by auditing.

You may enroll to audit a class if space is available after late registration, according to the schedule published in the schedule of credit classes.

Classes by Arrangement

If you find it impossible or undesirable to attend regular classes on campus, JCCC offers classes by arrangement. You may complete a class by arrangement out of the classroom according to a schedule set up with the instructor. Before enrolling in a class by arrangement, you should contact the instructor (or the division administrator if the instructor is unavailable) to find out how much instructor contact is required and how performance is measured. The selection of classes by arrangement is limited.

Independent Study

By enrolling in independent study, you may explore in depth an area not covered in the regular curriculum. You must show above-average performance in the area to be eligible. For details, contact the division administrator for the area in which you are interested.

Self-paced Study

Classes are offered on a self-paced schedule of study that allows you to enroll in the class at any time during the semester and take up to one calendar year to complete class requirements. With self-paced study, you may set your own pace of learning to complete the class requirements as rapidly or as leisurely as you care to. Other than the one-year limit, there are no restrictions on the time you may take to complete a unit or the entire class.

Enrollment requires completion of a self-paced study contract, which may be obtained in the division office listed for the class, and of a registration form in the Admissions and Records Office. You are required to meet with the sponsoring instructor to complete the contract and obtain class materials.

Although one year is allotted to complete a self-paced class, the credit hours are counted only for the semester in which you registered for the class. The credits will be listed on your transcript for the semester of initial enrollment, not the semester of completion.

Self-paced courses graduation policy – When you apply for graduation and the only course enrolled in is self-paced, then:

1. If you apply for graduation within a year of enrolling in self-paced course(s), the self-paced course(s) will satisfy current enrollment requirements.

2. If the self-paced course is needed to meet graduation requirements, then you must complete the self-paced course by the grade deadline for the semester in which you apply to graduate.

3. If the self-paced course is not needed to meet graduation requirements, the course will satisfy current enrollment requirement for the semester in which you are applying to graduate. You simply need to complete the course within the allotted year.

For additional information, contact the appropriate division office.

Credit Transferred from Other Colleges

Transfer credits will be accepted from colleges and universities starting from the year that they are accredited or hold candidacy status with the North Central Association of Colleges and Schools, Middle States Association of Colleges and Schools, New England Association of Colleges and Schools, Northwest Association of Colleges and Schools, Southern Association of Colleges and Schools, Western Association of Colleges and Schools or other institutions approved by the director of Admissions and Records. All transfer credit will be equated to the semester-hour system. All credits earned with an "F" grade or higher will be transferred and calculated in your cumulative G.P.A. Quality points and grade points will be transferred and averaged into your cumulative grade point earned at the college.

Final Examinations

If an instructor elects to give a final examination, the exam is scheduled during the last week of the semester. You are given two hours to complete examinations. The final examination schedule appears in each semester's credit class schedule and is available during the last three weeks of the semester at the Admissions and Records Office.

Grading System

Johnson County Community College uses the following grades to indicate the level at which you have achieved the educational objectives of a class:

A – outstanding achievement of objectives
B – highly satisfactory achievement of objectives
C – adequate achievement of objectives
D – passing, marginal achievement of objectives
P – passing (credit earned, but not calculated into your G.P.A.)
F – no credit, unsatisfactory achievement
W – withdrawal without academic assessment

You may withdraw from a class no later than Nov. 15 for the fall semester and April 15 for the spring semester (prorated for classes less than 16 weeks in duration). You will receive a "W" on your transcript if you withdraw after the official state reporting date of the 20th day of class during a regular semester or after one-fourth of a summer or mini-session has been completed. You will be considered withdrawn from a class only after you complete a drop form in the Admissions and Records Office, not when you stop attending class.

I – incomplete

You will receive this grade only if special circumstances prevent you from completing the class. You must make arrangements with the instructor before semester grades are submitted, and you must sign a contract agreeing to complete the class requirements. All class requirements must be completed by the end of the following 16-week semester. An "I" will be changed to an "F" if you do not successfully complete the work by the end of the semester following the grading period in which the "I" was given. The instructor is responsible for initiating a grade change when you successfully complete the work outlined in the contract. During the semester you are completing the "I" contract, you cannot re-enroll in the class and are not considered currently enrolled on the basis of the "I" contract. You may not withdraw from a course in which an "I" has been assigned.

R – repeated class

When you repeat a class, only the latter grade earned will be used in computing your cumulative G.P.A. An "R" will replace the earlier grade and will be shown on the transcript. The original semester G.P.A. will remain unchanged; however, the cumulative G.P.A. will include only the repeated course grade. A "W" cannot be changed to an "R." You may not enroll in any course for the third time without counselor approval. You cannot use advanced standing credit to repeat a class.

X – audit status (no credit awarded)

Pass/Fail Grading System

You may choose a pass/fail option if you want to explore classes outside your range of subject matter. You will be allowed to enroll in only one class each semester under this option. The grades that can be earned under this option are "P," "F" or "W" (if you choose to withdraw). You will receive a "P" if your assigned grade is "A," "B," "C" or "D."

A counselor's approval is required before you may choose the pass/fail option. If you choose this option, you must meet with a counselor, complete the appropriate form and submit it to the Admissions and Records Office before the eighth week of the fall and spring semesters, the fourth week of the eight-week summer session or the first week of a mini-session. Once this option has been filed in the Admissions and Records Office, it may not be changed back to the "A"-"F" system. Appeals to this policy should be submitted in writing to the director of Admissions and Records.

Note: Some schools, scholarship committees and honorary societies do not accept this grading system and may convert grades of "P" to "C" when computing grade point averages or in some other way penalize you.

Grade Changes

Grade changes and withdrawal appeals must be submitted to the Admissions and Records Office within one semester of your initial enrollment in the course. Requests for a grade change must be made in writing and approved by the dean of instruction. Withdrawal appeals must be made in writing and submitted to the director of Admissions and Records. Additional information and forms may be obtained in the Admissions and Records Office.

Grade Point Average

A = 4 grade points a semester credit hour
B = 3 grade points a semester credit hour
C = 2 grade points a semester credit hour
D = 1 grade point a semester credit hour
F = 0 grade points a semester credit hour

In calculating grade point averages, the hours with grades "P," "W," "I" and "X" or designated "R" will not be counted as hours attempted. Courses with grades of "F" will be counted when figuring grade point averages.

Grade point averages are figured to the nearest thousandth.

Honors

Honor Roll

If you enroll in and complete a minimum of six credit hours and earn a G.P.A. of 3.5 or higher during any semester, your name will appear on the Part-time Honor Roll list. If you enroll in and complete a minimum of 12 credit hours and earn a G.P.A. of 3.50 to 3.99, your name will appear on the Dean's List. If you enroll in and complete a minimum of 12 credit hours and earn a G.P.A. of 4.00, your name will appear on the President's List.

Graduation with Honors

If you earn a cumulative or JCCC grade point average of 3.5 or higher in at least 30 hours at JCCC, you will be graduated with honors. Only JCCC hours will be calculated in the G.P.A. for honors designation.

Recognition of Achievement Award

If you successfully complete an adult continuing education or community services course, conference, workshop or seminar, you may be granted a Recognition of Achievement Award.

Academic Standards for the Honors Program

For specific information, contact the coordinator of the Honors Program.

Records on Hold

If your records have been placed on hold for any of the following actions (for example – but not limited to): an unsubmitted official transcript, a financial obligation to JCCC, library books due or failure to pay for parking violations, you will not be allowed to do any of the following until the hold is removed:

1. Drop or add any class during the semester.
2. Enroll in courses in subsequent semesters.
3. Obtain a transcript.
4. Receive a diploma or certificate.

Contact Admissions and Records for more information. Appeals to this policy should be made to the director of Admissions and Records.

Transcripts

The Records Office will maintain your academic record of coursework completed at the college. Transcripts will be released only after receipt of your signed written request. Transcripts issued to you will be marked "Issued to Student." A fee for each official transcript ordered must accompany the written request.

Transcripts will not be released if your records are on hold for financial or disciplinary reasons.

Official transcripts from other institutions cannot be released to any individual or institution. Copies designated "for JCCC staff use only" may be released to appropriate JCCC staff for advising or institutional research purposes. Any release of your transcript information will be approved and documented by the director of Admissions and Records.

Verification of Enrollment

If you need verification of enrollment for the current semester, complete a verification request form and submit it to the Admissions and Records Office after classes have been in session one week. Verification release forms are available at the Admissions and Records windows. No verification can be completed until classes have been in session at least one week.

Alcohol and Drugs

The Drug-free Schools and Communities Act Amendments of 1989 require all schools and institutions of higher education to adopt and implement a program to prevent the illicit use of drugs and the abuse of alcohol by students and employees on college property or as part of any college activities.

The following statement is part of JCCC's program adopted to comply with this act.

Standards of Conduct

Johnson County Community College supports and endorses the Federal Drug-free Workplace Act of 1988 (Public Law 100-690, Sec. 5151 et. seq.) and the Drug-free Schools and Communities Act amendments of 1989 (Public Law 101-226). Pursuant to these acts, the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance or abuse of alcohol (as defined in these acts) by a student on college property or as part of any college activities is prohibited. Any student of the college found to be abusing alcohol or using, possessing, manufacturing or distributing controlled substances in violation of the law on college property or at college events shall be subject to disciplinary action in

accordance with applicable policies of the college. Students who violate this policy will be subject to sanctions that include suspension and expulsion from the college.

Legal Sanctions

Students are reminded that illegal possession or use of drugs or alcohol may also subject individuals to criminal prosecution. The college will refer violations of proscribed conduct to appropriate authorities for prosecution. Kansas law provides that any person who violates the criminal statutes on controlled substances by possessing, offering for sale, distributing or manufacturing opiates and narcotics, such as cocaine and heroin, shall be guilty of a class C felony. For a conviction of a class C felony, the court may sentence a person to a term of imprisonment of a minimum of three to five years, a maximum of 10 to 20 years, and a fine of up to $15,000. Unlawful possession of a depressant, stimulant or hallucinogenic drug is punishable as a class A misdemeanor, with a penalty of up to one year in jail and a fine of $2,500. Depressants include barbiturates, Valium and barbitol. Hallucinogens include LSD, marijuana and psylocybin. State law classifies amphetamines and methamphetamines as stimulants.

The Federal Controlled Substances Act provides penalties of up to 15 years' imprisonment and fines of up to $25,000 for unlawful distribution or possession with intent to distribute narcotics. For unlawful possession of a controlled substance, a person is subject to up to one year of imprisonment and fines up to $5,000. Any person who unlawfully distributes a controlled substance to a person under 21 years of age may be punished by up to twice the term of imprisonment and fine otherwise authorized by law.

Health Risks

Abuse of alcohol and use of drugs are harmful to one's physical, mental and social well-being. Accidents and injuries are more likely to occur if alcohol and drugs are used. Alcohol and drug users can lose resistance to disease and destroy their health. Tolerance and psychological dependence can develop after sustained use of drugs.

Alcoholism is the number one drug problem in the United States. Alcoholism takes a toll on personal finances, health, social relationships and families. It can have significant legal consequences. Abuse of alcohol or use of drugs may cause an individual driving a motor vehicle to injure others and may subject the abuser to criminal prosecution. Drunk drivers are responsible for more than half of all traffic fatalities.

More specifically, the major categories of drugs are listed below and include the significant health risks of each.

• Amphetamines – Physical dependency, heart problems, infections, malnutrition and death may result from continued high doses of amphetamines.

• Narcotics – Chronic use of narcotics can cause lung damage, convulsions, respiratory paralysis and death.

• Depressants – These drugs, such as tranquilizers and alcohol, can produce slowed reactions, slowed heart rate, damage to liver and heart, respiratory arrest, convulsions and accidental overdoses.

• Hallucinogens – These may cause psychosis, convulsions, coma and psychological dependency.

Counseling, Treatment or Rehabilitation Programs

Many community agencies are available to assist students seeking alcohol and drug counseling and treatment. Among these agencies are the Johnson County Mental Health Center, the Johnson County Substance Abuse Center, the Johnson/Leavenworth Regional Prevention Center and the Heart of America Family and Children Services. In addition to these, many area hospitals and community agencies are available to provide drug and alcohol counseling services.

Students seeking additional information about health problems and treatment related to alcohol and drug problems may contact a counselor through the JCCC Counseling Center, 155 GEB.

Sanctions

A student who violates any provision of this policy shall be subject to appropriate disciplinary action including suspension and expulsion as provided in policy 319.01 of the student personnel policies. In addition, any student who violates the standards of conduct as set forth in this Statement of Prevention of Alcohol Abuse and Drug Use may be subject to referral for prosecution.

The term “controlled substance” as used in this policy means substances included in schedules I through V as defined by section 812 of title 21 of the United States Code and as further defined by the Code of Federal Regulations, 21 C.F.R. 1300.11 through 1300.15. The term does not include the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

The term “alcohol” as used in this policy means any product of distillation or a fermented liquid that is intended for human consumption and that is more than 3.2 percent by weight as defined in chapter 41 of the Kansas statutes.

Fireworks, Firearms, Ammunition

A Johnson County Ordinance forbids the detonation of fireworks within the city limits. Firearms and ammunition on campus are strictly prohibited.

Lost and Found

To report or inquire about lost items, stop by the Security Office, 115 CEC, or dial 0 to contact them by phone. In addition, if you should experience a property loss, contact Security and a report will be filed. The college is not responsible for lost or stolen items.

No-smoking Policy

Smoking is prohibited in all enclosed areas of Johnson County Community College. Any violation of this smoking regulation may result in a misdemeanor conviction as prescribed in the state of Kansas statutes.

Parking

You do not need to register your vehicles with JCCC in order to park on campus. Increasing enrollment makes spaces sometimes difficult to find, especially during the peak hours of 8:30 a.m. to noon, so allow extra time.

Parking lots are marked with signs designating areas for student, handicapped, staff and faculty parking.

Motorcycles and motorscooters are considered motor vehicles and their operators are required to comply with all parking and traffic regulations. There are designated parking areas for motorcycles and motorscooters.

Responsibility for finding a legal parking space rests with the motor vehicle operator. If you do not comply with campus parking regulations, you will be charged a fine. Fines must be paid within 10 business days of the offense. After this time, beginning on the 11th day, an additional charge of $1 a day may be assessed per violation. These fines may be paid at the Business Office.

Offenses for which you will be ticketed and fined will include the following:

1. Parking in handicapped parking without a permit
2. Failure to display a parking sticker, if required
3. Parking in restricted parking
4. Parking in posted “No Parking” areas
5. Improper parking
6. Parking on the grass
7. Parking in a loading or service zone
8. Restricting traffic flow
9. Parking in pedestrian areas
10. Parking next to the curb
11. Overtime parking (in a 30-minute zone)

Failure to pay fines will result in further action being taken. If you have received two violations, you will, after receipt of a third offense, have your records placed on hold. This action will not allow you to add/ drop classes, enroll in future classes or obtain a copy of your transcript until the fines are paid. The third offense also may result in your vehicle being towed at your expense.

Student records that have been placed on hold will be kept in the office of the dean of Student Services.

In cases of violation of the handicapped spaces, enforcement may be handled by the Overland Park Police Department. Violators having violations written from the Overland Park Police Department will be summoned to appear in Overland Park Municipal Court. The college will have no involvement in this action.

Handicapped Parking

Only students, staff and visitors with state handicapped parking permits will be allowed to park in the handicapped areas. Enforcement of handicapped parking will be handled by Overland Park police or Safety and Security. Violations written by Overland Park police will require the violator to appeal in Overland Park Municipal Court. Johnson County Community College will not be responsible for this action. Johnson County Community College violations will be paid at the JCCC Business Office.

Bicycles

Bicycles do not need to be registered. Bicycle racks are available throughout the campus. Bicycles must be placed in these racks. They may not be locked to rails, lamp posts, trees or places inside buildings.

Emergency Parking or Loading

Special permits for emergency parking and loading are available at the switchboard.

Security

Students, faculty and staff at Johnson County Community College have access to academic, recreational and administrative facilities on campus. The general public can attend cultural and recreational events on campus, with access limited to the facilities where these events are held. When facilities are not scheduled for use, they are secured and all alarms activated. Access to closed facilities is on an "as needed" basis and incorporates strict key control procedures.

Reporting Accidents, Incidents or Crimes

When an incident occurs that requires you to telephone for law enforcement, medical or firefighting assistance, there are certain things you must remember to do and not do. All such incidents that happen on campus must be reported immediately to Safety and Security, ext. 4111. That department is staffed to dispatch immediate aid to you, relay the circumstances of the emergency to the appropriate off-campus agency and escort police, ambulance or fire equipment to the scene.

In a medical emergency, do no more than your qualifications and experience allow. Give aid, but don't cause harm. In case of fire, call for help and spread the alarm.

Should a criminal act occur, you should be prepared to give as much information as possible. This is especially true if the suspect has not had time to clear the campus or the immediate area. Don't disturb the scene.

All reports of a criminal nature are forwarded to the local law enforcement agency for further disposition. To report a crime or incident of a nonemergency nature, dial 3112.

If you are locked out of your vehicle, need a jump start or would like an escort to your vehicle, dial 0 or stop by the campus switchboard in room 115 of the CEC building.

Johnson County Community College Campus Safety and Security Annual Report

	1991		1992		1993	
Group A Offenses	Actual Offenses	Arrests	Actual Offenses	Arrests	Actual Offenses	Arrests
Assault	2	0	1	0	9	3
Burglary	8	0	3	0	6	0
Destruction/Damage/ Vandalism of Property	15	0	38	0	61	0
Drug Offenses	0	0	0	0	2	1
Gambling Offenses	0	0	0	0	1	0
Homicides	0	0	0	0	0	0
Larceny/Theft	90	0	131	0	110	2
Motor Vehicle Theft	1	0	1	0	2	0
Robbery	1	0	1	0	1	0
Sex Offenses, Forcible	0	0	0	0	0	0
Weapon Law Offenses	0	0	0	0	0	0
TOTAL GROUP A OFFENSES	117	0	175	2	192	6
Group B Offenses						
Bad Checks	0	0	0	0	0	0
Curfew/Loitering/Vagrancy	0	0	0	0	0	0
Disorderly Conduct	2	0	1	0	2	0
Driving Under the Influence	0	0	0	0	0	0
Drunkenness	0	0	0	0	0	0
Family Offenses, Nonviolent	0	0	0	0	0	0
Liquor Law Violations	2	6	0	6	0	0
Peeping Tom	0	0	0	0	0	0
Runaway	0	0	0	0	0	0
Trespass of Real Property	0	0	0	0	0	0
All Other Offenses	3	0	3	0	3	0
TOTAL GROUP B OFFENSES	7	6	4	0	5	0

Sexual Harassment of Students

Harassment of any student on the basis of sex shall be considered a violation of college policy.

Conduct involving unwelcome sexual advances, requests for sexual favors or other verbal or physical conduct of a sexual nature shall be considered to constitute sexual harassment when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of academic success.
2. Submission to or rejection of such conduct by an individual is used as the basis for academic decisions affecting the student.
3. Such conduct has the purpose or effect of unreasonably interfering with a student's performance or creating an intimidating, hostile or offensive environment.

Prohibited is any behavior that represents repeated or unwanted sexual attention or sexual advances when acceptance of such attention or advances is made a condition of reward or penalty.

In determining whether alleged behavior constitutes sexual harassment, JCCC will examine the record as a whole and all aspects of the circumstances, such as the nature of the sexual advances and the context in which the alleged incidents occurred. The president has established and promulgated a procedure for resolving sexual harassment complaints. A copy of these procedures may be obtained from the dean of Student Services.

If you feel you have been the victim of sexual harassment, you should contact the dean of Student Services within 14 calendar days of the occurrence of the incident that gave rise to the complaints. This contact can be in an oral or written form, but you must submit a confidential written and signed statement of the complaints to the dean of Student Services within five calendar days of the initial contact so that the dean can proceed with an investigation into the matter.

Student Code of Conduct

Students enrolled at Johnson County Community College are expected to conduct themselves as responsible individuals. You are subject to the jurisdiction of the college during your period of enrollment, and the college reserves the right to take disciplinary action, including suspension or expulsion, against you if, in the opinion of the college administration, you have not acted in the best interest of other students or the college. The following types of behavior are considered violations of the student code of conduct and may subject you to disciplinary action and/or referral to appropriate law enforcement agencies.

1. Alcoholic beverages – No student shall consume or possess any alcoholic beverages, beer and/or wine on any college-owned or college-operated facility or at any college-sponsored event either on or off campus.
2. Assembly – No person or persons shall assemble in a manner that obstructs the free movement of people about the campus or the free and normal use of college buildings and facilities, or prevents or disrupts the normal operation of the college.
3. Assault and Battery – No student shall threaten or commit a physical or sexual attack on faculty, staff or another student. No student shall force or threaten to force another student, faculty or staff member to have sexual contact against that person's will. Any student charged with sexual assault on or off campus may be prosecuted under criminal statutes and disciplined under the campus code of student conduct. Even if the criminal justice authorities choose not to prosecute, the college reserves the right to pursue disciplinary action.
4. Cheating – No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials. This includes students who aid and abet, as well as those who attempt such behavior.
5. Contracts – No student shall enter into a contract with an outside agency using the name of the college. Contracts entered into in violation of this rule shall be the personal responsibility of the student.
6. Counterfeiting and Altering – No student shall reproduce, copy or tamper with or alter in any way, manner, shape or form any writing, record, document of identification or any form used or maintained by the college. This shall include computerized data.
7. Disruptive Behavior – No student shall behave in a manner that is unacceptable in a learning environment or that endangers or infringes on the rights and/or safety of himself or herself or other students or staff. If misconduct warrants an immediate suspension from the class for the remainder of the class period, the instructor may do so without a prior hearing. If the student does not voluntarily leave the classroom, campus security officers may remove the student from the classroom upon oral request by the instructor. The instructor shall provide written notice of the suspension to the appropriate program director/division administrator and the dean of Student Services within one work day.

If misconduct warrants additional or different discipline, the instructor shall consult with the dean of Student Services who may elect to:

a. meet with the student, the instructor (if consenting) and other appropriate people to explore and adopt nondisciplinary solutions, including the establishment of guidelines for retaining the student in class;

b. conduct a meeting with the student and other people appropriate to the case, make a written determination of the facts and take disciplinary action if such action is warranted; or

c. take no action.

8. Dumping and Littering – No student shall deposit, dump, litter or otherwise dispose of any refuse on college property, except in duly designated refuse depositories.

9. Gambling – No student shall engage in any form of gambling, as defined in K.S.A. 21-4302 as amended from time to time, on college-owned or college-operated property or at any college-sponsored event either on or off campus.

10. Drugs – No student shall unlawfully manufacture, distribute, dispense, possess or use a controlled substance, as defined in college policies as amended from time to time and/or as defined in the Controlled Substances Act (K.S.A. 65-4101 as amended from time to time) on any college-owned or college-operated property or at any college-sponsored event either on or off campus.

11. Smoking – No student shall smoke in any enclosed indoor area of the college.

12. Harassment – No student shall engage in harassment of another student, instructor or staff member of the college. This shall include, but not be limited to, sexual and racial harassment and may include verbal and/or physical actions. Sexual harassment is defined as conduct involving unwelcome sexual advances, requests for sexual favors or other verbal or physical conduct of a sexual nature when:

a. submission to such conduct is made either explicitly or implicitly a term or condition of academic success; or

b. submission to or rejection of such conduct by an individual is used as the basis for academic decisions affecting either the instructor, student or staff member; or

c. such conduct has the purpose or effect of unreasonably interfering with the instructor, student or staff member's performance or creating an intimidating, hostile or offensive environment.

13. Theft/Vandalism – No person nor persons shall engage in the theft of or damage to property belonging to another person or to the college. This includes tampering with coin-operated machines.

14. Use of College Facilities – No student shall be in campus buildings except during days established in the academic calendar and on campus during normal college hours of operation. Students wishing to use college facilities at times outside of normal hours of operation must secure permission from the director of student life. For purpose of this policy, normal hours of operation will be 5:30 a.m. through 11 p.m.

15. Weapons – No student, except authorized law enforcement officers or security personnel, shall possess, use or threaten to use:

a. any weapon described and defined in K.S.A. 21-4201 as amended from time to time, and any other weapons, including but not limited to pellet guns;

b. any explosives, including but not limited to dynamite, nitroglycerin or any other combustible, blasting caps, fireworks, firebombs, grenades, plastic charges or devices intended for detonation purposes, and/or any other similar devices or compounds used for detonation or blasting;

on any college-owned or college-operated property or at any college-sponsored event either on or off campus.

Students who violate this policy are subject to suspension from the college with loss of all credit for the current semester and no refund of tuition and fees for the semester, as well as permanent prohibition from future enrollment or participation in college or college-sponsored activities. The student will not be allowed to enroll at the college at any future time.

16. Safety – No student shall engage in behavior that violates any safety rules of any classroom, laboratory or other college premises, whether such procedures be written or oral rules or directions. This shall include, but not be limited to, the wearing of any required personal protective equipment and the following of prescribed methods and procedures for handling and disposing of certain materials that may be hazardous, unstable, infectious, etc.

17. No student shall willfully violate any published regulation for student conduct adopted or approved by the board of trustees.

With the exception of matters involving weapons, as herein defined, or an immediate danger to life, limb or property, a suspension or other disciplinary action will be preceded by an opportunity for you to confer with the dean of Student Services. At such a conference, you will be advised of the nature and extent of the alleged

offense. If you deny having committed such offense, you will be given an opportunity to present your version of the incident. Subsequent to the conference, the dean of Student Services may impose disciplinary action deemed appropriate.

Appeals of Disciplinary Action

If the dean of Student Services elects to impose disciplinary measures, you will be informed in writing of the nature and terms of such disciplinary action and will be further advised of the right to appeal the decision. A copy of the written notice will be sent to you by certified mail.

If the dean of Student Services decides to impose any disciplinary action, you may appeal that decision using the following procedure.

1. You may appeal the decision of the dean of Student Services to the campus appeals board. The campus appeals board is composed of five voting members and a nonvoting chair as follows:

   a. one dean or assistant dean selected by the president who shall act as chair, shall conduct the hearing and shall not vote; and

   b. two students selected by the Student Senate; and

   c. three faculty selected by the Faculty Association.

   None of the members of the campus appeals board shall have been involved in the matter that forms the basis of the disciplinary action. If a member of the appeals board is or has been involved in the matter in question, he or she shall recuse himself or herself from the proceedings and the academic vice president will appoint a member to replace such person.

2. You must deliver a written appeal to the office of the academic vice president within seven business days of the date that the dean of Student Services sent the notice of the disciplinary action or you will be deemed to have waived the right to appeal the disciplinary decision and the dean's decision will be deemed final. The written appeal shall state the reasons that you believe the decision of the dean of Student Services should be modified or reversed.

   For the purpose of this procedure, a "business day" shall be a weekday during which regular classes are held at the college.

3. Within seven business days of the date that the notice of appeal is received, the chair of the campus appeals board shall notify you in writing of the time, date and place of the appeal meeting.

4. The appeal hearing shall be held not less than seven business days, nor more than 20 business days, after the date that the chair sends the notice of the hearing.

5. You and the administration shall have the following rights during the hearing:

   a. each party shall have the right to have legal counsel present at each party's own expense;

   b. each party shall have the right to hear or read a full report of the testimony of the other party's witnesses;

   c. each party shall have the right to present witnesses in person or to present their testimony by sworn affidavit;

   d. you and the administration shall each have the right to testify and give reasons supporting your respective positions;

   e. the hearing shall be conducted in an orderly manner;

   f. the appeals board shall render a fair and impartial decision based on substantial evidence presented at the hearing;

   g. the hearing shall be tape recorded.

   The chair of the appeals board shall adopt such other procedures as he or she may deem appropriate to provide a fair and orderly hearing. The hearing shall not be open to the public.

6. After the hearing, the appeals board shall prepare a written decision affirming, modifying or reversing the dean's decision and summarizing the evidence supporting its decision. The appeals board's decision shall be mailed to you and the dean of Student Services no later than 10 business days after the close of the hearing.

7. If you are dissatisfied with the decision of the appeals board, that decision may be appealed to the college president by delivering a written notice of appeal to the president's office within seven business days of the date the appeals board's decision is mailed to you. The written notice of appeal to the president shall state the reasons that you believe that the board's decision should be modified or reversed. If you do not deliver a written notice of appeal to the president's office within the time limit, you will be deemed to have waived the right to appeal and the decision of the appeals board will be deemed final.

8. If you file the notice of appeal with the president within the time limit, the president shall review the matter by reviewing the tape-recorded record of the appeal board's hearing and any written materials submitted as part of the appeal board's hearing. In his sole discretion, the president may request that the parties submit additional evidence and, if additional evidence is requested, it shall be presented in a manner granting substantially the same procedural rights to both parties as were afforded during the appeal to the appeals board. Neither party shall have the right

to request that the president hear additional evidence. The president shall issue a written decision affirming, modifying or reversing the decision of the appeals board. The president's decision shall be final.

9. Unless appealed, any disciplinary action imposed by the dean of Student Services shall become effective as of the date that the time to file an appeal with the appeals board has expired. However, the college reserves the right to exclude from campus any person who it has reason to believe poses a threat to the safety of any other person on campus or who has disrupted college activities or operations. If you appeal to the campus appeals board, the effective date of any disciplinary action will be the date after the appeals board issues its decision or such other date as may be designated by the appeals board. An appeal to the president will not alter the effective date of any disciplinary action imposed by the appeals board.

Student Appeals Other than Appeals of Disciplinary Actions

Academic

The Johnson County Community College academic appeals process provides you with an approach to question academic behavior by faculty members, administration, counselors, staff or other college personnel. Examples of expected appropriate academic behavior are set forth in the American Association of University Professors' Code of Ethics.

For appeals regarding any academic concerns, such as differences of opinion on grades, assignments, classroom procedures or related issues, the following procedures will be followed:

1. You are encouraged to discuss any academic concern with the faculty member directly as it occurs. Your counselor may be consulted and be included in these discussions.
2. Where resolution is impossible or unsatisfactory to either party, the issue should be discussed with the program director or his or her designee, preferably within the same academic semester or term, but no later than 20 business days after the end of the semester or term. For the purpose of this policy, a "business day" shall be a weekday during which regular classes are held at the college. The program director will respond to you in writing within five business days after the meeting, describing resolution to the appeal.
3. Should you consider the response of the program director an unsatisfactory resolution, you may appeal to the assistant dean responsible for the area. To appeal, you must file with the appropriate assistant dean, within 10 business days of receipt of the program director's response, a written statement with supporting information on the problem. The assistant dean will send you a written response within five working days.
4. Should you consider the response of the assistant dean an unsatisfactory resolution, you may appeal to the dean of instruction. To appeal, you must file with the dean of instruction, within 10 business days of the receipt of the assistant dean's response, a written statement with the supporting information on the problem. Similar written statements may be provided by the faculty member. The dean of instruction's decision is final. The dean of instruction will send you a written response within five business days.

These proceedings will occur in a professional manner and all efforts will be made to protect the rights of all parties involved.

Nonacademic

The Johnson County Community College nonacademic appeals process is to be used for issues other than disciplinary or academic matters, and provides you with protection against unwarranted infringement of your rights. A grievance may concern an alleged violation of college policies, infringement of your rights and other such problems dealing with other students, college staff and faculty and authorized college activities.

The following procedures will be followed to ensure an appropriate resolution of a student grievance or complaint at the lowest possible level:

1. You will attempt to rectify the grievance with the supervisor of the area in which the alleged violation occurred within 10 business days. Every effort will be made to resolve the grievance at the lowest possible level.
2. You will consult with the appropriate supervisor (e.g., instructor, program director or assistant dean) and attempt to resolve the grievance through informal discussions. The supervisor must inform you in writing of any decision made and the reason for that decision within five business days. If you feel the grievance has not been resolved, you may submit a written grievance to the dean of Student Services within 10 business days from the time the complaint was filed at the previous level.
3. You will submit a written grievance to the dean of Student Services and request a conference. The dean must, within five college working days, inform you in writing of any decision made and the reasons for making that decision. The decision of the dean of Student

Services is final. The dean will notify the affirmative action/Title IX officer of the college in writing of any grievance involving alleged illegal discrimination, including any claim that you have been subjected to illegal discrimination on the basis of race, sex, national origin, age, religion or disability. Claims of illegal discrimination will be investigaged by the designated officer who will make a report to the president.

These proceedings will occur in a professional manner and all efforts will be made to protect the rights of all parties involved.

Student Career Development Policy

It is the policy of JCCC that all students will have equal access to career development services.

Career development services will be provided in a consistent and coordinated manner, appropriately documented and directed toward early identification of student needs.

Department and individual responsibility, including, but not limited to, staff, facilities, equipment and technical support, are detailed in the procedures for implementation of the JCCC career development policy.

Student Health

The college does not provide on-campus medical services, nor does it assume responsibility for injuries you may incur while participating in college activities. Medical services are available at local clinics and hospitals.

The college does not provide health and accident insurance for students. You must contract for this coverage on an individual basis.

A medical examination may be required for selected academic programs or participation in selected cocurricular activities or when the students' health may be at risk.

For additional information concerning student health policies and procedures, contact the dean of Student Services.

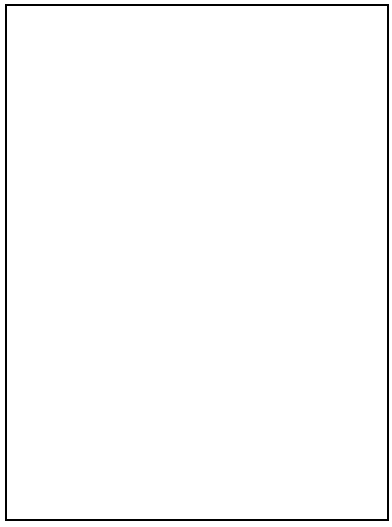
Student Right to Know

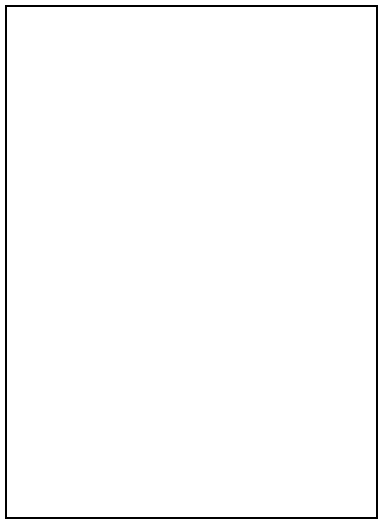
In 1991-1992, the completion or graduation rate for students who entered Johnson County Community College in 1989 as first-time, full-time college students was 27.9 percent. This figure includes those who received a degree or certificate at Johnson County Community College as well as some students who transferred to four-year colleges or universities.

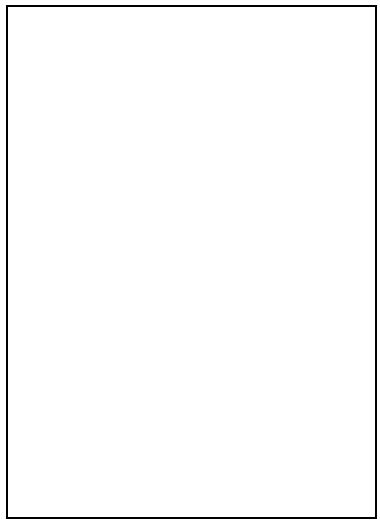
Current or prospective students interested in obtaining further information should contact the dean of Student Services in 152 GEB.

(Published in compliance with the Student Right-to-Know and Campus Security Act; Public Law 101-542, Sec. 103 et. seq.)

Continuing Education and Community Services







Continuing Education and Community Services

ABE/GED Program

Business and Industry Institute

Center for Continuing Professional Education

Center for Literary Culture

Citizens Forums

CLEAR Program

Community Services Courses and Workshops

Cultural Education

Government Services Institute

Lifetime Learning Institute

Speakers Bureau

Special Events

Youth Program

Continuing Education and Community Services

Noncredit Courses/Special Events

JCCC offers busy people of all ages and backgrounds short-term courses on hundreds of topics in a friendly, informal atmosphere at convenient hours and locations. It's all part of "learning for life" at the college. You may register for courses by phone, mail, in person or fax.

Adult Basic Education/ General Educational Development

ABE/GED Program

Basic adult literacy training in Johnson County is provided through Project Finish, a community-based, open-enrollment, no-fee adult literacy/basic education program that is jointly sponsored by Johnson County Community College and the Johnson County Library.

Individualized instruction is provided on a one-on-one tutorial or small-group basis in centers located conveniently throughout Johnson County. Computer-assisted instruction is also available to provide participants the opportunity to improve basic reading, writing and math skills. In addition, the program provides individuals with the opportunity to obtain a high school equivalency diploma (GED) or learn the English language for the non-native English speaker.

English for Speakers of Other Languages (ESL) classes are available for the beginning, intermediate and advanced student.

Business and Industry Institute

The Business and Industry Institute provides high-quality training, consulting and economic development services to area businesses and organizations. These services are intended to meet both current and long-term education and skill-based needs. Among the services offered are:

- On-site Training. Credit and noncredit courses are taught at the business site. Courses can be designed to fit the needs of your individual business, using your own equipment and facilities so your employees can learn under actual work conditions.
- On-campus Training. Credit and noncredit courses, seminars, workshops and programs in technology and business are offered on the JCCC campus. Courses and programs can be designed to meet the specifications of your individual business.
- Business and Office Skills. Skill-oriented seminars and workshops are available both on campus and on site at company locations.
- Economic Development. The institute is active in helping new and expanding industries obtain state and federal funding to pay for training, applicant testing and job skills development.
- Management and Professional Development. Professional, skill-oriented management and supervisory seminars and workshops are offered both on campus and on site at company locations.
- Microcomputer Training and Development. The center trains employees in business applications, using much of today's best-selling software. With clearly written manuals and concentrated hands-on experience, the courses significantly reduce the time required for you to become productive. The training labs are continuously upgraded with the latest equipment and the newest versions of software.
- Professional Resources. Assistance in defining and solving company training, equipment and manpower problems is available.
- Small Business Development Center. The Small Business Development Center offers a wide range of small business services, including training programs, counseling, applied research and a library for small business owners and potential owners in Johnson, Wyandotte and Miami counties. There is no charge for the counseling service, and results are strictly confidential.
- Technical Training. Hands-on technical and quality improvement training is available through customized courses, seminars, workshops and teleconferences. Code review classes also are offered for state licensure preparation.
- Workplace Literacy. Customized, job-specific basic skill training in written and spoken language, math and thinking skills can be developed to improve performance on the job. After a job analysis and assessment process, an on-site training program is offered to meet a specific organization's employee needs.
- Flexible Training Lab. Computerized instruction in basic skills, including reading, writing, computational skills and preparation for the GED, is available in our new all-computerized flexible training lab. More than 400 individual courses are available.
- Outplacement Counseling. Career planning programs and services can be offered on site to help individuals make a smooth transition to a new career. Services available include one- or two-day job search workshops, weekly job club meetings and résumé preparation.

Center for Continuing Professional Education

The Center for Continuing Professional Education offers a broad range of educational opportunities designed to update and maintain your skills, provide information on current developments and innovations and meet mandatory continuing education requirements for relicensure or recertification. The center offers the following services and programs to the professional community:

- On-campus Training. Noncredit courses, seminars and workshops, most of which are approved by state licensing boards in Kansas and Missouri for continuing education credit.
- On-site Training. Courses and programs that are custom-designed to meet the special needs of the institution, agency or company. These courses are offered at your workplace and are scheduled at times convenient to you.
- Flexible Training Lab. Ten computerized independent study modules approved for RN, LPN and LMHT relicensure credit in Kansas are offered by appointment in our Flexible Training Lab.
- Cosponsorships. The center works cooperatively with a variety of associations, institutions and agencies to provide high-quality continuing education programs at JCCC and elsewhere in the metropolitan area.
- Consortium for Health Education. Reduced-cost continuing education opportunities for employees of member health care agencies, organizations and institutions.
- Videoconferences. High-quality videoconferences are offered for a wide range of professionals, including offerings of the American Law Institute, American and Kansas Bar Associations, Practicing Law Institute, CPCU Society and many others.
- Education. Seminars and workshops for teachers at all levels, including early childhood, primary, secondary and postsecondary. The Learning Technologies Institute offers workshops that train educators to integrate computing and information technologies in support of teaching and learning.
- Government Services Institute. Training, professional development and technical assistance to increase the quality and effectiveness of government is the goal of GSI. Programs are offered for public sector employees including elected and appointed officials, hospital and school administrators and members of their professional staffs and public safety professionals including law enforcement, fire service and emergency medical technicians. GSI programs are developed in cooperation with local government agencies.
- Graphic Design. Opportunities for graphics professionals to increase their skills in video, multimedia, print production, software applications and operational systems. Many courses are hands-on, using up-to-date technology and recent releases of electronic design software and are taught by design professionals.
- Health and Human Services. Approved programs for registered nurses, licensed practical nurses, social workers, counselors, psychologists, mental health technicians, dietitians, dental hygienists, dentists, adult care home administrators, hospital administrators, physical therapists, occupational therapists, respiratory therapists and other health care professionals.
- The Insurance Institute. Semester-length courses leading to professional designations in the insurance industry, including chartered property and casualty underwriter, associate in claims, associate in fidelity and surety bonding, associate in risk management, associate in underwriting and certified professional insurance woman/man. Seminars and workshops are offered to meet the Kansas and Missouri continuing education requirements of licensed property/casualty, life/health and title insurance agents.
- Law. Seminars, workshops and videoconferences for attorneys and paralegals.
- The Real Estate Institute. Prelicense instruction to prepare you to sit for the Kansas real estate salesperson's license examination. Approved continuing education for relicensure of Kansas and Missouri real estate agents and brokers. Courses leading to professional designations and state relicensure/certification in real estate appraisal.

Center for Literary Culture

The Center for Literary Culture is a national, award-winning program for writers and those who love to read. The center sponsors an annual writers conference and various creative writing workshops.

Citizens Forums

JCCC invites interested citizens to contribute to development, stabilization and change in the community by attending discussions on current social, political, ethical or economic issues.

CLEAR Program

Mentally retarded adults are offered a variety of noncredit, continuing education opportunities through College Learning Experiences for Adults with Retardation, better known as CLEAR. The program focuses on independent living skills

and life-enhancing experiences through classes offered on Saturdays and weekday evenings during the semester.

CLEAR also offers programs for parents of mentally retarded individuals and for other interested community members. Special Services at JCCC offers complete information.

Community Services Courses

The stimulation of talented instructors and classmates who share common interests is available through JCCC's community services courses. These classes, workshops, lectures, seminars and other activities are for you to whom academic credit is not a priority. No tests, grades or required homework is involved.

Courses are noncredit and are held at convenient locations throughout Johnson County. Noncredit class schedules announcing the available courses are mailed to all Johnson County residents four times a year. Courses and activities are offered in these areas:

ABE/GED
Art Appreciation
Arts and Crafts
Aviation
Career Planning
Computers
Cultural Education
Current Issues Forums
Dance
Developmental Education
English for Speakers of Other Languages
Ethnic Dining
Exercise and Fitness
Family Life
Food and Wine
Foreign Language
Health and Lifestyles
House and Garden
Lifetime Learning Institute
Literature and Writing
Money Management
Office Skills
Personal Development
Photography and Video
Practical Know-how
Real Estate
Science
Singles
Sign Language
Special Interests
Sports and Recreation
Sewing
Tours and Travel
Youth Program
Youth Sports Clinics
Women Today

Cultural Education

The Cultural Education Center houses one of the most comprehensive performing arts complexes in the region, including the 1,250-seat Yardley Hall, 400-seat Theatre, 100-seat Black Box Theatre, 55-seat Recital Hall and the 3,400-square-foot Gallery of Art. A 600-space parking garage is conveniently situated adjacent to the building. The Cultural Education Center was designed to meet the needs of all special patrons.

The Cultural Education division annually schedules and provides support services for more than 300 separate presentations in the lobby, Visitors Center, Gallery of Art and the four performing spaces of the Cultural Education Center. More than 100,000 people attend cultural attractions presented by a variety of sponsors. In less than five years, the Johnson County Community College Cultural Education Center has become a major cultural resource for the Kansas City region.

Programming in the CEC includes classes, lectures, concerts, residencies and arts festivals. Internationally known artists, national touring groups and local performing companies grace the stages with theater, dance and music. Season ticket series packages as well as special event single ticket events offer area patrons an exciting variety of professional and amateur entertainment.

Lifetime Learning Institute

The Lifetime Learning Institute at JCCC gives older adults opportunities to meet friends, have fun and be intellectually challenged in a friendly atmosphere. Classes are offered at convenient locations throughout Johnson County, and many are scheduled during the day. Some programs and events are free, while others have a basic fee. In some cases, there may be additional charges for textbooks, course materials or food service.

Speakers Bureau

JCCC's Speakers Bureau provides guest speakers for various community organizations. They speak on a number of timely topics, and are great idea starters for program planners. You can make arrangements by calling the Community Services office.

Special Events

Special events attract thousands of people to the JCCC campus and to locations throughout the county each year. Among the many special events sponsored or cosponsored by the college are public forums, candidate forums, lectures, concerts, conferences, theater, dance, film festivals and a wide range of public service activities such as dental health days, blood drives, job fairs, senior fun nights and historical festivals. Special events broaden community involvement with the college, bring speakers of international stature to the community, help educate citizens and make the county a more interesting, stimulating place to live.

Youth Program

Classes and workshops in art, language, music, academic enhancement and special interests have been developed to stimulate creativity and growth in young people. Summer activities include a special series for high-ability students, sports clinics and various youth college classes.

Graduation, Degree and Certificate Programs

Graduation Requirements

Graduation with Honors

Commencement Exercises

Associate Degrees
- Implementation

Associate of Arts Degree

Associate of Arts Core Curriculum

Transfer Programs
- Individual Transfer Program
- University Transfer Program for Undecided Students
- University Transfer Programs for Specific Majors

Transfer Information

Career Programs

Associate of Science Degree

Associate of Applied Science Degree

Certificate of Completion

Johnson County Area Vocational Technical School

Graduation Requirements

Johnson County Community College awards the associate of arts, associate of science and associate of applied science degrees.

Johnson County Community College believes that an associate degree represents more than an accumulation of units. The degree should symbolize a successful attempt on the part of the college to lead students through patterns of learning experiences designed to develop certain capabilities and insights. It should reflect the conviction of the faculty that those who receive the degrees possess in common certain basic principles, concepts and skills unique to, and shared by, the various disciplines.

Those receiving the associate degree are expected to demonstrate the ability to think and to communicate clearly and effectively both orally and in writing; to use mathematics; to understand the modes of inquiry of the major disciplines, including the sciences and technologies; to be aware of our culture and of other cultures and times; to achieve insights gained through experience in thinking about ethical problems; to develop the capacity for self-understanding and problem solving; and finally, to gain sufficient depth in some field of knowledge to contribute to society.

When you apply for graduation, the Admissions and Records Office will complete a degree check to assure that degree requirements will be met. This should be done at least one semester before you decide to graduate.

To be guaranteed consideration for graduation, you must file the written application by the following dates:

- Nov. 1 for spring graduation
- April 1 for summer and fall graduation

Written appeals for deadline extensions may be made to the director of Admissions and Records. If you apply after the deadline, you will not receive notification of your degree status until all grades have been posted for the semester in which you applied to graduate. Appeals for spring graduation will not be considered after Feb. 1, and appeals for fall graduation will not be considered after Oct. 15. If you failed to apply by the published deadline dates, but will complete all degree requirements in the current semester, you may appeal to graduate in the following semester and request a waiver of current enrollment status.

You must earn a minimum of 15 semester hours of credit in residence at Johnson County Community College and earn a cumulative G.P.A. of 2.0 or better on all coursework. Advanced standing credits will not count toward satisfying the 15 credit hours residency requirement. Prerequisite courses that needed to be completed before enrollment in college-level courses will not count toward fulfilling degree requirements.

You must be enrolled in the college at the time you anticipate completing degree requirements and file an intent to graduate form. You may complete the requirements for a degree at the end of each term or semester. The degree status will be recorded on your permanent transcript record upon certification of completion of the graduation requirements.

Commencement Exercises

You will be awarded a diploma or certificate when you have successfully completed your program requirements. These awards will be issued at the end of each semester or term. Commencement will be held only once a year in May. If you completed degree or certificate requirements in previous semesters or terms, you will be invited to participate in commencement exercises. Diplomas are available approximately six weeks after the ceremony. You must pick up the diploma at the Admissions and Records Office; diplomas cannot be mailed.

Associate Degrees

An associate degree is earned when you successfully complete a minimum of 64 hours of college credit courses in an approved educational program.

Competency in the basic skills – reading, writing and computation – is essential if you are to function effectively in collegiate programs. You must meet the following minimum requirements to complete a degree:

1. Minimum proficiency in reading and writing, either at the original assessment, a subsequent assessment or in courses that address these competencies prior to enrollment in degree-specific courses
2. Minimum proficiency in computational skills, either at the initial assessment, a subsequent assessment or in courses that address these competencies prior to enrollment in degree-specific mathematics courses

The college is committed to integrating computers into its curriculum on an institution-wide basis. Information technology must be relevant and applicable to the curriculum under JCCC's college-wide framework. JCCC has not made computer literacy mandatory. Rather, the faculty strive to integrate the use of computers into traditionally noncomputer areas and to increase the use of computers in more traditional, computer-using areas.

In addition to demonstrating the basic skills competencies, you are expected to develop proficiency in more advanced skills required by the courses outlined in the degree programs. The associate degree requirements are

intended to develop effective communication, problem solving and knowledge acquisition through interpretation, comparison, analysis, synthesis, evaluation, research and creative thinking.

Implementation

The associate of arts, associate of science and associate of applied science degree requirements became effective for all new students in the fall 1985 semester. If you were enrolled at the time of implementation, you have the option to complete degree requirements in effect prior to this policy change if you maintain continuous enrollment and successfully complete at least one class (i.e., do not withdraw from all classes) during each regular semester, except for programs with selective admission requirements.

You are considered continuously enrolled if you complete at least one class during each regular fall and spring semester. If you do not maintain continuous enrollment, you will be required to follow the graduation requirements that are in effect at the time of re-enrollment.

Associate of Arts Degree

An approved associate of arts program is one designed specifically to meet your educational objectives and needs through the completion of the general education distribution requirements. The program is individually approved by a counselor.

Most students transferring to four-year colleges and universities earn an associate of arts degree.

The 64 hours of credit necessary to complete the associate of arts degree shall include the following:

Communications .....9 hours
Humanities and/or Arts.....6 hours
(History is included in this category)
Social Science and/or Economics.....6 hours
Science and Mathematics .....9 hours
(Must include one course from a lab science and one from mathematics)
Health and/or Physical Education .....1 hour

Specific courses that meet the associate of arts degree requirements are as follows:

I. Communications – 9 hours
   A. English Composition – 6 hours
      ENGL 121 Composition I 3
      ENGL 122 Composition II.....3
      COM 125 Oral/Written Communications * + ...6
   B. Oral Communication – 3 hours
      SPD 120 Interpersonal Communications...3
      SPD 121 Public Speaking.....3
      SPD 125 Personal Communication 3
      COM 125 Oral/Written Communications * + ...6

* Satisfies both Composition I and Oral Communication requirements.

II. Humanities/Arts – 6 hours
   No more than one course from each of the five areas may count toward the six required hours.
   A. Literature/Theater
      ENGL 230 Introduction to Fiction 3
      ENGL 231 American Prose.....3
      ENGL 235 Drama as Literature.....3
      ENGL 241 British Writers.....3
      ENGL 250 World Masterpieces.....3
      ENGL 254 Masterpieces of the Cinema.....3
      ENGL 256 American Poetry 3
      THEA 120 Introduction to Theater.....3
   B. Foreign Language
      (Note: These courses have prerequisites that must be satisfied before enrollment.)
      FL 178 Intermediate Russian I 3
      FL 179 Intermediate Russian II.....3
      FL 190 Intermediate Japanese I.....3
      FL 191 Intermediate Japanese II 3
      FL 220 Intermediate German I 3
      FL 221 Intermediate German II.....3
      FL 230 Intermediate Spanish I.....3
      FL 231 Intermediate Spanish II 3
      FL 240 Intermediate French I 3
      FL 241 Intermediate French II.....3
   C. History
      HIST 124 Community Life/Values + ...3
      HIST 125 Western Civilization I.....3
      HIST 126 Western Civilization II 3
      HIST 130 European History from 1750.....3
      HIST 135 Eastern Civilization.....3
      HIST 140 U.S. History to 1877 3
      HIST 141 U.S. History Since 1877 3
      HIST 151 World History I: The Traditional World.....3
      HIST 152 World History II: The Modern World.....3
      HIST 160 Modern Russian History 3
      HIST 162 Modern Latin America 3

D. Humanities/Arts

ART	180	Introduction to Art History	3
ART	182	Modern Art History	3
HUM	122	Introduction to Humanities	3
HUM	133	Comparative Cultures	3
HUM	136	The Human Experience +	3
HUM	164	Civilisation	3
MUS	121	Introduction to Music Listening	3
MUS	125	Introduction to Jazz Listening	3
PHOT	140	History of Photography	3
PHOT	141	Issues of Contemporary Photography	3

E. Philosophy

PHIL	121	Introduction to Philosophy	3
PHIL	124	Logic and Critical Thinking	3
PHIL	143	Ethics	3
PHIL	154	History of Ancient Philosophy	3
PHIL	165	Philosophy of Current Civilization	3
PHIL	176	Philosophy of Religion	3

III. Social Science/Economics – 6 hours
No more than one course from each of the five areas may count toward the six required hours.

A. Anthropology

ANTH	125	Cultural Anthropology	3
ANTH	126	Physical Anthropology	3
ANTH	130	World Cultures	3
ANTH	210	Peoples of the World +	3

B. Economics

ECON	130	Basic Economics	3
ECON	230	Economics I	3
ECON	231	Economics II	3
IDSP	175	Global Resources from Geologic and Economic Viewpoints	3

C. Political Science

POLS	122	Political Science	3
POLS	124	American National Government	3
POLS	126	State and Local Government	3
POLS	130	Political Economics: Power in Society +	3
POLS	132	Introduction to Comparative Government	3
POLS	135	International Relations	3

D. Psychology

PSYC	121	Applied Psychology	3
PSYC	130	Introduction to Psychology	3

E. Sociology

SOC	122	Sociology	3
SOC	125	Social Problems	3
SOC	131	Marriage and the Family	3
SOC	160	Social Power: Motivation and Action +	3

IV. Science and/or Mathematics – 9 hours
Must include one course from a lab science and one from mathematics.

A. Life Science

BIOL	122/3	Principles of Biology/Lab	3/1
BIOL	124	Oceanus: The Marine Environment	3
BIOL	125	General Botany	5
BIOL	127	General Zoology	5
BIOL	130/1	Environmental Science/Lab	3/1
BIOL	140	Human Anatomy	4
BIOL	144	Human Anatomy/Physiology	5
BIOL	150	Biology of Organisms	5
BIOL	225	Human Physiology	4
BIOL	230/1	Microbiology/Lab	3/2

B. Physical Science

CHEM	120/1	The World of Chemistry/Lab	3/1
CHEM	122	Principles of Chemistry	5
CHEM	124/5	General Chemistry I/Lab	4/1
CHEM	131/2	General Chemistry II/Lab	4/1
CHEM	140	Principles of Organic Chemistry	5
CHEM	227	Introduction to Quantitative Analysis	5
IDSP	175	Global Resources from Geologic and Economic Viewpoints (Nonlab science)	3
PSCI	120	Physical Science	4
PSCI	122	Astronomy	4
PSCI	130	General Geology	5
PSCI	132	Historical Geology	5
PSCI	140/1	Physical Geography/Lab	3/2
PHYS	130	General Physics I	5
PHYS	131	General Physics II	5
PHYS	220	Engineering Physics I	5
PHYS	221	Engineering Physics II	5
SCI	121	Science: A Dynamic Process +	4

C. Mathematics

MATH	165	Finite Math: A Cultural Approach +	3
MATH	171	College Algebra	3
MATH	172	Trigonometry	3
MATH	173	Precalculus	5
MATH	175	Discrete Math and Its Applications +	3
MATH	181	Statistics	3
MATH	231	Calculus I	3
MATH	232	Calculus II	3
MATH	241	AG/Calculus I	5
MATH	242	AG/Calculus II	5
MATH	243	AG/Calculus III	5
MATH	244	Differential Equations	3

V. Health and/or Physical Education – 1 hour

HPER		Any Activity Course.....1
EMS	121	CPR I – Basic Rescuer.....1
HLT	260	Lifetime Wellness + ...3
HMEC	151	Nutrition and Meal Planning 3
HPER	200	First Aid/CPR.....2
HPER	202	Personal/Community Health 3
HPER	205	Individual Lifetime Sports 2
HPER	210	Fundamentals of Athletics.....2
HPER	240	Lifetime Fitness 1
HPER	255	Introduction to Physical Education 3

VI. Electives (33 hours)

+ JCCC Core Curriculum

Note: The associate of arts degree is designed as a transfer curriculum. You also should refer to the transfer program sheets in the Counseling Center.

The following is an example of a first-year program plan if you are an undecided transfer student. If you are interested in a specific major or degree, you should talk with a JCCC counselor.

First Semester	**CR**
Composition I	3
Social Science Elective	3
Math/Natural Science Elective	3-5
Humanities Elective	3
General Elective	3
TOTAL CREDIT HOURS	15-17

Second Semester	**CR**
Composition II	3
Oral Communication Elective	3
Math/Natural Science Elective	3-5
Social Science/Humanities Elective	3
General Elective	3
TOTAL CREDIT HOURS	15-17

Associate of Arts Core Curriculum

You may satisfy the requirements for the associate of arts degree by completing the Alternative General Education Core Curriculum. This group of related courses, which extends over the freshman and sophomore years, provides a more coherent and purposeful program than is generally available to community college students. Designed specifically to accomplish JCCC's aims of general education, the courses in the core will give you new perspectives on the basic fields of knowledge and insights into areas essential to contemporary life.

You may declare yourself a "core major" and pursue the entire 41 credit hours, or you may take selected courses individually. Each of the courses has been approved to satisfy degree requirements in the categories specified for all three of the college's degrees.

The Core Curriculum courses are listed in the order they should be taken by part-time students. Some courses have prerequisites, so you should check the course descriptions when planning your course selections.

COM	125	Oral and Written Communications 6
MATH	165	Finite Math, A Cultural Approach 3
MATH	175	Discrete Math and Its Applications 3
SCI	121	Science: A Dynamic Process 4
BIOL	122/3	Principles of Biology/Lab.....3/1
		or
PSCI	120	Physical Science 4
POLS	130	Political Economy: Power in Society ...3
SOC	160	Social Power: Motivation and Action .3
HIST	124	Community Life and Values 3
HUM	136	The Human Experience.....3
ANTH	210	Peoples of the World.....3
TECH	220	Technological Literacy 3
HLT	260	Lifetime Wellness: A Personal Goal.....3
		TOTAL 41

An additional 23 credits of elective courses, one of which must be ENGL 122, Composition II, are required to complete the associate of arts degree.

In the traditional format of a four-semester sequence, the program for the Core Curriculum would be:

First Semester			**CR**
COM	125	Oral and Written Communications	6
MATH	165	Finite Math, A Cultural Approach	3
SCI	121	Science: A Dynamic Process	4
POLS	130	Political Economy: Power in Society	3
		TOTAL CREDIT HOURS	16

Second Semester			
ENGL	122	Composition II	3
MATH	175	Discrete Math and Its Applications	3
BIOL	122/3	Principles of Biology/Lab	3/1
		or	
PSCI	120	Physical Science	4
SOC	160	Social Power: Motivation and Action	.3
HIST	124	Community Life and Values	3
		TOTAL CREDIT HOURS	16

Third Semester			
HUM	136	The Human Experience	3
ANTH	210	Peoples of the World	3
		Electives	10
		TOTAL CREDIT HOURS	16

Fourth Semester			
TECH	220	Technological Literacy	3
HLT	260	Lifetime Wellness: A Personal Goal	3
		Electives	10
		TOTAL CREDIT HOURS	16

Transfer Programs

Johnson County Community College is fully accredited by the North Central Association of Colleges. Credits are therefore accepted by most colleges and universities in the United States. Even though most courses at JCCC transfer to most colleges and universities, you should consult with a JCCC counselor to be sure the courses you take are applicable to the degree you are seeking.

JCCC offers the first two years of most college baccalaureate degree programs. You can attend JCCC for your first two years, earn an associate of arts degree and then transfer to a four-year institution without loss of time or credit. You can do this by following a transfer program. There are three types of transfer programs: the Individual Transfer Program, the University Transfer Program for Undecided Students and the University Transfer Program.

Individual Transfer Program

If you plan to attend a four-year college or university that is not local or if you choose a major not listed under local university transfer programs, you may work with a counselor to develop your own individual transfer program.

University Transfer Program for Undecided Students

If you are planning to transfer but have not decided upon a major or chosen a four-year school, you should select courses from the general education requirement areas as illustrated in the Sample Four-year Program below and under the associate of arts degree requirements.

Generally, a total of 124 to 128 hours are required for most four-year degrees.

If you are still undecided about a major in your second year, you should work closely with a counselor in making a decision that will enable you to transfer without loss of time or credit.

University Transfer Programs for Specific Majors

Copies of university transfer programs are available in the Counseling Center for the following majors:

Accounting
Architecture
Art
Business Administration
Clothing and Textiles
Computer Science
Construction Science
Dietetics
Education
- Elementary
- Secondary
- Music

Engineering
- Aerospace
- Chemical
- Civil
- Computer
- Electrical
- Engineering Management
- Engineering Mechanics
- Industrial
- Mechanical
- Metallurgical
- Mining
- Nuclear
- Petroleum

SAMPLE FOUR-YEAR PROGRAM

Freshman-Sophomore Years

	General Education Requirements							
60-64 hours may be taken at JCCC	English	Speech	Foreign Language (B.A. degrees)	Humanities	Social Science	Mathematics	Science (Lab)	Electives

Junior-Senior Year

Remaining 60-64 hours are taken at a 4-year school	Courses taken in major field	Upper division courses not in major field	Electives

Engineering Technology
Forestry
Hotel and Restaurant Management
Information Systems
Interior Design
Journalism
Liberal Arts and Sciences
  Anthropology
  Astronomy
  Biological Sciences
  Chemistry
  Computer Science
  Economics
  English
  Foreign Language
  Geography
  Geology
  German
  History
  Humanities
  Mathematics
  Philosophy
  Physics
  Political Science
  Psychology
  Sociology
  Spanish
  Speech
  Theater
Medical Technology
Music
Nursing
Occupational Therapy
Pharmacy
Physical Education
Physical Therapy
Pre-chiropractic
Pre-medicine
Pre-veterinary
Respiratory Therapy
Social Welfare
Visual Communications

General education requirements for area four-year colleges and universities also are available in the Counseling Center.

Programs are updated and approved annually by these four-year colleges and universities:

Avila College
Baker University
Central Missouri State University
Cleveland Chiropractic College
Emporia State University
Gallaudet University
Kansas City Art Institute
Kansas State University
MidAmerica Nazarene College
Ottawa University
Park College
Pittsburg State University
Rockhurst College
Southwest Missouri State University
St. Mary College
University of Kansas
University of Missouri–Columbia
University of Missouri–Kansas City
University of Missouri–Rolla
Washburn University
Webster University
Wichita State University
William Jewell College

Since the four-year schools occasionally change degree requirements, you are encouraged to check for updates periodically in the Counseling Center. You should realize that not all majors are available at all colleges.

Transfer Information

The JCCC Counseling Center is your resource if you are planning to transfer. Counselors are available to work with you in planning your academic program and assisting you in making decisions for a successful transfer. You can find the following information in the Counseling Center:

- Transfer programs for different majors at area colleges – you should check these sheets periodically for updates
- General information about tuition, financial aid and housing
- Course equivalencies between some four-year colleges and JCCC
- University and college catalogs
- Admissions guides
- Applications to some four-year colleges
- Undergraduate and graduate studies guides
- Financial aid and scholarship catalogs
- Transfer information bulletin board
- Dates of visits from college admissions representatives
- Dates of visits for JCCC transfer students to four-year colleges
- Transfer scholarships available for JCCC students

Career Programs

JCCC's career programs provide the opportunity for you to study specific careers and enter the job market directly.

Each program has been designed with the assistance of a community advisory committee of men and women currently working in the field who are well aware of the requirements – and job potential – in today's market.

Although career curricula usually are not intended to be transfer programs, some of the courses will transfer to four-year colleges and universities. Specific information on course transferability can be found in the Counseling Center. Several of the career programs enable you to gain valuable work experience in the community while taking the career program courses.

If you are interested in a career program, you should contact a JCCC counselor for more information. Counselors can assist you with entrance requirements, course selection and sequence and job possibilities. Careful planning and course selection can be just as important in a career program as dedication in the classroom.

Most of JCCC's career programs can be completed in two years or less; however, some may require a longer period of time. The career programs now offered are:

Accounting, A.A.S.
Administration of Justice, A.A.
  Corrections Option*
  Law Enforcement Option
Automotive Technology, A.A.S.
Aviation Maintenance Technology, A.A.S.*
  Airframe Option
  Powerplant Option
Business Administration, A.A.S.
Business Entrepreneurship, A.A.S.
Chef Apprenticeship, A.A.S.
Civil Engineering Technology, A.S.
Commercial Art, A.A.S.
Data Processing, A.A.S.
  Mainframe Programmer/Analyst Option
  Minicomputer Programmer/Analyst Option
  Microcomputer Programmer/Analyst Option
Dental Hygiene, A.S.
Drafting Technology, A.S.
  Civil Option
  Machine Option
Electronics Technology, A.S.
  Communications Option
  General Electronics Option
  Industrial Controls Option
  Medical Electronics Option
  Microcomputer Maintenance Option
Emergency Medical Science, A.S., A.A.S.
Fashion Merchandising, A.A.S.
Fire Services Administration, A.A.
Grounds and Turf Management, A.A.S.*
Health Information Technology, A.A.S.*
Heating, Ventilation and
  Air Conditioning Technology, A.A.S.
Hospitality Management, A.A.S.
Interior Merchandising, A.A.S.
Interpreter Training, A.A.S.
Marketing and Management, A.A.S.
Nursing, A.A., A.S.
Occupational Therapy Assistant, A.A.S.*
Office Systems Technology, A.A.S.
  Administrative Office Management Option
  Legal Office Specialist Option
  Medical Office Specialist Option
Paralegal, A.A.
Physical Therapist Assistant, A.A.S.*
Radiologic Technology, A.A.S.*
Railroad Operations, A.S.
Respiratory Therapy, A.S.
Science Technology, A.S., A.A.S.
  Chemical Specialty Option
Veterinary Technology, A.A.S.*

The degrees obtained in most JCCC career programs are the associate of science and the associate of applied science. An approved associate of science or associate of applied science program is one recommended by the faculty and approved by the board of trustees to meet your educational objectives and needs. The general education distribution requirements for each of these degrees are listed below.

Associate of Science Degree

(available for career programs only)

The 64 hours of credit necessary to complete the associate of science degree shall include the following general education distribution requirements plus the courses listed for the specific career program:

Communications .....6 hours
Social Science and/or Economics.....3 hours
Humanities and/or Arts.....3 hours
Science and Mathematics .....12 hours
Health and/or Physical Education .....1 hour

Specific courses that meet the associate of science degree requirements are:

I. Communications – 6 hours
  A. ENGL 121 Composition I 3
  or
  COM 125 Oral and Written Communications **+ 6
  B. Communications Elective – 3 hours (one of the following)
  ENGL 122 Composition II 3
  ENGL 123 Technical Writing I.....3
  BUS 150 Business Communications 3
  SPD 120 Interpersonal Communications ..3
  SPD 121 Public Speaking.....3
  SPD 125 Personal Communication 3

* Cooperative program
** Satisfies both Composition I and Oral Communication requirements.

II. Humanities and/or Arts – 3 hours
One course from any of the following categories may count toward the three required hours.

A. Literature/Theater
Note: These courses have a prerequisite of ENGL 122.

ENGL	230	Introduction to Fiction	3
ENGL	231	American Prose	3
ENGL	235	Drama as Literature	3
ENGL	241	British Writers	3
ENGL	250	World Masterpieces	3
ENGL	254	Masterpieces of the Cinema	3
ENGL	256	American Poetry	3
THEA	120	Introduction to Theater	3

B. Foreign Language
Note: These courses have prerequisites.

FL	178	Intermediate Russian I	3
FL	179	Intermediate Russian II	3
FL	190	Intermediate Japanese I	3
FL	191	Intermediate Japanese II	3
FL	220	Intermediate German I	3
FL	221	Intermediate German II	3
FL	230	Intermediate Spanish I	3
FL	231	Intermediate Spanish II	3
FL	240	Intermediate French I	3
FL	241	Intermediate French II	3

C. History

HIST	124	Community Life/Values +	3
HIST	125	Western Civilization I	3
HIST	126	Western Civilization II	3
HIST	130	European History from 1750	3
HIST	135	Eastern Civilization	3
HIST	140	U.S. History to 1877	3
HIST	141	U.S. History Since 1877	3
HIST	151	World History I: The Traditional World	3
HIST	152	World History II: The Modern World	3
HIST	160	Modern Russian History	3
HIST	162	Modern Latin America	3

D. Humanities/Arts

ART	180	Introduction to Art History	3
ART	182	Modern Art History	3
HUM	122	Introduction to Humanities	3
HUM	133	Comparative Cultures	3
HUM	136	The Human Experience +	3
HUM	164	Civilisation	3
MUS	121	Introduction to Music Listening	3
MUS	125	Introduction to Jazz Listening	3
PHOT	140	History of Photography	3
PHOT	141	Issues of Contemporary Photography	3

E. Philosophy

PHIL	121	Introduction to Philosophy	3
PHIL	124	Logic and Critical Thinking	3
PHIL	143	Ethics	3
PHIL	154	History of Ancient Philosophy	3
PHIL	165	Philosophy of Current Civilization	3
PHIL	176	Philosophy of Religion	3

III. Social Science and/or Economics – 3 hours
One course from any of the following categories may count toward the three required hours.

A. Anthropology

ANTH	125	Cultural Anthropology	3
ANTH	126	Physical Anthropology	3
ANTH	130	World Cultures	3
ANTH	210	Peoples of the World +	3

B. Economics

ECON	130	Basic Economics	3
ECON	230	Economics I	3
ECON	231	Economics II	3
IDSP	175	Global Resources from Geologic and Economic Viewpoints	3

C. Political Science

POLS	122	Political Science	3
POLS	124	American National Government	3
POLS	126	State and Local Government	3
POLS	130	Political Economics: Power in Society +	3
POLS	132	Introduction to Comparative Government	3
POLS	135	International Relations	3

D. Psychology

PSYC	121	Applied Psychology	3
PSYC	130	Introduction to Psychology	3

E. Sociology

SOC	122	Sociology	3
SOC	125	Social Problems	3
SOC	131	Marriage and the Family	3
SOC	160	Social Power: Motivation and Action +	3

IV. Science and Mathematics – 12 hours
Must include at least one course in mathematics and at least one in a lab science.

A. Mathematics
The mathematics requirement will be satisfied by any mathematics course except Fundamentals of Mathematics and Introduction to Algebra.

B. Science
The laboratory science requirement will be satisfied by any of the following:

1. Life Science

BIOL	122/3	Principles of Biology/Lab	3/1
BIOL	124	Oceanus: The Marine Environment	3

BIOL	125	General Botany	5
BIOL	127	General Zoology	5
BIOL	130/1	Environmental Science/Lab	3/1
BIOL	140	Human Anatomy	4
BIOL	144	Human Anatomy/Physiology	5
BIOL	150	Biology of Organisms	5
BIOL	225	Human Physiology	4
BIOL	230/1	Microbiology/Lab	3/2

2. Physical Science

CHEM	120/1	The World of Chemistry/ Lab	3/1
CHEM	122	Principles of Chemistry	5
CHEM	124/5	General Chemistry I/Lab	4/1
CHEM	131/2	General Chemistry II/Lab	4/1
CHEM	140	Principles of Organic Chemistry	5
CHEM	227	Introduction to Quantitative Analysis	5
IDSP	175	Global Resources from Geologic and Economic Viewpoints (Nonlab science)	3
PSCI	120	Physical Science	4
PSCI	122	Astronomy	4
PSCI	130	General Geology	5
PSCI	132	Historical Geology	5
PSCI	140/1	Physical Geography/Lab	3/2
PHYS	125	Technical Physics I	4
PHYS	126	Technical Physics II	3
PHYS	130	General Physics I	5
PHYS	131	General Physics II	5
PHYS	220	Engineering Physics I	5
PHYS	221	Engineering Physics II	5
SCI	121	Science: A Dynamic Process +	4

Any remaining hours for this requirement beyond the one math and one lab science requirement may be satisfied by taking additional courses from the approved math and lab science courses with the addition of Pathophysiology and General Nutrition or Energy Alternatives (a technology option).

V. Health and/or Physical Education – 1 hour

HPER		Any Activity Course	1
EMS	121	CPR – Basic Rescuer	1
HLT	260	Lifetime Wellness +	3
HMEC	151	Nutrition and Meal Planning	3
HPER	200	First Aid/CPR	2
HPER	202	Personal/Community Health	3
HPER	205	Individual Lifetime Sports	2
HPER	210	Fundamentals of Athletics	2
HPER	240	Lifetime Fitness	1
HPER	255	Introduction to Physical Education	3

+ JCCC Core Curriculum

Additional programs may offer the associate of science degree in the future. You should consult a counselor with questions about degree requirements for particular programs.

Associate of Applied Science Degree

(available for career programs only)

The 64 hours of credit necessary to complete the associate of applied science degree shall include the following general education distribution requirements plus the courses listed for the specific career program:

Communications .....3 hours
Social Science and/or Economics.....3 hours
Humanities and/or Arts.....3 hours
Science and/or Mathematics.....3 hours
Health and/or Physical Education .....1 hour

Specific courses that meet the associate of applied science degree requirements are:

I. Communications – 3 hours

ENGL	121	Composition I	3
	or		
COM	125	Oral and Written Communications *+	6

* Satisfies both the Composition I and Oral Communication requirements.

II. Humanities and/or Arts – 3 hours

One course from any of the following categories may count toward the three required hours.

A. Literature/Theater

Note: These courses have a prerequisite of ENGL 122.

ENGL	230	Introduction to Fiction	3
ENGL	231	American Prose	3
ENGL	235	Drama as Literature	3
ENGL	241	British Writers	3
ENGL	250	World Masterpieces	3
ENGL	254	Masterpieces of the Cinema	3
ENGL	256	American Poetry	3
THEA	120	Introduction to Theater	3

B. Foreign Language

Note: These courses have prerequisites

FL	178	Intermediate Russian I	3
FL	179	Intermediate Russian II	3
FL	190	Intermediate Japanese I	3
FL	191	Intermediate Japanese II	3
FL	220	Intermediate German I	3
FL	221	Intermediate German II	3
FL	230	Intermediate Spanish I	3
FL	231	Intermediate Spanish II	3
FL	240	Intermediate French I	3
FL	241	Intermediate French II	3

C. History

HIST	124	Community Life/Values + ...3
HIST	125	Western Civilization I 3
HIST	126	Western Civilization II 3
HIST	130	European History from 1750.3
HIST	135	Eastern Civilization 3
HIST	140	U.S. History to 1877.....3
HIST	141	U.S. History Since 1877.....3
HIST	151	World History I: The Traditional World.....3
HIST	152	World History II: The Modern World.....3
HIST	160	Modern Russian History.....3
HIST	162	Modern Latin America.....3

D. Humanities/Arts

ART	180	Introduction to Art History..3
ART	182	Modern Art History.....3
HUM	122	Introduction to Humanities .3
HUM	133	Comparative Cultures 3
HUM	136	The Human Experience + ...3
HUM	164	Civilisation 3
MUS	121	Introduction to Music Listening 3
MUS	125	Introduction to Jazz Listening 3
PHOT	140	History of Photography.....3
PHOT	141	Issues of Contemporary Photography.....3

E. Philosophy

PHIL	121	Introduction to Philosophy ..3
PHIL	124	Logic and Critical Thinking.3
PHIL	143	Ethics 3
PHIL	154	History of Ancient Philosophy 3
PHIL	165	Philosophy of Current Civilization 3
PHIL	176	Philosophy of Religion.....3

III. Social Science and/or Economics – 3 hours
One course from any of the following categories may count toward the three required hours.

A. Anthropology

ANTH	125	Cultural Anthropology.....3
ANTH	126	Physical Anthropology 3
ANTH	130	World Cultures 3
ANTH	210	Peoples of the World + ...3

B. Economics

ECON	130	Basic Economics 3
ECON	230	Economics I 3
ECON	231	Economics II 3
IDSP	175	Global Resources from Geologic and Economic Viewpoints 3

C. Political Science

POLS	122	Political Science 3
POLS	124	American National Government.....3
POLS	126	State and Local Government.....3
POLS	130	Political Economics: Power in Society +.....3
POLS	132	Introduction to Comparative Government.....3
POLS	135	International Relations.....3

D. Psychology

PSYC	121	Applied Psychology 3
PSYC	130	Introduction to Psychology ..3

E. Sociology

SOC	122	Sociology.....3
SOC	125	Social Problems.....3
SOC	131	Marriage and the Family.....3
SOC	160	Social Power: Motivation and Action + ...3

IV. Science and Mathematics – 3 hours
Any mathematics course except Fundamentals of Mathematics or Introduction to Algebra will satisfy this requirement, or the requirement can be satisfied by any of the following courses.

A. Life Science

BIOL	122/3	Principles of Biology/Lab ..3/1
BIOL	124	Oceanus: The Marine Environment 3
BIOL	125	General Botany 5
BIOL	127	General Zoology.....5
BIOL	130/1	Environmental Science/ Lab.....3/1
BIOL	140	Human Anatomy 4
BIOL	144	Human Anatomy/ Physiology 5
BIOL	150	Biology of Organisms 5
BIOL	230/1	Microbiology/Lab 3/2

B. Physical Science

CHEM	120/1	The World of Chemistry/ Lab.....3/1
CHEM	122	Principles of Chemistry.....5
CHEM	124/5	General Chemistry I/Lab ..4/1
CHEM	131/2	General Chemistry II/ Lab.....4/1
CHEM	140	Principles of Organic Chemistry.....5
CHEM	227	Introduction to Quantitative Analysis.....5
IDSP	175	Global Resources from Geologic and Economic Viewpoints.....3 (Non-lab science)
PSCI	120	Physical Science.....4
PSCI	122	Astronomy.....4
PSCI	130	General Geology 5

PSCI	132	Historical Geology	5
PSCI	140/1	Physical Geography/Lab	3/2
PHYS	125	Technical Physics I	4
PHYS	126	Technical Physics II	3
PHYS	130	General Physics I	5
PHYS	131	General Physics II	5
PHYS	220	Engineering Physics I	5
PHYS	221	Engineering Physics II	5
SCI	121	Science: A Dynamic Process +	4

V. Health and/or Physical Education – 1 hour

HPER		Any Activity Course	1
EMS	121	CPR I – Basic Rescuer	1
HLT	260	Lifetime Wellness +	3
HMEC	151	Nutrition and Meal Planning	3
HPER	200	First Aid/CPR	2
HPER	202	Personal and Community Health	3
HPER	205	Individual Lifetime Sports	2
HPER	210	Fundamentals of Athletics	2
HPER	240	Lifetime Fitness	1
HPER	255	Introduction to Physical Education	3

+ JCCC Core Curriculum

Certificate of Completion

To earn a certificate of completion at Johnson County Community College, you must have demonstrated the basic skills competencies as outlined. In addition, you must have successfully completed an approved certificate program with a cumulative grade point average of 2.0 or better. You must complete a minimum of 50 percent of the required coursework at JCCC. Exceptions to this policy may be authorized by the dean of student services. All appeals must be in writing. You must be enrolled at the college during the time you anticipate completing certificate requirements. An application to complete certificate requirements must be filed in the Admissions and Records Office by the following dates:

- Nov. 1 for spring graduation
- April 1 for summer and fall graduation

Requests for deadline extensions may be made to the director of admissions and records in the form of a written appeal.

Specific course completion certificates will be awarded as appropriate and as specified in the college catalog.

Approved certificate programs are:

Vocational Certificates

Administrative Support Specialist
Advanced Data Processing
Automotive Technology
Business Entrepreneurship
Business Plan
Construction Management
Electrical Technology
Emergency Medical Technician
Heating, Ventilation and Air Conditioning Technology
Industrial Programmable Controls
Mainframe Programmer/Analyst
Medical Electronics
Microcomputer Networking/Communication Specialist
Microcomputer Programmer/Analyst
Minicomputer Programmer/Analyst
Mobile Intensive Care Technician
Office Automation Skills
Office Automation Technology
Office Careers
Personal Computer Applications Specialist
Railroad Maintenance of Way
Sales and Customer Relations

Postsecondary Certificates

Emergency Services Dispatcher
Heating, Ventilation and Air Conditioning Technology
Hospitality Management
Metal Fabrication Technology
Paralegal Options
Respiratory Therapy

Johnson County Area Vocational Technical School

The Johnson County Area Vocational Technical School maintains educational centers in Olathe and Shawnee Mission and at Johnson County Community College offering vocational training for county residents. Through cooperation and planning, these three centers provide high-school and post-high-school vocational courses and programs to Johnson County residents. For information about Johnson County Area Vocational Technical School courses, program offerings or financial aid, call or write:

Olathe Center
311 E. Park
Olathe, KS 66061
(913) 780-7026

Shawnee Mission Center
6701 W. 83rd St.
Shawnee Mission, KS 66204
(913) 642-3130
Johnson County Community College
12345 College Blvd.
Overland Park, KS 66210-1299
(913) 469-8500

Career and Certificate Programs

Accounting
Administration of Justice/Law Enforcement
Automotive Technology
Aviation Maintenance Technology
Business Administration
Business Entrepreneurship
Chef Apprenticeship
Civil Engineering Technology
Commercial Art
Construction Management
Data Processing
Dental Hygiene
Drafting Technology
Electrical Technology
Electronics Technology
Emergency Medical Science
Fashion Merchandising
Fire Services Administration
Grounds and Turf Management
Health Information Technology
Heating, Ventilation and Air Conditioning Technology
Hospitality Management
Interior Merchandising
Interpreter Training
Marketing and Management
Metal Fabrication
Nursing
Occupational Therapy Assistant
Office Systems Technology
Paralegal
Physical Therapist Assistant
Radiologic Technology
Railroad Maintenance of Way
Railroad Operations
Respiratory Therapy
Science Technology
Veterinary Technology
JCCC/JCAVTS Cooperative Programs

Career Program Descriptions

Career programs are described in detail in this section and in the career brochures available in the Counseling Center. You are encouraged to see a counselor before enrolling.

Accounting

Accounting is a crucial part of every business operation. The job outlook in accounting, according to the U.S. Bureau of Labor Statistics, is better than average. Two-year graduates may find jobs as bookkeepers and accounting clerks.

If you have no plans to transfer to a four-year institution, the associate of applied science degree program is designed for you. The program focuses on practical skills often required for entry-level paraprofessional positions. It features field study courses in which you gain on-the-job experience working in an approved business.

If you are interested in transferring to a four-year institution in an accounting program or beginning the associate of applied science degree program, you should contact a JCCC counselor.

Associate of Applied Science Degree

First Semester			**CR**
ENGL	121	Composition I	3
		Social Science and/or Economics Elective	3
ACCT	121	Accounting I	3
MATH	120	Business Math	3
OST	101	Keyboarding	1
OST	115	Electronic Calculators	1
		Business Electives	3
		TOTAL CREDIT HOURS	17

Second Semester			
ACCT	122	Accounting II	3
BUS	150	Business Communication	3
BUS	261	Business Law I	3
		Business Electives	6
		TOTAL CREDIT HOURS	15

Third Semester			
ACCT	231	Intermediate Accounting I	3
		or	
ACCT	222	Managerial Accounting	3
CPCA	105	Introduction to Personal Computing	1
ACCT	278	Accounting Internship I	1
BUS	225	Human Relations	3
CPCA	110	Spreadsheets on Microcomputers I	1
PHIL	138	Business Ethics	1
HIST	141	U.S. History Since 1877	3
		Business Electives	2
		TOTAL CREDIT HOURS	15

Fourth Semester			
		Health and/or Physical Education Elective	1
ACCT	221	Cost Accounting	3
		or	
ACCT	232	Intermediate Accounting II	3
		or	
ACCT	115	Accounting for Nonprofit Organizations	3
ACCT	131	Federal Income Taxes I	3
ACCT	135	Computerized Accounting	3
ACCT	274	Field Study: Accounting Seminar	3
CPCA	114	Databases on Microcomputers I	1
		Business Electives	3
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	64

Note: Business electives are any course with the "BUS" prefix.

Administration of Justice/ Law Enforcement

More than 1 million people are employed in the administration of justice/law enforcement fields in the United States. Employment opportunities are expected to grow as fast or slightly faster than average for all occupations in the field through the 1990s.

JCCC's Administration of Justice/Law Enforcement Program provides you the opportunity to specialize in law enforcement, corrections or investigations. Successful completion of 64 hours of credit in this two-year program leads to an associate of arts degree. You should contact a counselor when developing a program plan.

Associate of Arts Degree

First Semester			**CR**
ENGL	121	Composition I	3
		Social Science Course *	3
ADMJ	121	Introduction to Administration of Justice ***	3
ADMJ	124	Criminal Justice System	3
ADMJ	127	Criminology	3
		TOTAL CREDIT HOURS	15

Second Semester			
ENGL	122	Composition II	3
		Social Science Course *	3
ADMJ	133	Juvenile Delinquency	3
ADMJ	136	Police and the Public	3
ADMJ	140	Constitutional Case Law ***	3
		TOTAL CREDIT HOURS	15

Third Semester

ADMJ	154	Fundamentals of Criminal Investigation	3
PHIL	143	Ethics	3
ADMJ	141	Criminal Law ***	3
SPD	120	Interpersonal Communication	3
		Science and/or Mathematics Elective **	6
		TOTAL CREDIT HOURS	18

Fourth Semester

		Humanities Course (Cannot be a philosophy course)	3
		Science and/or Mathematics Elective **	3
		Health and/or Physical Education Elective	1
ADMJ		Program Electives	9
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

Required Program Electives

(9 hours – any three courses)

ADMJ	130	Crime Prevention	3
ADMJ	145	Fundamentals of Private Security	3
ADMJ	146	Retail Security	3
ADMJ	148	Family Violence and Sexual Abuse	3
ADMJ	157	Patrol Procedures	3
ADMJ	164	Supervisory Techniques	3
ADMJ	166	Police Organization and Management	3
ADMJ	221	Introduction to Criminalistics	3
ADMJ	225	Defensive Tactics for Police ***	3
ADMJ	281	Readings in Police Science	3

* You must take two courses from the following list, but not more than one course from each group may count toward the required six hours:

Group 1:
American National Government
State and Local Government

Group 2:
Introduction to Psychology

Group 3:
Social Problems or Sociology

** You must complete a minimum of nine hours in math and science. See Associate of Arts general education requirements, page 54, section IV.

*** If you are certified under the Kansas Law Enforcement Training Act, you are eligible to receive assessment of prior learning credit for some or all of these courses.

Correctional Services Option

Offered at Longview Community College

Through a cooperative agreement with Longview Community College, you may take all or some of your nine program elective credits in Correctional Services. The following courses are taught at Longview Community College. You should contact a JCCC counselor for information about enrolling.

KADJ	185	Principles of Correction	3
KADJ	186	Correctional Psychology	3
KADJ	188	Principles of Residential Youth Care	3
KADJ	191	Corrections in the Community	3
KADJ	192	Correctional Administration	3
KADJ	193	Communications and Management Techniques with Children and Youth	3
KADJ	194	Human Services Practicum I	3
KADJ	261	Human Services Practicum II	3

Emergency Services Dispatcher

Postsecondary Certificate

ADMJ	124	Criminal Justice System	3
ADMJ	136	Police and the Public	3
ADMJ	157	Patrol Procedures	3
ADMJ	271	Emergency Dispatcher Field Study	3
ENGL	121	Composition I	3
ENGL	122	Composition II	3
PSYC	130	Introduction to Psychology	3
OST	105	Beginning Typing *	3
OST	125	Intermediate Typing	3
OST	150	Records Management	3
		Math Elective (MATH 115 or higher)	3
		TOTAL CREDIT HOURS	33

* If you can demonstrate a proficiency of 35 w.p.m. corrected, you may substitute another course.

Automotive Technology

Automotive technicians generally begin their careers in service repair shops, with continually expanding industrial and service career advancement opportunities. Technicians work with experienced professionals and have frequent contact with the public. This field requires good mechanical aptitude and manual dexterity skills.

The two-year associate of applied science degree concentrates on a theoretical background in diagnosis and tune-up; chassis, electrical/electronic and hydraulic systems; automatic transmissions; engines; and emissions. You work on developing the skills needed to advance to a supervisory position, including customer relations, estimating materials and labor costs, and managing the work of others.

Associate of Applied Science Degree

First Semester			**CR**
AUTO	125	Introduction to Auto Shop Practices	3
AUTO	160	Auto Engines I	3
MATH	120	Business Math	3

ENGL	121	Composition I	3
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	15

Second Semester

AUTO	163	Auto Align, Brakes and Drivetrain	4
AUTO	157	Auto Carburetion, Diesel and Fuel Injection	4
MFAB	121	Introduction to Welding	3
ENGL	123	Technical Writing I	3
BUS	141	Principles of Management	3
		TOTAL CREDIT HOURS	17

Third Semester

AUTO	250	Auto Transmissions and Transaxles	4
AUTO	222	Auto Starting, Charging and Ignition	3
AUTO	242	Service Management and Techniques I	7
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	17

Fourth Semester

AUTO	230	Auto A/C, Lighting and Power Accessories	4
AUTO	244	Service Management and Techniques II	7
		Health and/or Physical Education Elective	1
		Technical Electives	3-4
		TOTAL CREDIT HOURS	15-16
		TOTAL PROGRAM CREDIT HOURS	64-65

Technical Electives

AUTO	121	Small Engine Service	3
AUTO	271	Auto Technology Internship I	3
AUTO	272	Auto Technology Internship II	3
MATH	133	Technical Math I	4
PHYS	125	Technical Physics I	4

Automotive Technology Vocational Certificate

The Automotive Technology Certificate Program is designed to meet the needs of today's beginning and experienced auto mechanics. With the completion of the certificate program, you will have a well-rounded background in the repair required for dealership service personnel. If you complete the course(s) with a grade of C or higher, you will qualify for one or all eight of the ASE certification tests. Most automotive trades expect applicants to pass one or more of the ASE tests, which will enable them to qualify for technical positions in service repair.

Prior to admission to the Automotive Technology Vocational Certificate Program, you must have had MATH 111 Fundamentals of Math or an appropriate score on the math assessment test and

AUTO	125	Introduction to Auto Shop Practices	3
		or	
		Completion of a basic auto course	
		or	
		One year of basic experience in the automotive field	

Required Courses

AUTO	157	Auto Carburetion, Diesel and Fuel Injection	4
AUTO	160	Automotive Engines I	3
AUTO	163	Automotive Alignment, Brakes and Drivetrain	4
AUTO	222	Auto Starting, Charging and Ignition	3
AUTO	230	Automotive Air Conditioning, Lighting and Power Accessories	4
AUTO	250	Automatic Transmissions and Transaxles	4
MFAB	121	Introduction to Welding	3
		TOTAL CREDIT HOURS	25

Aviation Maintenance Technology

The Aviation Maintenance Technology Program is approved by the Federal Aviation Administration and prepares you to sit for the FAA Airframe Mechanic Examination, the FAA Powerplant Mechanic Examination or both. The program is not intended to prepare you for transfer to a four-year institution.

JCCC's Aviation Maintenance Technology Program is offered in cooperation with Maple Woods Community College. Enrollment in this program is limited; you must apply and be accepted into the program by both JCCC and Maple Woods. There are 1,160 clock hours each for the powerplant and airframe sequences, if taken separately, and 1,920 if both are taken. Completion of either option entitles you to the associate of applied science degree and to sit for the appropriate Federal Aviation Administration Examination.

Because the program content is determined by the FAA, program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Full-time Aviation Maintenance Program

The full-time Aviation Maintenance Program is organized into six 14-week semesters, with three semesters scheduled each year. You should enroll in all of the aviation courses scheduled in each block of courses, as described below. If you are seeking only the powerplant license, the two semesters of airframe will be omitted. In addition, you will be advised when to take KAV 115 English,

which is required for the certificate. If you wish to complete a degree, sections of the appropriate general education requirements will be scheduled and you will be advised accordingly.

Associate of Applied Science Degree

Degree granted by Maple Woods Community College

First Semester **(General Aviation I)**			**CR**
KAV	100	Introduction to Aviation Maintenance I	14
KAV	110	Technical Mathematics/AVMT	4
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	21

Second Semester **(General Aviation II)**			
KAV	111	Introduction to Aviation Maintenance II	4.5
KAV	108	Aircraft Electrical Systems	5.5
KAV	203	Electrical Generator/Alternator	5.5
SPD	121	Public Speaking	3
		TOTAL CREDIT HOURS	18.5

Third Semester **(Airframe I)**			
KAV	102	Wood and Fabric	3
KAV	104	Assembly and Rigging	5
KAV	200	Sheet Metal Structures	4
KAV	202	Fuel and Fire Protection Systems	4
		TOTAL CREDIT HOURS	16

Fourth Semester **(Airframe II)**			
KAV	106	Hydraulic and Pneumatic Systems	7
KAV	204	Communication and Navigation Systems	6
KAV	206	Airframe Inspection and Welding	5.5
		TOTAL CREDIT HOURS	18.5

Fifth Semester **(Powerplant I)**			
KAV	101	Carburetion and Lubrication	7
KAV	103	Aircraft Reciprocating Powerplant	6
KAV	107	Jet Propulsion Powerplant	5
		TOTAL CREDIT HOURS	18

Sixth Semester **(Powerplant II)**			
KAV	105	Propellers	5
KAV	109	Ignition and Starting Systems	6
KAV	201	Powerplant Testing	2.5
KAV	205	Fire Protection Systems	5.5
		American Institutions Option*	3
		TOTAL CREDIT HOURS	22
		TOTAL PROGRAM CREDIT HOURS	114
		TOTAL POWERPLANT CREDIT HOURS	79.5

* All graduates from Maple Woods Community College must meet the American Institutions requirements. See a JCCC counselor about the course.

Part-time Aviation Maintenance Program

The part-time Aviation Maintenance Program is organized into nine 14-week semesters, with three semesters scheduled each year. You should enroll in all of the aviation courses scheduled in each block of courses, as described below. If you are seeking only the powerplant license, the three semesters of airframe will be omitted. In addition, you will be advised when to take KAV 115 English, which is required for the certificate. If you wish to complete a degree, sections of the appropriate general education requirements will be scheduled and you will be advised accordingly.

Associate of Applied Science Degree

Degree granted by Maple Woods Community College

First Semester **(General Aviation I-N)**			**CR**
KAV	100	Introduction to Aviation Maintenance I	14
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	17

Second Semester **(General Aviation II-N)**			
KAV	111	Introduction to Aviation Maintenance II	4.5
KAV	110	Technical Mathematics/AVMT	4
ENGL	101	Composition/Reading I (optional)	3
		TOTAL CREDIT HOURS	11.5

Third Semester **(General Aviation III-N)**			
KAV	108	Aircraft Electrical Systems	5.5
KAV	203	Electrical Generator/Alternator	5.5
SPD	121	Public Speaking	3
		TOTAL CREDIT HOURS	14

Fourth Semester **(Airframe I-N)**			
KAV	200	Sheet Metal Structures	4
KAV	102	Wood and Fabric	3
KAV	202	Fuel and Fire Protection Systems	4
		TOTAL CREDIT HOURS	11

Fifth Semester **(Airframe II-N)**			
KAV	104	Assembly and Rigging	5
KAV	106	Hydraulic and Pneumatic Systems	7
		TOTAL CREDIT HOURS	12

Sixth Semester **(Airframe III-N)**			
KAV	204	Communication and Navigation Systems	6
KAV	206	Airframe Inspection and Welding	5.5
		TOTAL CREDIT HOURS	11.5

Seventh Semester **(Powerplant I-N)**			
KAV	103	Aircraft Reciprocating Powerplant	6
KAV	107	Jet Propulsion Powerplant	5
		TOTAL CREDIT HOURS	11

Eighth Semester **(Powerplant II-N)**			
KAV	101	Carburetion and Lubrication	7
KAV	105	Propellers	5
		TOTAL CREDIT HOURS	12

***Ninth Semester* (Powerplant III-N)**

KAV	109	Ignition and Starting Systems	6
KAV	201	Powerplant Testing	2.5
KAV	205	Fire Protection Systems	5.5
		American Institutions Option*	3
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	117
		TOTAL POWERPLANT CREDIT HOURS	82.5

* All graduates from Maple Woods Community College must meet the American Institutions requirements. See a JCCC counselor about the course.

Biomedical Equipment Technology

(See Electronics Technology, page 79.)

Business Administration

JCCC's Business Administration Career Program offers training in the many skills required to manage a wide variety of businesses.

Focusing on the development of decision-making, organizational and supervisory skills, the program offers professional courses in management, marketing, economics, accounting, human resource management, communications, business law and business data processing. These are combined with a core of basic study courses to ensure that you receive a well-rounded curriculum.

Program graduates have career opportunities in entry-level management and supervisory positions in a wide variety of businesses. Johnson County's continued growth as the business center for the Kansas City area means job opportunities will be available locally.

Associate of Applied Science Degree

First Semester			**CR**
ENGL	121	Composition I	3
MATH	120	Business Math or higher	3
BUS	121	Introduction to Business	3
BUS	225	Human Relations	3
HIST	141	U.S. History Since 1877	3
OST	101	Keyboarding	1
		TOTAL CREDIT HOURS	16

Second Semester

ACCT	121	Accounting I	3
BUS	141	Principles of Management	3
		or	
BUS	145	Small Business Management	3
BUS	150	Business Communications	3
DP	124	Business Data Processing	3
		or	
DP	134	Programming Fundamentals	4
ECON	230	Economics I	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16-17

Third Semester

ACCT	122	Accounting II	3
PHIL	138	Business Ethics	1
ECON	231	Economics II	3
BUS	230	Marketing	3
BUS	261	Business Law I	3
HUM	122	Introduction to Humanities	3
		TOTAL CREDIT HOURS	16

Fourth Semester

ACCT	222	Managerial Accounting	3
BUS	123	Personal Finance	3
		or	
BUS	215	Savings and Investments	3
BUS	263	Business Law II	3
BUS	243	Human Resource Management	3
BIOL	130	Environmental Science	3
		or	
IDSP	175	Global Resources from Geologic and Economic Viewpoints	3
		Elective (if needed)	1
		TOTAL CREDIT HOURS	15/16
		TOTAL PROGRAM CREDIT HOURS	64

Recommended Electives

BUS	120	Management Attitudes and Motivation	3
BUS	235	Introduction to International Business	3
BUS	140	Principles of Supervision	3
BUS	271	Management Seminar	3

Business Entrepreneurship

The small business sector is one of the fastest growing in the nation's economy. With one in eight adults today self-employed, many residents in Johnson County either work for a small business or plan to start their own. JCCC's Business Entrepreneurship Program can help prospective entrepreneurs launch new ventures. If you are an entrepreneur who already has your business established, you can strengthen your managerial and business skills.

You will learn the fundamentals of starting and operating your own business. The program includes basic business skills as well as specific courses in starting and managing a small business. Course work covers preparing a business plan, obtaining financing, planning advertising and sales promotions, marketing a product or service and developing an accurate accounting system.

You also will complete an internship in a small business. You can apply what you learn in the classroom to your job and take your work experiences back to the class-

room for analysis. The program's one-hour mini-courses are ideal if you are already running your own business and want to strengthen your skills.

Associate of Applied Science Degree

First Semester			CR
BUS	121	Introduction to Business	3
ENGL	121	Composition I or higher	3
MATH	120	Business Math or higher	3
PHIL	138	Business Ethics	1
OST	101	Keyboarding	1
BUS	230	Marketing	3
BUS	225	Human Relations	3
		TOTAL CREDIT HOURS	17

Second Semester			
BUS	145	Small Business Management	3
ACCT	111	Small Business Accounting	3
		or	
ACCT	121	Accounting I	3
ECON	130	Basic Economics Issues	3
		or	
ECON	231	Economics II	3
BUS	140	Principles of Supervision	3
BUSE	160	Legal Issues for Small Business	2
MKT	133	Salesmanship	3
		or	
MKT	134	Creative Retail Selling	3
		TOTAL CREDIT HOURS	17

Third Semester			
BUS	150	Business Communications	3
DP	124	Business Data Processing	3
BUSE	180	Seminar: The Small Business Environment	2
BUSE	210	Entrepreneurship Internship I	1
BUSE	131	Financial Management/Small Business	2
		Health and/or Physical Education Elective	1
		Electives	3
		TOTAL CREDIT HOURS	15

Fourth Semester			
BUSE	190	Entrepreneurship Seminar: Small Business Analysis	2
BUSE	215	Entrepreneurship Internship II	1
BUSE	138	Fast TRAC Business Plan	4
HIST	141	U.S. History Since 1877	3
		Humanities and/or Social Science Elective	3
		Electives	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	65

Recommended Electives

BUS	120	Management Attitudes and Motivation	3
BUS	123	Personal Finance	3
BUS	235	Introduction to International Business	3
BUS	141	Principles of Management	3
BUS	243	Human Resource Management	3
BUS	261	Business Law I	3
BUS	263	Business Law II	3
FASH	132	Marketing Communications	3
FASH	231	Merchandising Planning and Control	3
HMGT	121	Hospitality Management Fundamentals	3
MKT	121	Retailing	3
SPD	120	Interpersonal Communications	3
SPD	121	Public Speaking	3

Business Entrepreneurship Vocational Certificate Program

Students in the Business Entrepreneurship certificate programs learn the fundamentals of starting and operating their own businesses. These certificates include courses in starting and managing a small business. Coursework includes preparing a business plan, obtaining financing, financial management, marketing research, marketing a product or service and developing an accurate accounting system.

First Semester			CR
ACCT	111	Small Business Accounting	3
		or	
ACCT	121	Accounting I	3
BUS	230	Marketing	3
BUSE	160	Legal Issues for Small Businesses	2
DP	124	Business Data Processing*	3
MATH	120	Business Math	3
		TOTAL CREDIT HOURS	14

* These courses may be substituted for DP 124:

CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1

Second Semester			
BUS	145	Small Business Management	3
BUSE	131	Financial Management/Small Business	2
BUSE	190	Entrepreneurship Seminar: Small Business Analysis	2
BUSE	210	Entrepreneurship Internship I	1
		or	
BUSE	211	Entrepreneurship Internship II	1
BUSE	138	Fast TRAC Business Plan	4
MKT	133	Salesmanship	3
		or	
MKT	134	Creative Retail Selling	3
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	29

The Business Plan Vocational Certificate Program

The Business Plan Vocational Certificate Program focuses on business startup and concludes with writing a business plan. The program also includes additional business skills needed to manage a successful entrepreneurial enterprise.

BUSE	138	Fast TRAC Business Plan	4
		TOTAL PROGRAM CREDIT HOURS	4

Chef Apprenticeship

The Chef Apprenticeship Program at the college is sponsored by the American Culinary Federation and the U.S. Department of Labor. The three-year program has special admission requirements. You must be 18 years old and have a high school diploma or the equivalent. You must successfully complete all entry-level examinations as prescribed by the Apprenticeship Committee of the American Culinary Federation Education Institute. Special consideration will be given if you have had food-service training in high school or on-the-job training.

The career program features formal coursework along with the opportunity to actually practice such skills as baking, menu planning, food purchasing, beverage control and food preparation. After job placement, you may apply to join the American Culinary Federation Educational Institute for registered apprentice membership. Likewise, you may register with the Department of Labor, and you will be officially indentured to supervising chefs and the sponsoring American Culinary Federation affiliate chapter for 6,000 hours. The program consists of 70 credit hours and leads to an associate of applied science degree.

Associate of Applied Science Degree

First Semester			**CR**
HMGT	121	Hospitality Management Fundamentals	3
HMGT	123	Basic Food Preparation	3
MATH	120	Business Math	3
HMGT	281	Culinary Practicum I	2
		TOTAL CREDIT HOURS	11

Second Semester			
HMGT	273	Seminar: Accounting	3
HMGT	230	Intermediate Food Preparation	3
HMEC	151	Nutrition and Meal Planning	3
HMGT	282	Culinary Practicum II	2
		TOTAL CREDIT HOURS	11

Summer			
HMGT	275	Seminar: Internship	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	6

Third Semester			
HMGT	277	Seminar: Menu Planning and Sales Promotion	3
HMGT	223	Fundamentals of Baking	3
ENGL	121	Composition I	3
HMGT	285	Culinary Practicum III	2
		TOTAL CREDIT HOURS	11

Fourth Semester			
HMGT	231	Advanced Food Preparation	4
HMGT	279	Beverage Control	3
		Social Science and/or Economics Elective	3
HMGT	286	Culinary Practicum IV	2
		TOTAL CREDIT HOURS	12

Fifth Semester			
HMGT	226	Food Specialties – Garde-manger	3
HMGT	271	Seminar: Purchasing	3
HMGT	287	Culinary Practicum V	2
		TOTAL CREDIT HOURS	8

Sixth Semester			
HMGT	128	Supervisory Management	3
HMGT	228	Advanced Hospitality Management	3
		Oral Communication Elective*	3
HMGT	288	Culinary Practicum VI	2
		TOTAL CREDIT HOURS	11
		TOTAL PROGRAM CREDIT HOURS	70

* Oral Communication electives are any courses with the "SPD" prefix.

Civil Engineering Technology

A civil engineering technician has the responsibility of maintaining communications between engineers and draftsmen. These technicians apply theory and practical application in planning, designing, constructing, inspecting and maintaining structures such as bridges, treatment plants and roadways. Employment growth in this occupation is predicted to be much faster than average in the next 10 years.

JCCC's Civil Engineering Technology Program offers a broad base of learning experiences in mathematics, physical science, surveying and graphics. The program will qualify graduates for a variety of entry-level positions in the field and will provide preparation for the individual certification examination of the National Institute for Certification in Engineering Technology. Successful completion of 65 hours from the civil engineering technology curriculum will lead to an associate of science degree.

Associate of Science Degree

First semester			CR
DRAF	129	Interpreting Architectural Drawings	2
ENGR	131	Engineering Graphics I	4
MATH	133	Technical Mathematics I	4
ENGL	121	Composition I	3
CET	105	Construction Methods	3
		Computer Elective from approved list	3
		TOTAL CREDIT HOURS	19

Second Semester			
DRAF	180	Structural Drafting	3
DRAF	225	Civil Drafting	3
MATH	134	Technical Math II	5
ENGL	123	Technical Writing I	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15

Third Semester			
CET	127	Building Construction Estimating	3
ENGR	180	Engineering Land Surveying	3
PHYS	125	Technical Physics I	4
CET	211	Technical Statics and Mechanics	3
CET	140	Civil Engineering Materials	3
		TOTAL CREDIT HOURS	16

Fourth Semester			
CET	258	Structural Design	3
CET	270	Fluid Mechanics	3
		Humanities and/or Art Elective	3
		Social Science and/or Economics Elective	3
		Technical Electives from approved list	3
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	65

Approved Computer Electives

CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
CPCA	114	Databases on Microcomputers I	1
CPCA	135	PC DOS	1
CS	200	Concepts of Programming Algorithms	4
DP	132	BASIC for Engineering Technology	3
DP	134	Programming Fundamentals	4
ENGR	171	Programming for Engineering and Science	3

Approved Technical Electives

BIOL	130/1	Environmental Science/Lab	3/1
CET	129	Construction Management	3
DRAF	138	Technical Drafting	4
DRAF	160	Process Piping	3
DRAF	231	Computer-aided Drafting 3-D	3
DRAF	232	Computer-aided Drafting Applications	3
MATH	241	Analytic Geometry – Calculus I	5
PSCI	140/1	Physical Georgraphy/Lab	3/2
PSCI	130	General Geology	5

Construction Management Vocational Certificate

The construction management certificate is a two-semester program designed to address the management training needs of supervisors in the construction industry. Necessary management skills include construction methods, estimating and management; personnel supervision; business management; and financial and data management. Construction management practices are directed toward those enountered by small- to medium-sized contractors.

First Semester			CR
DRAF	129	Interpreting Architectural Drawings	2
CET	105	Construction Methods	3
ACCT	111	Small Business Accounting	3
		or	
ACCT	121	Accounting I	3
BUS	140	Principles of Supervision	3
MATH	120	Business Math or higher	3
		TOTAL CREDIT HOURS	14

Second Semester			
CET	127	Building Construction Estimating	3
CET	129	Construction Management	3
		Management Electives	6
		Computer Electives	3
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	29

Approved Management Electives

BUS	123	Personal Finance	3
BUS	141	Principles of Management	3
BUS	145	Small Business Management	3
BUS	243	Personnel Management	3
BUS	261	Business Law I	3
BUSE	131	Financial Management/Small Business	2
BUSE	160	Legal Issues for Small Business	2

Approved Computer Electives

CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
CPCA	114	Databases on Microcomputers I	1
CPCA	125	PC DOS	1
DP	124	Business Data Processing	3

Commercial Art

The commercial art field is highly competitive for both salaried and freelance positions. There is a demand for artists with above-average talents and graphic art skills. Opportunities in the field range from entry-level paste-up and layout to director-level positions.

Demonstrated abilities are often the key to obtaining a commercial art position. JCCC has structured its Commercial Art Program to help you develop a comprehensive portfolio. Your work will be critiqued by a team of professionals. These professionals working in the field, along with full-time faculty, will help develop your skills in creative problem solving and the use of processes, materials, tools and equipment. Outstanding studio facilities are available for class projects. The two-year curriculum consisting of 66 credit hours leads to an associate of applied science degree.

Associate of Applied Science Degree

First Semester			**CR**
ART	124	Design 2-D	3
ART	129	Design Color	3
CA	130	Representational Drawing I	3
PHOT	121	Fundamentals of Photography	3
CA	132	Typography	3
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	18
Second Semester			
CA	131	Representational Drawing II	3
ART	127	Design 3-D	3
CA	134	Layout I	3
CA	140	Graphic Processes	3
CPCA	105	Introduction to Personal Computing – Mac	1
CPCA	155	Desktop Publishing I – Mac	1
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	17
Third Semester			
PHOT	123	Commercial Photography	3
CA	230	Illustration Techniques	3
CA	231	Layout II	3
CA	235	Production Art I	3
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	15
Fourth Semester			
CA	244	Visual Communications	3
CA	236	Production Art II	3
		Health and/or Physical Education Elective	1
		Science and/or Math Elective	3
CA	245	Graphic Design	3
CA	272	Professional Preparation **	3
		or	
		Studio Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	66

** Application to the Faculty Review Committee is necessary for acceptance into this course.

Part-time Students

If you wish to enroll on a part-time basis, (fewer than 12 hours), you should enroll in the following courses in the sequence listed or consult the program director or a JCCC counselor.

ENGL	121	Composition I	3
ART	124	Design 2-D	3
ART	129	Design Color	3
ART	127	Design 3-D	3
CPCA	105	Introduction to Personal Computing – Mac	1
CPCA	155	Desktop Publishing I – Mac	1
CA	132	Typography	3
CA	130	Representational Drawing I	3
PHOT	121	Fundamentals of Photography	3
CA	131	Representational Drawing II	3
CA	134	Layout I	3
CA	140	Graphic Processes	3
CA	230	Illustration Techniques	3
CA	231	Layout II	3
PHOT	123	Commercial Photography	3
CA	235	Production Art I	3
CA	244	Visual Communications	3
CA	236	Production Art II	3
CA	245	Graphic Design	3
CA	272	Professional Preparation **	3
		or	
		Studio Elective	3
		Humanities Elective	3
		Economics and/or Social Science Elective	3
		Science or Math Elective	3
		Health and/or Physical Education Elective	1
		TOTAL PROGRAM CREDIT HOURS	66

** Application to the Faculty Review Committee is necessary for acceptance into this course.

Computer Systems Technology

(See Electronics Technology, page 79.)

Construction Management

(See Civil Engineering Technology, page 70.)

Data Processing

Employment opportunities for programmer analysts will continue to grow as the need for sophisticated information systems increases in the business environment. Increased demand will focus on the areas of client/server and open-system computing architectures. The need for individuals with network management and application programming skills will also continue to increase.

JCCC's Data Processing Program focuses on the skills needed for entry-level programmer analysts and related positions. The associate of applied science degree in data processing is segmented into mainframe, minicomputer and microcomputer options in the recognition of the higher degree of specialization needed to function in each of these environments. The emphasis on practical experience and the specific courses will upgrade and broaden your knowledge even if you are already working in the data processing field. The associate of applied science degree is awarded for successful completion of one of the three 64-credit-hour options.

Associate of Applied Science Degree

Mainframe Programmer/Analyst Option

Prior to admission to the Data Processing for the Mainframe Programmer/ Analyst Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP	134	Programming Fundamentals	4

First Semester			**CR**
DP	148	COBOL I	4
DP	140	Editor for COBOL	1
ACCT	121	Accounting I	3
ENGL	121	Composition I	3
MATH	116	Intermediate Algebra	3
		or	
MATH	171	College Algebra	3
		or	
		Any Calculus course	3
		Humanities and/or Arts Elective	3
		TOTAL CREDIT HOURS	17

Second Semester

DP	248	COBOL II	4
CS	210	Discrete Structures I	3
		General DP/CS/CPCA Elective	4
SPD	125	Personal Communication	3
		or	
SPD	128	Business and Professional Speech	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15

Third Semester

DP	253	Customer Information Control System Command Level COBOL	4
DP	150	Assembler Language I	4
		Social Science and/or Economics Elective	3
DP	242	Introduction to System Design and Analysis	3
		General DP/CS/CPCA Elective	1
		TOTAL CREDIT HOURS	15

Fourth Semester

DP	258	Operating Systems	3
DP	264	Application Development and Programming	4
DP	260	Database Management	4
		Approved Business/Accounting Elective	3
		General DP/CS Elective	3
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	64

Nine hours of DP/CS/CPCA electives and three hours of Business/Accounting electives are to be selected from the following lists:

General DP/CS/CPCA Electives

CS	200	Concepts of Programming Algorithms	4
CS	211	Discrete Structures II	3
CS	250	Basic Programming Structures	4
CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	138	Windows for Micros	1
CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1
CPCA	173	Local Area Network Applications	1
DP	157	RPG III Beginning	4
DP	174	Teleprocessing	3
DP	204	UNIX Operating System	3
DP	215	OS/VS Job Control Language	3
DP	235	Introduction to Object-oriented Programming	4
DP	236	Advanced C Applications II	4
DP	243	Systems Analysis and Design Using CASE	4
DP	250	Assembler Language II	4
DP	257	RPG III Advanced	4
DP	267	Advanced CICS	5
DP	270	Data Processing Internship	1

Approved Business/Accounting Electives

ACCT	122	Accounting II	3
ACCT	201	Computerized Accounting Applications	3
ACCT	222	Managerial Accounting	3
BUS	121	Introduction to Business	3
BUS	141	Principles of Management	3

Associate of Applied Science Degree

Minicomputer Programmer/Analyst Option

Prior to admission to the Data Processing for the Minicomputer Programmer/ Analyst Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP	134	Programming Fundamentals	4

First Semester			**CR**
DP	157	RPG III Beginning	4
DP	140	Editor for AS/400	1
ACCT	121	Accounting I	3
ENGL	121	Composition I	3
MATH	116	Intermediate Algebra	3
		or	
MATH	171	College Algebra	3
		or	
		Any Calculus course	3
		Humanities and/or Arts Elective	3
		TOTAL CREDIT HOURS	17

Second Semester			
DP	257	RPG III Advanced	4
CS	210	Discrete Structures I	3
CS	200	Concepts of Programming Algorithms Using C	4
SPD	125	Personal Communications	3
		or	
SPD	128	Business and Professional Speech	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15

Third Semester			
DP	178	AS/400 CL Programming	4
DP	180	AS/400 Utilities	4
DP	242	Introduction to System Design and Analysis	3
		Social Science and/or Economics Elective	3
		General DP/CS Elective	2
		TOTAL CREDIT HOURS	16

Fourth Semester			
DP	204	UNIX Operating System	3
DP	264	Application Development and Programming	4
		Approved Business/Accounting Elective	2
		General DP/CS/CPCA Elective	3
DP	260	Database Management	4
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

Five hours of DP/CS electives and three hours of Business/Accounting electives are to be selected from the following lists:

General DP/CS/CPCA Electives

CS	211	Discrete Structures II	3
CS	250	Basic Programming Structures	4
CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	138	Windows for Micros	1
CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1
CPCA	173	Local Area Network Applications	1
DP	148	COBOL I	4
DP	174	Teleprocessing	3
DP	230	Data Communications for Microcomputers	3
DP	232	Local Area Network Systems	3
DP	235	Introduction to Object-oriented Programming	4
DP	236	Advanced C Applications II	4
DP	243	Systems Analysis and Design Using CASE	4
DP	248	COBOL II	4
DP	258	Operating Systems	3
DP	270	Data Processing Internship	1

Approved Business/Accounting Electives

ACCT	122	Accounting II	3
ACCT	201	Computerized Accounting Applications	3
ACCT	222	Managerial Accounting	3
BUS	121	Introduction to Business	3
BUS	141	Principles of Management	3

Associate of Applied Science Degree

Microcomputer Programmer/Analyst Option

Prior to admission to the Data Processing for the Microcomputer Programmer/ Analyst Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP	134	Programming Fundamentals	4

First Semester			**CR**
CS	200	Concepts of Programming Algorithms Using C	4
ACCT	121	Accounting I	3
ENGL	121	Composition I	3
MATH	116	Intermediate Algebra	3
		or	
MATH	171	College Algebra	3
		or	
		Any Calculus course	3
ELEC	124	Microcomputer Hardware	3
		TOTAL CREDIT HOURS	16

Second Semester

CS	250	Basic Programming Structures Using C	4
CS	210	Discrete Structures I	3
SPD	125	Personal Communication	3
		or	
SPD	128	Business and Professional Speech	3
		Humanities and/or Arts Elective	3
		Operating Systems Elective	3
		TOTAL CREDIT HOURS	16

Third Semester

		Social Science and/or Economics Elective	3
DP	235	Introduction to Object-oriented Programming	4
DP	162	dBase Programming/Microcomputers	4
DP	242	Introduction to System Analysis and Design	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15

Fourth Semester

		Local Area Network/Communications Elective	3
DP	145	Assembler Language for Microcomputers	4
DP	264	Application Development and Programming	4
		General DP/CS Electives	6
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	64

Seven hours of DP/CS electives, three hours of Operating Systems electives and three hours of Local Area Network/Communications electives are to be selected from the following lists:

General DP/CS Electives

CS	180	Introduction to Artificial Intelligence	3
CS	211	Discrete Structures II	3
DP	236	Advanced C Applications II	4
DP	243	Systems Analysis and Design Using CASE	4
DP	270	Data Processing Internship	1

Operating Systems Electives

CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	138	Windows for Micros	1
DP	204	UNIX Operating System	3
DP	258	Operating Systems	3

Local Area Network/Communications Electives

CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1
CPCA	173	Local Area Network Applications	1
DP	230	Data Communications/Micros	3
DP	232	Local Area Network Systems	3

Data Processing Vocational Certificates

JCCC's Data Processing Vocational Certificate program makes it possible for the student who already has a college degree to obtain certification in the data processing field in preparation for a career transition. The following certificates consist of the core data processing courses found in each of the three associate of applied science degree options. Additionally, a vocational certificate is offered for Microcomputer Networking/Communication Specialist.

Mainframe Programmer/Analyst Vocational Certificate

Prior to admission in the Mainframe Programmer/Analyst Vocational Certificate Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP	134	Programming Fundamentals	4

Required Courses

First Semester			**CR**
DP	140	Editor for COBOL	1
DP	148	COBOL I	4
		TOTAL CREDIT HOURS	5

Second Semester

DP	150	Assembler Language I	4
DP	242	Introduction to System Design and Analysis	3
DP	248	COBOL II	4
		TOTAL CREDIT HOURS	11

Third Semester

DP	258	Operating Systems	3
DP	253	Customer Information Control System Command Level COBOL	4
DP	260	Database Management	4
		TOTAL CREDIT HOURS	11
		TOTAL PROGRAM CREDIT HOURS	27

Minicomputer Programmer/Analyst Vocational Certificate

Prior to admission in the Minicomputer Programmer/ Analyst Vocational Certificate Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP 134 Programming Fundamentals.....4

Required Courses

First Semester			**CR**
DP	140	Editor for RPG	1
DP	157	RPG III Beginning	4
		or	
CS	200	Concepts of Programming Algorithms Using C	4
		TOTAL CREDIT HOURS	5

Second Semester			
DP	178	AS/400 CL Programming	4
		or	
CS	250	Basic Programming Structures Using C	4
DP	242	Introduction to System Design and Analysis	3
DP	257	RPG III Advanced	4
		or	
DP	230	Data Communications/Microcomputer	3
		TOTAL CREDIT HOURS	10-11

Third Semester			
DP	180	AS/400 Utilities	4
		or	
DP	204	UNIX Operating Systems	3
DP	260	Database Management	4
		TOTAL CREDIT HOURS	7-8
		TOTAL PROGRAM CREDIT HOURS	22-24

Microcomputer Programmer/Analyst Vocational Certificate

Prior to admission in the Microcomputer Programmer/ Analyst Vocational Certificate Program, the student must take the following prerequisite or have taken an equivalent transfer course:

DP 134 Programming Fundamentals.....4

Required Courses

First Semester			**CR**
ELEC	124	Microcomputer Hardware	3
CS	200	Concepts of Programming Algorithms Using C	4
DP	145	Assembler Language for Microcomputers	4
DP	162	dBase Programming	4
		TOTAL CREDIT HOURS	15

Second Semester			
CS	250	Basic Programming Structures Using C	4
DP	242	Introduction to System Design and Analysis	3
		Operating Systems Elective	3
		Local Area Network/Communications Elective	3
		TOTAL CREDIT HOURS	13
		TOTAL PROGRAM CREDIT HOURS	28

Operating Systems Electives

CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	138	Windows for Micros	1
DP	204	UNIX Operating System	3

Local Area Network/Communications Electives

CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1
CPCA	173	Local Area Network Applications	1
DP	230	Data Communications for Microcomputers	3
DP	232	Local Area Network Systems	3

Microcomputer Networking/Communication Specialist Vocational Certificate

Prior to admission in the Microcomputer Networking/ Communication Specialist Vocational Certificate Program, the student must take the following prerequisites or have taken equivalent transfer courses:

DP 134 Programming Fundamentals.....4
CPCA 135 PC DOS.....1

Required Courses

First Semester			**CR**
CS	200	Concepts of Programming Algorithms Using C	4
ELEC	150	Introduction to Telecommunications	4
CPCA	138	Windows for Micros	1
DP	230	Datacommunications for Microcomputers	3
		TOTAL CREDIT HOURS	12

Second Semester			
ELEC	124	Microcomputer Hardware	3
DP	232	Local Area Network Systems	3
		or the following three courses:	
CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
DP	204	UNIX Operating System	3

CPCA 137 PC DOS Intermediate 1
CPCA 170 Local Area Network Administration 1
CPCA 173 Local Area Network Applications 1
TOTAL CREDIT HOURS 12
TOTAL PROGRAM CREDIT HOURS.....24

Personal Computer Applications Specialist Vocational Certificate Program

Individuals with or without a college degree whose goal is to acquire or improve their personal computer application skills will accomplish their goals in this program. Emphasis is on acquiring results-oriented career business and industry skills. The program is intended for those seeking entry-level positions as well as those currently employed who desire to enhance their job skills. It provides employers and current or prospective employees with tangible evidence of computer competency. Application courses for the certificate are based on either the Windows or Macintosh graphical user interface (GUI) environments or the basic DOS environment, depending on the needs of the student.

Required Courses

First Semester **CR**

CPCA 128 Integrated Applications I 3
or the following four courses
CPCA 105 Introduction to Personal Computing 1
CPCA 108 Word Processing on Micros I 1
CPCA 110 Spreadsheet on Micros I.....1
CPCA 114 Database on Micros I.....1

Second Semester (may be taken during the first semester if schedule allows)

CPCA 112 PC Communications 1
CPCA 123 Presentation Graphics 1
TOTAL CREDIT HOURS 5-6

Advanced Data Processing Vocational Certificate

Students in the Advanced Data Processing Certificate Program learn a broad range of skills applicable to the current job market. The program is designed to meet the needs of professionals seeking to enhance their expertise and workers who have been out of the field and who plan to return to a data processing position. Emphasis is placed on keeping the program current with changes in the field.

Prerequisite

Proficiency with computers is required before starting this program. You must complete the following courses or equivalent work experience before enrolling in the certificate program.

DP 134 Programming Fundamentals.....4
DP 148 COBOL I.....4
DP 248 COBOL II.....4
DP 150 Assembler Language I.....4
or
CS 200 Concepts of Programming Algorithms ...4

Required Courses

Four of the following courses, one of which must be a language course, must be completed:

DP 174 Teleprocessing.....3
DP 235 Introduction to Object-oriented Programming 4
DP 242 Introduction to System Design and Analysis .3
DP 250 Assembly Language II.....4
DP 253 Customer Information Control System Command Level COBOL.....4
DP 258 Operating Systems.....3
DP 260 Database Management 4
DP 267 Advanced CICS 5
TOTAL PROGRAM CREDIT HOURS 13-17

Dental Hygiene

The dental hygienist is a preventive health professional, a member of the dental health team, and is qualified to provide services needed to obtain and maintain total wellness. These preventive services are provided in a variety of health care settings: hospitals, school systems, specialized institutions and private dental offices.

A growing concern for oral health and the availability of prepaid dental plans are generating an increased demand for dental care. That makes the employment outlook for dental hygienists better than average for the next several years. Dental hygienists earn a competitive salary and enjoy flexible work hours.

A preventive professional may function in many roles. These include working in a school system as a preventive educator, conducting oral screening in nursing homes, writing textbooks, working in sales for dental suppliers or providing preventive services in a private dental office.

As a JCCC dental hygiene student, you gain valuable practical experience in the college's dental hygiene clinic located on campus. You work under the supervision of a licensed dentist and registered dental hygienists, developing efficiency in preventive dental hygiene techniques.

This challenging program is demanding and rewarding and requires full-time involvement. Enrollment in this program is limited; the deadline for fall semester applications is Feb. 1. If you are interested, contact the Admissions and Records Office for an application packet, which includes deadlines, admission requirements and options for meeting academic criteria.

The Dental Hygiene Program at JCCC is committed to quality education. Fully accredited by the American

Dental Association's Commission on Dental Accreditation and designed with the assistance of a community advisory committee, the program comprises five semesters and a summer session, totaling 80 credit hours, leading to an associate of science degree.

Associate of Science Degree

Summer			**CR**
Before beginning clinical courses			
CHEM	122	Principles of Chemistry	5
ENGL	121	Composition I	3
SOC	122	Sociology	3
		TOTAL CREDIT HOURS	11
First Semester			
DHYG	121	Clinical Dental Hygiene I	6
BIOL	146	General/Head and Neck Anatomy	4
DHYG	125	Developmental Dentistry	2
PSYC	130	Introduction to Psychology	3
		TOTAL CREDIT HOURS	15
Second Semester			
DHYG	140	Clinical Dental Hygiene II	5
DHYG	142	Dental Radiology	2
BIOL	225	Human Physiology	4
BIOL	230	Microbiology	3
DHYG	146	Periodontics	2
DHYG	148	Dental Health Education	1
		TOTAL CREDIT HOURS	17
Summer			
BIOL	235	General Nutrition	3
		Humanities and/or Art Elective	3
		Mathematics Elective (MATH 116 or higher)	3
		TOTAL CREDIT HOURS	9
Third Semester			
DHYG	221	Clinical Dental Hygiene III	7
DHYG	225	Pathology/Periodontology	3
DHYG	230	Dental Therapeutics	3
DHYG	235	Dental Materials	2
DHYG	240	Community Dental Health	2
		TOTAL CREDIT HOURS	17
Fourth Semester			
DHYG	250	Clinical Dental Hygiene IV	7
SPD	120	Interpersonal Communication	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	11
		TOTAL PROGRAM CREDIT HOURS	80

Drafting Technology

Drafting technicians are engineering communication specialists who apply mathematics, computer applications and manual skills to develop specifications and drawings for the manufacture and construction of virtually everything made in industry.

JCCC's two-year curriculum enables students to use the latest computer-aided design (CAD) equipment. Students choose one of two options: the civil option or the machine option.

A technician in the civil option does detailed drawings, land plats and erection drawings for civil engineering projects and designs for commercial buildings and site construction. An associate of science degree is awarded upon successful completion of 65 credit hours.

A technician in the machine option produces detailed drawings and designs of components, assemblies and systems used in manufacturing products. An associate of science degree is awarded upon the successful completion of 66 credit hours.

Prequisites

Before admission to the associate of science degree program in drafting technology, the student must satisfy the following prerequisites.

DRAF	120	Introduction to Drafting	2
OST	101	Keyboarding	1

Associate of Science Degree
Civil Option

First Semester			
DRAF	124	Technical Drafting	4
DRAF	130	Introduction to CAD Concepts	3
CPCA	105	Introduction to Personal Computing	1
CPCA	135	PC DOS	1
ENGL	121	Composition I	3
MATH	133	Technical Mathematics I	4
		CPCA Elective	1
		TOTAL CREDIT HOURS	17
Second Semester			
DRAF	129	Interpreting Architectural Drawings	2
DRAF	230	Intermediate CAD 2-D	3
CET	105	Construction Methods	3
ENGL	123	Technical Writing I	3
MATH	134	Technical Math II	5
		TOTAL CREDIT HOURS	16
Third Semester			
DRAF	225	Civil Drafting	3
DRAF	231	Computer-aided Drafting 3-D	3
CET	211	Technical Statics and Mechanics	3
PHYS	125	Technical Physics I	4

Technical Elective 3
TOTAL CREDIT HOURS 16

Fourth Semester

DRAF 150 Electrical Drafting.....3
DRAF 180 Structural Drafting.....3
Social Science and/or Economics elective 3
Humanities and/or Art elective.....3
Health and/or Physical Education elective.....1
Technical Elective 3
TOTAL CREDIT HOURS 16
TOTAL PROGRAM CREDIT HOURS.....65

Associate of Science Degree

Machine Option

First Semester **CR**

DRAF 124 Technical Drafting.....4
DRAF 130 Introduction to CAD Concepts.....3
CPCA 105 Introduction to Personal Computing.....1
CPCA 135 PC DOS.....1
ENGL 121 Composition I.....3
MATH 133 Technical Mathematics I.....4
CPCA Elective.....1
TOTAL CREDIT HOURS 17

Second Semester

DRAF 230 Intermediate CAD 2-D 3
MFAB 152 Manufacturing Materials and Processes ..3
ENGL 123 Technical Writing I 3
MATH 134 Technical Math II.....5
Technical Elective.....3
TOTAL CREDIT HOURS 17

Third Semester

DRAF 222 Mechanical Drafting 3
DRAF 231 Computer-aided Drafting 3-D 3
CET 211 Technical Statics and Mechanics.....3
PHYS 125 Technical Physics I 4
Social Science and/or Economics elective.....3
TOTAL CREDIT HOURS 16

Fourth Semester

DRAF 150 Electrical Drafting 3
DRAF 180 Structural Drafting 3
DRAF 228 Industrial Design Applications.....4
Humanities and/or Art elective 3
Health and/or Physical Education elective 1
Technical Elective.....2
TOTAL CREDIT HOURS 16
TOTAL PROGRAM CREDIT HOURS.....66

CPCA Electives

CPCA 108 Word Processing on Microcomputers I ...1
CPCA 110 Spreadsheet on Microcomputers I.....1
CPCA 114 Database on Microcomputers I 1
CPCA 138 Windows for Micros 1
CPCA 155 Desktop Publishing I (IBM).....1

Technical Electives (Civil Option)

CET 127 Building Construction Estimating 3
CET 129 Construction Management 3
CET 258 Structural Design.....3
CET 270 Fluid Mechanics 3
DRAF 232 CAD Applications 3
DRAF 271 Drafting Internship I 3
DRAF 272 Drafting Internship II.....3
ENGR 180 Engineering Land Surveying.....3
MFAB 121 Introduction to Welding 3

Technical Electives (Machine Option)

DRAF 225 Civil Drafting 3
DRAF 232 CAD Applications 3
DRAF 271 Drafting Internship I 3
DRAF 272 Drafting Internship II.....3
ELEC 120 Introduction to Electronics.....3
MFAB 121 Introduction to Welding 3
MFAB 240 Metallurgy.....1

Any of the Following Programming Courses (Civil or Machine Option)

CS 200 Concepts of Programming Algorithms ...4
DP 132 BASIC for Engineering Technology 3
DP 134 Programming Fundamentals.....4
ENGR 171 Programming for Engineering and Science 3

JCAVTS

DRAF 116 Engineering Graphics CAD 2-D 5
DRAF 118 Engineering Graphics CAD 2-D and 3-D ..5

Electronics Technology

Electronics is pervasive in almost every aspect of modern life. Skilled electronics technicians are needed to support growth in this industry. These technicians must be able to install, operate and maintain highly technical systems such as communications systems networks, medical delivery systems, computers and computer networks and industrial process control systems. The Electronics Technology program was designed to prepare students to meet the demanding needs of today's electronics industry. The program focuses on the underlying principles of electronics devices, circuit analysis and digital electronics and will give a broad systems view of electronics.

The program requires 67 credit hours and leads to an associate of science degree. Students have a flexible cur-

riculum and are given a list of electives to fit their individual interests and needs. Students will choose one of five options within the electronics program. These options are general electronics, microcomputer maintenance, communications, industrial controls and medical electronics. Students in the Electronics Technology program will work with outstanding facilities and the latest laboratory equipment. Graduates of the program will have the opportunity for employment in one of today's most challenging and exciting career fields.

Associate of Science Degree

First Semester			CR
ELEC	120	Introduction to Electronics	3
ELEC	125	Digital Electronics I	3
CPCA	105	Introduction to Personal Computing	1
ENGL	121	Composition I	3
MATH	133	Technical Mathematics I	4
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	17

Second Semester			
ELEC	122	Circuit Analysis I	3
ELEC	225	Digital Electronics II	3
ENGL	123	Technical Writing I	3
MATH	134	Technical Mathematics II	5
		Programming Elective	3
		TOTAL CREDIT HOURS	17

Third Semester			
ELEC	130	Electronic Devices I	3
ELEC	140	Circuit Analysis II	3
ELEC	245	Microprocessors	3
PHYS	125	Technical Physics I	4
		Technical Electives	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	17

Fourth Semester			
ELEC	230	Electronic Devices II	3
ELEC	250	Microcomputer Maintenance	3
SPD	125	Personal Communication	3
		Social Science and/or Economics Elective	3
		Technical Electives	4
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	67

General Electronics Option

This degree option will be awarded to those completing the Electronics Technology curriculum and seven credit hours from the list of approved technical electives.

Microcomputer Maintenance Option

This degree option will be awarded to those completing the Electronics Technology curriculum and choosing the following CPCA electives:

CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1

Communications Option

This degree option will be awarded to those completing the Electronics Technology curriculum and choosing the following technical electives:

ELEC	175	Telecommunications	3
ELEC	240	Electronics Communications Systems	3

Industrial Controls Option

This degree option will be awarded to those completing the Electronics Technology curriculum and choosing the following technical electives:

ELEC	133	Programmable Controllers	3
ELEC	165	Advanced Programmable Controllers	3

Medical Electronics Option

This degree option will be awarded to those completing the Electronics Technology curriculum and choosing the following technical electives:

ELEC	210	Medical Electronics Principles	3
ELEC	211	Medical Electronics Applications	3

Approved Technical Electives

CPCA	135	PC DOS	1
CPCA	137	PC DOS Intermediate	1
CPCA	160	Local Area Network Fundamentals	1
CPCA	163	Local Area Network Components	1
CPCA	166	Local Area Network Operating Systems	1
CPCA	170	Local Area Network Administration	1
CPCA	173	Local Area Network Applications	1
ELEC	128	Computer Applications in Electronics	1
ELEC	133	Programmable Controllers	3
ELEC	150	Introduction to Telecommunications	4
ELEC	165	Advanced Programmable Controllers	3
ELEC	175	Telecommunications	3
ELEC	210	Medical Electronics Principles	3
ELEC	211	Medical Electronics Applications	3
ELEC	271	Electronics Internship I	3
ELEC	272	Electronics Internship II	3
LC	130	Medical Terminology	3

Approved Programming Electives

CS	200	Concepts of Programming Algorithms	4
DP	132	BASIC for Engineering Technology	3
DP	134	Programming Fundamentals	4

DP	235	Introduction to Object-oriented Programming 4
ENGR	171	Programming for Engineering and Science 3

Industrial Programmable Controls Vocational Certificate

This certificate is designed to satisfy the need of individuals having a minimum background in electricity and electronics but who want to develop competency with programmable controllers. The certificate is a 6-credit-hour, two-course sequence involving both the hardware and programming aspects of controllers used in industrial processes. Lectures provide a theoretical basis, and laboratory projects offer experience in controller program planning, documentation and troubleshooting.

Required Courses

ELEC	133	Programmable Controllers 3
ELEC	165	Advanced Programmable Controllers....3
		TOTAL PROGRAM CREDIT HOURS 6

Medical Electronics Vocational Certificate

This vocational certificate program is designed for individuals already possessing a background in electronics technology who wish to obtain a credential relating to medical electronics. In addition, individuals currently working in this field may find the preparation required by this program of value in preparing for the national AAMI certification examination. Students enrolling in the ELEC 210 course must have an associate's degree in an electronics course of study or currently be working in a medical electronics position. Approval of the instructor also is required.

Required Courses

BIOL	144	Human Anatomy and Physiology 5
LC	130	Medical Terminology....3
ELEC	210	Medical Electronics Principles 3
ELEC	211	Medical Electronics Applications 3
		TOTAL PROGRAM CREDIT HOURS....14

Emergency Medical Science

People who work in the field of Emergency Medical Science (EMS) often enter people's lives during critical times of illness and injury. Their ability to act knowledgeably, compassionately, quickly and calmly can stabilize chaotic, frightening situations.

JCCC offers three progressively intensive options for learning the skills of emergency medical science. All three options prepare you for state certification examinations.

JCCC's financial aid program includes scholarships, grants and loans if you are eligible. Financial aid is particularly important in the MICT program, since long hours usually prohibit you from holding a full-time job.

EMS First Responder Class

EMS First Responder students receive classroom and skills training in cardiopulmonary resuscitation (CPR), patient assessment and fracture and airway management. This class is recommended for:

- people without a medical background who wish to enter the EMT program;
- anyone who wishes to learn basics of emergency medical care;
- firefighters, police officers, lifeguards and others from agencies involved in public safety;
- employees involved in company safety programs.

The EMS First Responder class is offered as the need arises, generally once each semester.

EMS	128	EMS First Responder....3
		TOTAL CREDIT HOURS....3

Emergency Medical Technician Course

EMT students learn skills such as CPR, bandaging, splinting, childbirth assistance, extrication from automobiles, and recognition and treatment of medical emergencies such as heart attacks, strokes and diabetes.

With an instructor's recommendation, you may observe medical care and procedures in a hospital setting. Furthermore, several area prehospital care providers offer successful students voluntary ride-along observation opportunities.

Such training focuses on preparing you to work in the field of basic prehospital care. The EMT course is offered in fall and spring semesters.

EMS	130	Emergency Medical Technician Course....6
		TOTAL PROGRAM CREDIT HOURS....6

Mobile Intensive Care Technician Program

This advanced emergency medical care program consists of four courses, including a clinical rotation in a hospital setting and a field internship with an ambulance service. You learn emergency procedures such as cardiac monitoring and the administration of medications, IV fluids and defibrillation. By the end of the program, you become a skilled paramedic, able to provide sophisticated life support and advanced prehospital care.

JCCC's MICT Program is fully accredited by the Joint Review Committee on Educational Programs for the EMT-Paramedic. Our graduates score exceptionally high in state certification examinations, and all have been professionally employed shortly after graduation.

To apply for the MICT Program, you must have completed EMT training, as well as a college-level course in anatomy or physiology. Applications for this program must be received by Oct. 15 of each year. If you are accepted into the program, you take classes in the spring, summer and fall, completing the program in December. You may continue your studies to earn an associates's degree.

MICT Vocational Certificate

Prerequisites

Certified as Emergency Medical Technician.
College-level anatomy/physiology, human anatomy, human physiology course.

Spring Semester			CR
EMS	220	MICT I	10
EMS	225	MICT II	10
		TOTAL CREDIT HOURS	20
Summer Session			
EMS	230	MICT III (clinicals)	12
Fall Semester			
EMS	271	MICT IV (field internship)	15
		TOTAL PROGRAM CREDIT HOURS	47

Associate of Science Degree

Prior to beginning professional courses
Certification as an emergency medical technician is required as a prerequisite to the MICT courses, or you may enter in special cases with the approval of the division administrator.

BIOL	140	Human Anatomy	4
BIOL	225	Human Physiology	4
CHEM	122	Principles of Chemistry	5
		TOTAL CREDIT HOURS	13
First Semester (Spring)			**CR**
EMS	220	MICT I	10
EMS	225	MICT II	10
		TOTAL CREDIT HOURS	20
Summer			
EMS	230	MICT III (Clinicals)	12
Second Semester (Fall)			
EMS	271	MICT IV (Field Internship)	15
Third Semester			
ENGL	121	Composition I	3
SPD	121	Public Speaking	3
SOC	125	Social Problems	3
PHIL	143	Ethics	3
		TOTAL CREDIT HOURS	12
Fourth Semester			
		Mathematics Elective (MATH 116 or higher)	3
HPER	134	Weight Training and Physical Fitness	1
		or	
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	4
		TOTAL PROGRAM CREDIT HOURS	76

Associate of Applied Science Degree

Prior to beginning professional courses
Certification as an emergency medical technician is required as a prerequisite to the MICT courses, or you may enter in special cases with the approval of the division administrator.

BIOL	144	Human Anatomy and Physiology	5
		or	
BIOL	140	Human Anatomy	4
		or	
BIOL	225	Human Physiology	4
First Semester (Spring)			**CR**
EMS	220	MICT I	10
EMS	225	MICT II	10
		TOTAL CREDIT HOURS	20
Second Semester (Summer)			
EMS	230	MICT III (clinicals)	12
Third Semester (Fall)			
EMS	271	MICT IV (field internship)	15
Fourth Semester			
ENGL	121	Composition I	3
SOC	125	Social Problems	3
		or	
		Social Science and/or Economics Elective	3
PHIL	143	Ethics	3
		or	
		Humanities and/or Art Elective	3
HPER	134	Weight Training and Physical Fitness	1
		or	
		Health and/or Physical Education Elective	1
		Elective	2
		TOTAL CREDIT HOURS	12
		TOTAL PROGRAM CREDIT HOURS	64

Fashion Merchandising

(Also see Sales and Customer Relations Certificate Program, page 90.)

Rome, Paris, New York and Hong Kong are centers of the fashion world. But in today's fast-paced fashion market, these cities aren't that far ahead of your local shopping mall. As never before, fashion merchandising is on the move – in New York, Paris and Johnson County.

JCCC's Fashion Merchandising Program can open a wide range of challenging and rewarding career opportunities. Fashion merchandising graduates enter exciting fields such as retail management, retail sales, promotion, display, illustration, apparel and textile design, or as a manufacturer's representative.

You are offered a solid grounding in important basic subjects such as business math, English, economics and marketing. The program also includes professional courses in merchandising, management, visual merchandising, creative selling and merchandise evaluation.

And it requires a series of thought-provoking seminars in human relations, supervisory development, career options and industry topics. These seminars include on-the-job training in the fashion business of your choice.

Associate of Applied Science Degree

First Semester			**CR**
FASH	277	Seminar: Career Options	2
FASH	283	Fashion Internship I	1
FASH	121	Fashion Fundamentals	3
FASH	220	CAD Apparel Design	3
MKT	134	Creative Retail Selling	3
ENGL	121	Composition I	3
FASH	135	Image Management	1
		TOTAL CREDIT HOURS	16

Second Semester			
FASH	280	Seminar: Industry Topics	2
FASH	284	Fashion Internship II	1
FASH	132	Marketing Communications	3
		Health and/or Physical Education Elective	1
MATH	120	Business Math or higher	3
FASH	150	Textiles	3
FASH	125	Visual Merchandising	3
		TOTAL CREDIT HOURS	16

Third Semester			
BUS	225	Human Relations	3
FASH	285	Fashion Internship III	1
FASH	231	Merchandising Planning and Control	3
MKT	121	Retail Management	3
ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
		Electives	3
		TOTAL CREDIT HOURS	16

Fourth Semester			
BUS	140	Principles of Supervision	3
FASH	286	Fashion Internship IV	1
FASH	242	Consumer Product Evaluation	3
BUS	230	Marketing	3
		Humanities and/or Art Elective	3
		Electives	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

Recommended Electives

BUS	235	Introduction to International Business	3
FASH	123	Apparel Construction I	4
FASH	124	Apparel Construction II	4
FASH	127	CAD: Pattern Design	4
FASH	130	Fashion Illustration I	3
FASH	140	Garment Design	3
FASH	224	History of Costume	3
FASH	230	Fashion Illustration II	3
FASH	268	Field Study: The Market Center	3

Suggested Sequence of Required Courses

FASH	121	Fashion Fundamentals	3
FASH	277	Seminar: Career Options	2
FASH	283	Fashion Internship I	1
ENGL	121	Composition I	3
FASH	220	CAD Apparel Design	3
MKT	134	Creative Retail Selling	3
FASH	135	Image Management	1
FASH	280	Seminar: Industry Topics	2
FASH	284	Fashion Internship II	1
FASH	125	Visual Merchandising	3
MATH	120	Business Math or higher*	3
FASH	132	Marketing Communications	3
FASH	150	Textiles	3
FASH	285	Fashion Internship III	1
BUS	225	Human Relations	3
FASH	231	Merchandising Planning and Control	3
FASH	242	Consumer Product Evaluation	3
MKT	121	Retail Management	3
ECON	130	Basic Economics	3
		or	
ECON	230	Economics I*	3
FASH	286	Fashion Internship IV	1
BUS	140	Principles of Supervision	3
BUS	230	Marketing	3
		Health and/or Physical Education Elective	1
		Humanities and/or Art Elective	3
		Fashion Electives	6

** Recommended for students who intend to transfer to a baccalaureate degree program*

Fire Services Administration

The Fire Science Program at JCCC, in close cooperation with the Johnson County Fire Chiefs Association and the University of Kansas Fire Service Training Program, has developed a degree program leading to the Associate of Arts in Fire Services Administration. This degree prepares you for advancement in the fire service, and for further study toward the baccalaureate degree at a four-year institution should you elect to pursue your educational goals beyond the associate level.

The program emphasizes general education in addition to technical instruction, and is built around a core of fire science courses carefully selected by the chiefs and the training officers to prepare you for career growth. Technical electives may also be pursued through courses available under a continuing cooperative agreement between area fire science programs, subject to the policies of the participating colleges and programs governing the application of transfer credit.

Self-directed study mechanisms have been developed to complement core courses in the fire science curriculum to compensate for the impact of shift assignments for working fire and rescue personnel, and generally include weekly self-study modules and expanded office availability of instructors for review and guidance. A maximum of one-third of the scheduled meetings for these selected sections (the greatest number of which could be affected by work schedule conflicts) may be engaged in this fashion, subject to documentation of work schedule. Many of the general education courses required by the revised curriculum are also available in formats such as self-paced study and telecourses to further ease progress through the program.

Associate of Arts Degree

First Semester			**CR**
ENGL	121	Composition I	3
BUS	140	Principles of Supervision	3
MATH	171	College Algebra (equivalent or higher)	3
FIRE	162	Fire Tactics and Strategy	3
		Social Science Elective	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Second Semester			
ENGL	122	Composition II	3
BUS	141	Principles of Management	3
FIRE	224	Incident Command Systems	3
		Humanities and/or Arts Elective	3
		Physical Science, with lab (see page 54, section IV B)	4
		TOTAL CREDIT HOURS	16

Third Semester			
FIRE	220	Fire Administration	3
FIRE	222	Fire Law	3
		Technical Electives*	4
		Oral Communication	3
		Science and/or Math Elective	3
		TOTAL CREDIT HOURS	16

Fourth Semester			
FIRE	135	Building and Fire Codes	3
FIRE	250	Instructional Methods	3
		Technical Electives*	4
		Humanities and/or Arts Elective	3
		Social Science Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

* If you complete the JCCC pre-employment certificate program (XNF 700 Essentials of Firefighting; XNF 701, XNF 702; XNF 703 Hazardous Material First Responder Operations; and EMS 128 EMS First Responder), you may fulfill technical elective requirements through the advanced standing credit process. (See page 33.)

Technical Electives

FIRE	121	Fundamentals of Fire Prevention	3
FIRE	125	Building Construction for Fire Service	3
FIRE	130	Fire Investigation	3
FIRE	132	Arson Investigation	3
FIRE	137	Extinguishing, Detection and Alarm Systems	3
FIRE	150	Introduction to Fire Science	3
FIRE	159	Fire Service Hydraulics	4
FIRE	160	Fire Apparatus and Equipment	3
FIRE	169	Rescue Techniques	4
FIRE	170	Sprinkler and Standpipe Systems	3
FIRE	190	Hazardous Material Chemical Behavior	3

Grounds and Turf Management

The Grounds and Turf Management Program is a cooperative program with Longview Community College leading to an associate of applied science degree. The degree is granted by Longview Community College. The program offers training in professional lawn management and golf course management, providing a study of soils, fertilizers, grasses, trees and pesticide application procedures. The program also prepares lawn professionals to take the state of Kansas pesticide applicator's exam.

You must be formally accepted by both JCCC and Longview to be admitted to this program.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Associate of Applied Science Degree

Degree granted by Longview Community College

First Semester			**CR**
AGRI	107	Turf Management I/Grasses	3
AGRI	120	Introduction to Agribusiness	3
ECON	130	Basic Economics	3
		TOTAL CREDIT HOURS	9
Second Semester			
CHEM	122	Principles of Chemistry	5
PSYC	130	Introduction to Psychology	3
SPD	125	Personal Communication	3
		TOTAL CREDIT HOURS	11
Summer			
KAGB	200	Occupational Internship	3
Third Semester			
ENGL	121	Composition I	3
BIOL	125	General Botany	5
		History or Political Science Elective	3
		TOTAL CREDIT HOURS	11
Fourth Semester			
KAGB	129	Trees and Shrubs	3
KAGB	106	Landscape Design and Maintenance	2
KAGB	145	Irrigation/Installation	3
		TOTAL CREDIT HOURS	8
Fifth Semester			
MATH	120	Business Math	3
AGRI	115	Turf and Ornamental Plants: Pest Management	3
AGRI	109	Turf Management II (Ornamental Management)	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	10
Sixth Semester			
KAGB	115	Soil Fertility and Fertilizers	3
KAGB	202	Ecology	5
KAGB	206	Advanced Landscape Design	2
		TOTAL CREDIT HOURS	10
		TOTAL PROGRAM CREDIT HOURS	62

Health Information Technology

A health information technician has the technical skills needed to maintain the components of health information systems consistent with the medical, administrative, ethical, legal, accreditation and regulatory requirements of the health care delivery system. Area hospitals and a variety of other health facilities in the community offer field experience in all procedures performed by the health information technician. This is a cooperative program between JCCC and Penn Valley Community College.

You must be formally accepted by both JCCC and Penn Valley to be admitted to this program.

When the 67-credit-hour program has been completed and the associate of applied science degree obtained, you will be eligible to take the accreditation examination of the American Association of Health Information Management. To apply for admission into the program, you should request "Admissions Procedures" for the Health Information Technology Program from the Admissions and Records Office.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

First Semester			**CR**
BIOL	144	Human Anatomy/Physiology	5
DP	124	Business Data Processing	3
KMRT	160	Introduction to Medical Records Profession	2
KMRT	161	Health Record Systems Analysis and Controls	3
KMRT	151	Medical Terminology for Medical Records	3
		TOTAL CREDIT HOURS	16
Second Semester			
BIOL	210	Pathophysiology	4
ENGL	121	Composition I	3
KMRT	162	Health Care Statistics	3
KMRT	184	Medical Transcription	3
KMRT	169	Legal Aspects of Medical Records	2
KMRT	166	Directed Practice I	2.5
		TOTAL CREDIT HOURS	17.5
Summer			
SPD	121	Public Speaking	3
KMRT	200	Introduction to Classification Systems	1
		TOTAL CREDIT HOURS	4
Third Semester			
KMRT	164	Quality Assurance	3
KMRT	163	Classification, Nom., Ind. and Reg. I	3
KMRT	167	Directed Practice II	2.5
		American Institutions Requirements *	3
OST	155	Word Processing Applications I	3
		TOTAL CREDIT HOURS	14.5
Fourth Semester			
BUS	243	Human Resource Management	3
KMRT	175	Specialized Health Record Systems	2
KMRT	180	Classification, Nom., Ind. and Reg. II	3
KMRT	168	Directed Practice III	2
PSYC	130	Introduction to Psychology	3

		Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	68

You may be a full-time or part-time student. The sequencing given above is required in order to complete the program in four semesters.

* All graduates from Penn Valley must meet the American Institutions requirements. See a JCCC counselor about courses.

Heating, Ventilation and Air Conditioning Technology

Modern residential, commercial, institutional and manufacturing operations all depend on carefully monitored temperature conditions and well-trained installation and service technicians. Government researchers say graduates of training programs that emphasize hands-on experience will have a definite advantage when seeking employment in heating, ventilation and air conditioning technology. JCCC provides you the opportunity to work on actual equipment while pursuing a degree or certificate program. The 65-credit-hour, associate of applied science degree program focuses on developing an awareness of basic mathematical and scientific principles. The curriculum is concerned with the manner by which these principles affect the control of temperature and the quality of air, design, testing, installation and development of heating and cooling systems. Special emphasis is on energy conservation through computer management. The theory of operation as well as installation, service and repair of gas furnaces, electric furnaces, heat pumps, rooftop air conditioners, cooling towers and steam boilers are part of the curriculum.

Associate of Applied Science Degree

First Semester			CR
HVAC	121	Basic Principles of HVAC	4
HVAC	123	Electromechanical Systems	4
HVAC	125	Energy Alternatives	2
HVAC	143	Reading Blueprint and Ladder Diagrams	2
MATH	133	Technical Math I	4
		TOTAL CREDIT HOURS	16
Second Semester			
HVAC	126	Residential HVAC Systems	4
HVAC	128	Instrument and Control Devices	3
ENGL	121	Composition I	3
PHYS	125	Technical Physics I	4
		Social and/or Economics Elective	3
		TOTAL CREDIT HOURS	17
Third Semester			
HVAC	124	Equipment Selection and Duct Design	4
HVAC	205	Pneumatic Control Systems	2
HVAC	218	Electronic Control Systems	2
HVAC	223	Commercial Systems: Heating	4
CPCA	105	Introduction to Personal Computing	1
		Health and/or Physical Education Elective	1
		Technical Electives	3
		TOTAL CREDIT HOURS	17
Fourth Semester			
HVAC	167	Sheet Metal Layout and Fabrication	3
HVAC	221	Commercial Systems: Air Conditioning	4
HVAC	224	Diagnosis and Service Procedures	3
HVAC	228	DDC and Microprocessor-based Controls	2
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	65

Technical Electives

AUTO	121	Small Engine Service	3
AUTO	125	Introduction to Automotive Shop Practices	3
AUTO	230	Automotive Air Conditioning, Lighting and Power Accessories	4
CET	105	Construction Methods	3
DRAF	115	Introduction to Computer Graphics Systems	3
DRAF	120	Introduction to Drafting	2
DRAF	129	Interpreting Architectural Drawings	2
ELEC	120	Introduction to Electronics	3
ELEC	133	Programmable Controllers	3
ENGR	131	Engineering Graphics I	4
HVAC	130	Passive Solar Fundamentals	3
HVAC	271	HVAC Internship I	3
HVAC	272	HVAC Internship II	3
HVAC	291	Independent Study	3
MFAB	121	Introduction to Welding	3

Postsecondary Certificate Program

The postsecondary certificate program is designed to prepare you for the basic job skills needed to service residential and commercial heating and air conditioning equipment. If you elect the certificate option, you learn the theory of operation and how to install, service and repair gas furnaces, heat pumps, rooftop air conditioners, chilled water systems and steam boilers. This knowledge is reinforced by working on actual equipment in the laboratory. Completion of this program will allow you to seek employment as a maintenance and service technician in the heating/air conditioning trade.

Required Courses			CR
ENGL	121	Composition I	3
HVAC	121	Basic Principles of HVAC	4
HVAC	123	Electromechanical Systems	4
HVAC	124	Equipment Selection and Duct Design	4
HVAC	126	Residential HVAC Systems	4
MATH	115	Introduction to Algebra	3
		Technical Elective	3
		TOTAL CREDIT HOURS	25

Eight credit hours from the following courses must be completed in addition to the courses listed above.

HVAC	167	Sheet Metal Layout and Fabrication	3
HVAC	205	Pneumatic Control Systems	2
HVAC	218	Electronic Control Systems	2
HVAC	221	Commercial Systems: Air Conditioning	4
HVAC	223	Commercial Systems: Heating	4
HVAC	224	Diagnosis and Service Procedures	3
HVAC	228	DDC and Microprocessor-based Controls	2
		TOTAL CREDIT HOURS	8
		TOTAL PROGRAM CREDIT HOURS	33

Technical Electives

AUTO	121	Small Engine Service	3
AUTO	125	Introduction to Automotive Shop Practices	3
AUTO	230	Automotive A/C, Lighting and Power Accessories	4
CET	105	Construction Methods	3
DRAF	115	Introduction to Computer Graphics Systems	3
DRAF	120	Introduction to Drafting	2
DRAF	129	Interpreting Architectural Drawings	2
ELEC	120	Introduction to Electronics	3
ELEC	133	Programmable Controllers	3
ENGR	131	Engineering Graphics I	4
HVAC	125	Energy Alternatives	2
HVAC	128	Instrument and Control Devices	3
HVAC	130	Passive Solar Fundamentals	3
HVAC	271	HVAC Internship I	3
HVAC	272	HVAC Internship II	3
HVAC	291	Independent Study	3
MFAB	121	Introduction to Welding	3

Vocational Certificate Program

The Heating, Ventilation and Air Conditioning Vocational Certificate Program is a one-year program that you can complete in two semesters. The program is designed as a fast track to employment for both new entrants into the job market and those who have been displaced from their jobs due to changes in the employment market. Through a large variety of course offerings, the program can be tailored to meet the requirements of a diverse number of HVAC occupations. Upon successful completion of the program, you will be equipped with the technical skills necessary to enter the job market as a service or maintenance technician in the heating and air conditioning trade.

Required Courses			CR
HVAC	121	Basic Principles of HVAC	4
HVAC	123	Electromechanical Systems	4
		Technical Elective	4
		TOTAL CREDIT HOURS	12

Twelve credit hours from the following courses must be completed in addition to the courses listed above.

HVAC	124	Equipment Selection and Duct Design	4
HVAC	126	Residential HVAC Systems	4
HVAC	167	Sheet Metal Layout and Fabrication	3
HVAC	205	Pneumatic Control Systems	2
HVAC	218	Electronic Control Systems	2
HVAC	221	Commercial Systems: Air Conditioning	4
HVAC	223	Commercial Systems: Heating	4
HVAC	224	Diagnosis and Service Procedures	3
HVAC	228	DDC and Microprocessor-based Controls	2
		TOTAL CREDIT HOURS	12
		TOTAL PROGRAM CREDIT HOURS	24

Technical Electives

AUTO	121	Small Engine Service	3
AUTO	125	Introduction to Auto Shop Practices	3
AUTO	230	Auto Air Conditioning, Lighting and Power Accessories	4
CET	105	Construction Methods	3
DRAF	115	Introduction to Computer Graphics Systems	3
DRAF	120	Introduction to Drafting	2
DRAF	129	Interpreting Architectural Drawings	2
ELEC	120	Introduction to Electronics	3
ELEC	133	Programmable Controllers	3
ENGR	131	Engineering Graphics I	4
HVAC	125	Energy Alternatives	2
HVAC	128	Instrument and Control Devices	3
HVAC	130	Passive Solar Fundamentals	3
HVAC	143	Reading Blueprint and Ladder Diagrams	2
HVAC	271	HVAC Internship I	3
HVAC	272	HVAC Internship II	3
HVAC	291	Independent Study	3
MFAB	121	Introduction to Welding	3

Electrical Technology Vocational Certificate

The Electrical Technology Vocational Certificate program is a one-year program that students can complete in two semesters. Designed to give students the basic skills to gain employment as a construction or maintenance

electrician, the curriculum includes an internship with local employers. Coursework includes work on the National Electrical Code to prepare students to take a national licensure exam and job training to develop basic psychomotor skills needed to work in the electrical field.

First Semester			CR
ELTE	122	National Electrical Code I	4
ELTE	125	Residential Wiring Methods	4
HVAC	123	Electromechanical Systems	4
INDT	125	Industrial Safety	1
Second Semester			
ELTE	200	Commercial Wiring Methods	4
ELTE	210	Code Certification Review	3
ELTE	271	Electrical Internship I	3
		Technical Electives	3
		TOTAL PROGRAM CREDIT HOURS	26

Technical Electives

ELTE	205	Industrial Electrical Wiring	4
ELTE	272	Electrical Internship II	3
CET	105	Construction Methods	3
DRAF	120	Introduction to Drafting	2
DRAF	129	Interpreting Architectural Drawings	2
ELEC	120	Introduction to Electronics	3
ELEC	125	Digital Electronics I	3
ELEC	133	Programmable Controllers	3
ELEC	144	Introduction to PLCs	2
ELEC	165	Advanced Programmable Controllers	3
ELEC	172	PLC Applications	2
ELEC	245	Microprocessors	3
HVAC	121	Basic Principles of HVAC	4
MFAB	121	Introduction to Welding	3

Hospitality Management

The Hospitality Management Program at JCCC is a comprehensive study of the food service and public lodging industries. 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 these types of establishments.

The Hospitality Management Program concentrates on the development of management skills in preparation for placement in management positions in the industry. The curriculum covers food management, food service design, hotel-motel management operations, hospitality accounting, sales promotion and advanced food preparation. You are awarded an associate of applied science degree upon successful completion of 64 hours of credit in this career program.

Associate of Applied Science Degree

First Semester			CR
HMGT	121	Hospitality Management Fundamentals	3
HMGT	123	Basic Food Preparation	3
ENGL	121	Composition I	3
HMGT	271	Seminar: Purchasing	3
MATH	120	Business Math	3
		TOTAL CREDIT HOURS	15
Second Semester			
HMGT	230	Intermediate Food Preparation	3
HMGT	128	Supervisory Management	3
HMGT	273	Seminar: Accounting	3
		Social Science and/or Economics Elective	3
HMEC	151	Nutrition and Meal Planning	3
		TOTAL CREDIT HOURS	15
Summer			
HMGT	275	Hospitality Management Internship	3
Third Semester			
HMGT	277	Seminar: Menu Planning and Sales Promotion	3
HMGT	219	Hotel-Motel Operations	3
HMGT	221	Design Techniques	3
		Oral Communications Elective*	3
HMGT	223	Fundamentals of Baking	3
		TOTAL CREDIT HOURS	15
Fourth Semester			
HMGT	126	Food Management	4
HMGT	228	Advanced Hospitality Management	3
HMGT	279	Beverage Control	3
HMGT	226	Food Specialties: Garde-manger	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

* Oral Communication electives are any courses with the "SPD" prefix.

Postsecondary Certificate Program

ENGL	121	Composition I	3
HMGT	121	Hospitality Management Fundamentals	3
HMGT	123	Basic Food Preparation	3
HMGT	126	Food Management	4
HMGT	128	Supervisory Management	3
HMGT	230	Intermediate Foods	3
HMGT	271	Seminar: Purchasing	3
HMGT	273	Seminar: Accounting	3
HMGT	275	Hospitality Management Internship	3
MATH	120	Business Math	3
		TOTAL CREDIT HOURS	31

Accreditation: Both the Chef Apprenticeship Program and the Hospitality Management Program are accredited by the American Culinary Federation Educational Institute Accrediting Commission.

Information/Word Processing

(See Office Systems Technology, page 93.)

Interior Merchandising

(Also see Sales and Customer Relations, page 90.)

Career opportunities as interior design assistant, manufacturer's representative, store display person or entrepreneur are open to the Interior Merchandising graduate at JCCC.

Courses in interior products, creative retail selling, business management, drafting and product presentation are solidly meshed with a basic curriculum of business math, marketing, English and history.

Seminars in business practices and procedures, budgeting and estimating, as well as two required work-study practicums, help develop technical, creative and merchandising skills needed to be competitive in the interior products industry.

An associate of applied science degree is awarded after successful completion of the two-year, 66-credit-hour curriculum.

Associate of Applied Science Degree

First Semester			**CR**
ITMD	133	Furniture and Ornamentation/ Antiquity to Renaissance	3
ITMD	121	Interior Design I	3
DRAF	261	Graphic Communications I for Interior Design	3
MATH	120	Business Math or higher	3
ITMD	125	Interior Textiles	3
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	18

Second Semester			
DRAF	264	CAD: Interior Design	3
ITMD	122	Interior Design II	3
ITMD	132	Interior Products	3
MKT	134	Creative Retail Selling	3
ITMD	231	Furniture and Ornamentation/ Renaissance to 20th Century	3
BUS	150	Business Communications	3
		TOTAL CREDIT HOURS	18

Third Semester			
ITMD	223	Contract Design	3
ITMD	275	Seminar: Budgeting and Estimating	2
ITMD	282	Interior Merchandising Practicum I	1
ART	180	Introduction to Art History	3
ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
ITMD	140	Draperies, Treatment and Construction	1
ITMD	145	Upholstery Construction	1
ITMD	147	Lighting Design and Planning	1
		TOTAL CREDIT HOURS	15

Fourth Semester			
ITMD	234	Kitchen and Bath: Planning and Design	3
ITMD	239	Portfolio and Presentation for Interior Design	1
ITMD	273	Seminar: Business Practices and Procedures	2
ITMD	284	Interior Merchandising Practicum II	1
ITMD	148	Furniture and Ornamentation/ Oriental	3
DRAF	266	Graphic Communications II for Interior Design	3
FASH	135	Image Management	1
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	66

Interpreter Training

The employment outlook for sign language interpreters is promising. As the population grows, so will the number of people with hearing problems and the need for interpreters. Another factor in the predicted increase in employment opportunities is the effort many social service agencies, school systems, medical services and industries are making to provide interpreter services for the hearing impaired.

JCCC's program concentrates on developing skills in American Sign Language, deaf culture and fingerspelling interpretation. During the last semester of the program, you participate in a practicum class in which you interpret under supervision in a variety of situations at JCCC and in the community. Successful completion of this 64-credit-hour program leads to an associate of applied science degree.

This is a selective admission program with limited enrollment.

Associate of Applied Science Degree

First Semester			**CR**
INTR	125	American Sign Language I	5
INTR	130	Orientation to Interpreting	3
INTR	145	Deaf Culture	3
		Health and/or Physical Education Elective	1
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	15

Second Semester			
INTR	132	American Sign Language II	5
INTR	135	American Sign Language Theory	3
		Science and/or Math Elective	3
INTR	142	Fingerspelling I	3
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	17

Third Semester

INTR	140	American Sign Language III	5
INTR	250	Interpreting I	6
INTR	225	Physical and Psychological Aspects of Interpreting	2
INTR	242	Fingerspelling II	2
INTR	181	Interpreter Practicum I	1
		TOTAL CREDIT HOURS	16

Fourth Semester

INTR	230	American Sign Language IV	4
INTR	255	Interpreting II	6
INTR	281	Interpreter Practicum II	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

Marketing and Management

Merchandising, marketing and management-related fields have recently experienced tremendous growth and expansion in Johnson County. Surveys indicate that few other areas offer greater opportunity to qualified people. In fact, employment of people in this field is expected to increase faster than the average for all occupations nationwide.

JCCC's Marketing and Management Program prepares you for jobs in this field. Graduates of JCCC's program are ready for entry-level management or sales positions in retail, wholesale or manufacturing and in market research.

In sales and management courses and in human relations and supervision seminars, you learn the latest in business trends. You also learn the importance of good customer service and the skills needed to deliver that service. The curriculum reflects current industry standards, including an emphasis on personal computer use, interpersonal communications and human relations.

Because all marketing and management students work at least 15 hours a week each semester in a store or business, you can apply what you learn in the classroom to your job. You also can take your work experiences back to the classroom for analysis and a greater understanding of the problems businesses face. You acquire basic merchandising information and learn how to work with people. By integrating course work and on-the-job experience, you are given the knowledge, skills and attitudes necessary to reach your career objectives.

Associate of Applied Science Degree

First Semester			**CR**
BUS	121	Introduction to Business	3
BUS	225	Human Relations	3
MKT	133	Salesmanship	3
		or	
MKT	134	Creative Retail Selling	3
ENGL	121	Composition I	3
MATH	120	Business Math or higher	3
OST	101	Keyboarding	1
MKT	284	Marketing and Management Internship I	1
		TOTAL CREDIT HOURS	17

Second Semester

BUS	140	Principles of Supervision	3
MKT	121	Retail Management	3
		or	
MKT	221	Sales Management	3
BUS	150	Business Communications	3
ACCT	121	Accounting I	3
		or	
ACCT	111	Small Business Accounting	3
DP	124	Business Data Processing	3
MKT	286	Marketing and Management Internship II	1
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	17

Third Semester

BUS	230	Marketing	3
BUS	261	Business Law I	3
HUM	122	Introduction to Humanities	3
PHIL	138	Business Ethics	1
ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
MKT	271	Marketing and Management Seminar: Organizational Behavior	2
MKT	288	Marketing and Management Internship III	1
		TOTAL CREDIT HOURS	16

Fourth Semester

BUS	120	Management Attitudes and Motivation	3
BUS	141	Principles of Management	3
HIST	141	U. S. History Since 1877	3
FASH	132	Marketing Communications	3
MKT	273	Marketing and Management Seminar: Marketing Research	2
MKT	289	Marketing and Management Internship IV	1
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	65

Sales and Customer Relations Vocational Certificate Program

The Sales and Customer Relations Certificate Program was developed for people now in a sales occupation or contemplating a career in sales. To receive a certificate, you must complete 30 hours of specialized course work leading to competencies in selling and customer relations. The program was designed with three options available: general sales, fashion sales and interior product sales.

Required Courses			CR
FASH	135	Image Management	1
MATH	111	Fundamentals of Math or higher	3
MKT	121	Retail Management	3
MKT	133	Salesmanship	3
		or	
MKT	134	Creative Retail Selling	3
MKT	202	Customer Relations	3
OST	102	Business English	3
		TOTAL CREDIT HOURS	16

To complete the requirements for the certificate, you must select one of the following options.

General Sales

BUS	225	Human Relations	3
CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing	1
PSYC	121	Applied Psychology	3
BUS	120	Management Attitudes and Motivation	3
SPD	120	Interpersonal Communications	3
		TOTAL CREDIT HOURS	14

Fashion Sales

FASH	121	Fashion Fundamentals	3
FASH	277	Seminar: Career Options	2
FASH	283	Internship I	1
FASH	284	Internship II	1
CPCA	105	Introduction to Personal Computing	1
FASH	125	Visual Merchandising	3
BUS	225	Human Relations	3
		TOTAL CREDIT HOURS	14

Interior Product Sales

ITMD	121	Interior Design I	3
ITMD	275	Seminar: Budgeting and Estimating	2
ITMD	132	Interior Products	3
FASH	150	Textiles	3
ITMD	295	Seminar: Marketing and Management	3
		or	
FASH	125	Visual Merchandising	3
		TOTAL CREDIT HOURS	14
		TOTAL PROGRAM CREDIT HOURS	30

Metal Fabrication

The Metal Fabrication Technology Program employs a wide variety of industrial-quality equipment to enable you to receive practical experience in welding processes, metal fabrication and related testing procedures.

Growth in population and income is expected to continue the demand for construction, manufacturing, maintenance and repairs that provide employment for welders. The rate of expansion in the industries that produce fabricated products will determine the increase in the number of welders needed.

JCCC provides well-equipped laboratories that enable you to receive instruction in metallurgy, oxyacetylene (gas) welding and cutting, shielded metal arc welding (stick welding), gas metal arc welding (MIG), gas tungsten arc welding (TIG), metal fabrication and allied process (Heliarc, TIG).

Postsecondary Certificate Program

The postsecondary certificate program offers you the skills needed for employment and skill enhancement, as well as a foundation for career advancement opportunities within the industry. Directly related skill training is supplemented by applicable related course work involving business, management and general education.

Required Courses			CR
BUS	120	Management Attitudes and Motivation	3
DRAF	120	Introduction to Drafting	2
ELEC	133	Programmable Controllers	3
ENGL	121	Composition I	3
HVAC	108	HVAC Technical Service I	2
MATH	133	Technical Math I	4
MFAB	121	Introduction to Welding	3
MFAB	125	Advanced Gas and Arc Welding	3
MFAB	130	MIG and TIG I	3
MFAB	230	MIG and TIG II	3
MFAB	240	Metallurgy	1
INDT	140	Quality Improvement Using SPC	2
		TOTAL PROGRAM CREDIT HOURS	32

Nursing

As the health care needs of a growing and aging population have increased, so have employment opportunities for nurses. The employment outlook for the future is excellent. New roles for registered nurses are being created by the development of such alternative health care programs as health maintenance organizations, ambulatory surgical clinics, free-standing emergency centers and home health care.

JCCC offers two degree programs for nursing – the associate of science and the associate of arts degrees – accredited by the Kansas State Board of Nursing and the National League for Nursing. Both degrees focus on the biological, physical and behavioral sciences as well as on nursing. Because the difficult curriculum requires long hours of classroom, laboratory and independent study, you must meet certain academic requirements before enrolling in the program. Upon successful completion of either degree, you will be eligible to take the Registered Nurse Licensing Exam. The application deadline for JCCC's Nursing Program is Feb. 1.

If you are a licensed practical nurse, you may wish to

apply for admission with advanced standing. You must meet specific criteria to be eligible for admission to the program at this level. Additional information is available through the Admissions and Records Office. The deadline for application is Jan. 15.

Associate of Science Degree

Summer			**CR**
Prior to beginning clinical courses			
CHEM	122	Principles of Chemistry	5
		Mathematics Elective (MATH 116 or higher)	3
		TOTAL CREDIT HOURS	8
First Semester			
BIOL	140	Human Anatomy	4
PSYC	130	Introduction to Psychology	3
NURS	121	Concepts of Health	8
		TOTAL CREDIT HOURS	15
Second Semester			
BIOL	225	Human Physiology	4
PSYC	218	Human Development	3
NURS	122	Adaptation to Change	8
		TOTAL CREDIT HOURS	15
Summer			
ENGL	121	Composition I	3
Third Semester			
NURS	221	Short-term Health Problems	9
SOC	122	Sociology	3
		or	
SOC	125	Social Problems	3
		Communications Elective	3
		TOTAL CREDIT HOURS	15
Fourth Semester			
NURS	222	Long-term Health Problems	9
		Humanities and/or Art Elective	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	13
		TOTAL PROGRAM CREDIT HOURS	69

Associate of Arts Degree

Summer			**CR**
Prior to beginning clinical courses			
CHEM	122	Principles of Chemistry	5
		Mathematics Elective (MATH 165 or higher)	3
		TOTAL CREDIT HOURS	8
First Semester			
BIOL	140	Human Anatomy	4
PSYC	130	Introduction to Psychology	3
NURS	121	Concepts of Health	8
		TOTAL CREDIT HOURS	15
Second Semester			
BIOL	225	Human Physiology	4
PSYC	218	Human Development	3
NURS	122	Adaptation to Change	8
		TOTAL CREDIT HOURS	15
Summer			
ENGL	121	Composition I	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	6
Third Semester			
NURS	221	Short-term Health Problems	9
SOC	122	Sociology	3
		or	
SOC	125	Social Problems	3
ENGL	122	Composition II	3
		TOTAL CREDIT HOURS	15
Fourth Semester			
NURS	222	Long-term Health Problems	9
		Humanities and/or Art Elective	3
		Health and/or Physical Education Elective	1
		Speech Elective	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	75

Occupational Therapy Assistant

The occupational therapy assistant assists the registered occupational therapist, helping people with emotional and developmental limitations achieve more functional lives. The two-year Occupational Therapy Assistant Program is offered in cooperation with Penn Valley Community College. The support courses are held at JCCC and the clinical courses at Penn Valley and affiliated clinical agencies. You must be formally accepted by both JCCC and Penn Valley. Course registration is at JCCC. Upon graduation, you are eligible to sit for the American Occupational Therapy Certification Board's national certification examination. Consult a JCCC counselor for additional information.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

Fall I Semester			**CR**
KOT	105	Molecular Basis of Living Systems	3
LC	130	Medical Terminology	3
KOT	112	Basic Emergency Patient Care	1
ENGL	121	Composition I	3

KOT	100	Fundamentals of Occupational Therapy	5
KOT	103	Clinical Conditions I	2
KOT	106	General Treatment Procedures	2
KOT	116	Level I Fieldwork-ADL	5
		TOTAL CREDIT HOURS	19.5

Spring I Semester

BIOL	140	Human Anatomy	4
BIOL	225	Human Physiology	4
PSYC	130	Introduction to Psychology	3
KOT	101	Life Span I	4
KOT	203	Shop Practices/Orthotics	1
KOT	111	Level I Fieldwork: Life Span I	5
KOT	113	Clinical Conditions III	2
		TOTAL CREDIT HOURS	18.5

Summer

SOC	122	Sociology	3
KOT	107	Kinesiology	3
		American Institutions*	3
		TOTAL CREDIT HOURS	9

Fall II Semester

KOT	105	Life Span II	3
KOT	201	Occupational Therapy in Mental Health	4
KOT	202	Occupational Therapy in Physical Disabilities	3
KOT	204	Therapeutic Media	3
KOT	211	Level I Fieldwork/Mental Health	1
KOT	212	Level I Fieldwork/Physical Disabilities	5
SPD	121	Public Speaking	3
		TOTAL CREDIT HOURS	17.5

Spring II Semester

KOT	221	Level II Fieldwork/Mental Health	4
KOT	222	Level II Fieldwork/Physical Disabilities	4
		TOTAL CREDIT HOURS	8
		TOTAL PROGRAM CREDIT HOURS	72.5

Elective

KOT	230	Level II Fieldwork/Specialty Area	2

* All graduates from Penn Valley must meet the American Institutions requirement. See a JCCC counselor about courses.

Office Systems Technology

Technological innovations are revolutionizing the office. Specialists contribute to the efficient management of offices worldwide and play a pivotal role in a knowledge-based economy. Understanding and using new technology are requirements for job placement and advancement.

Essential skills and knowledge include computer literacy, word processing, desktop publishing, databases, spreadsheets, electronic mail, networking, teleconferencing, information systems, organizing and training.

Our program prepares students for both entry-level and advanced positions, future learning and productive employment in this rapidly changing environment. The number of jobs easily exceeds the number of qualified applicants. The best jobs will continue to go to the well-trained specialist with a solid business and general education background.

The Office Systems Technology Program offers options in Administrative Office Management, Legal Office Specialist, Medical Office Specialist, Administrative Support Services Certificate, Office Careers Certificate and Office Automation Certificate.

Prerequisite

Prior to admission to the Office Systems Technology Vocational Certificate Programs or associate of applied science degree, you must have completed OST 105 Beginning Typing.

Associate of Applied Science Degree

Administrative Office Management

This program prepares students for positions as supervisors and managers in automated office environments. Emphasis is on the development of communications, decision-making, organizational and management skills; and knowledge of software options, hardware components, applications and concepts. This program is designed to prepare you to function in the electronic office by using a mix of vocational, technical and academic training.

First Semester			**CR**
MATH	120	Business Math	3
ENGL	121	Composition I	3
OST	125	Intermediate Typing	3
OST	130	Office Systems Concepts	3
BUS	225	Human Relations	3
CPCA	114	Databases on Microcomputers I	1
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	17

Second Semester

ACCT	121	Accounting I	3
CPCA	110	Spreadsheets on Microcomputers I	1
ELEC	124	Microcomputer Hardware	3
BUS	121	Introduction to Business	3
OST	155	Word Processing Applications I	3
OST	150	Records Management	3
CPCA	135	PC DOS	1
		TOTAL CREDIT HOURS	17

Third Semester

BUS	122	Introduction to Law	3
CPCA	118	Electronic Mail/Calendar Systems	1
CPCA	112	PC Communications	1
BUS	140	Principles of Supervision	3
		or	
BUS	141	Principles of Management	3
OST	255	Word Processing Applications II	3
BUS	150	Business Communications	3
		Humanities or Art Elective	3
		TOTAL CREDIT HOURS	17

Fourth Semester

ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
OST	275	Office Internship I	1
BUS	243	Human Resource Management	3
OST	265	Computerized Office Applications	3
OST	270	Office Automation Implementation	3
OST	260	Desktop Publishing for the Office	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	67

Associate of Applied Science Degree

Medical Office Specialist

The Medical Office Specialist prepares students to pursue an administrative career in the medical profession. The program combines training in the latest technical and computer skills with specialized coursework unique to the medical profession. Beginning students and employed medical personnel will find this program invaluable for career advancement.

First Semester			**CR**
LC	130	Medical Terminology	3
ENGL	121	Composition I	3
OST	125	Intermediate Typing	3
OST	130	Office Systems Concepts	3
CPCA	135	PC DOS	1
CPCA	118	Electronic Mail/Calendar Systems	1
CPCA	114	Databases on Microcomputers I	1
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Second Semester

BIOL	140	Human Anatomy	4
OST	150	Records Management	3
OST	155	Word Processing Applications I	3
MATH	120	Business Math	3
BUS	225	Human Relations	3
OST	115	Electronic Calculators	1
		TOTAL CREDIT HOURS	17

Third Semester

ACCT	111	Small Business Accounting	3
		or	
ACCT	121	Accounting I	3
BUS	122	Introduction to Law	3
BUS	150	Business Communications	3
OST	255	Word Processing Applications II	3
CPCA	110	Spreadsheets on Microcomputers I	1
CPCA	112	PC Communications	1
		Humanities or Art Elective	3
		TOTAL CREDIT HOURS	17

Fourth Semester

ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
OST	165	Medical Transcription	3
OST	265	Computerized Office Applications	3
OST	275	Office Internship I	1
BUS	140	Principles of Supervision	3
		or	
BUS	141	Principles of Management	3
		Elective	1
		TOTAL CREDIT HOURS	14
		TOTAL PROGRAM CREDIT HOURS	64

Associate of Applied Science Degree

Legal Office Specialist

The Legal Office Specialist Program prepares students for administrative duties in the law office and other legal settings. The program combines training in the latest technical and computer skills with specialized coursework unique to the legal profession, including exposure to legal practices, preparation and practical application of documents and terminology used in the legal office.

First Semester			**CR**
BUS	122	Introduction to Law	3
OST	130	Office Systems Concepts	3
OST	125	Intermediate Typing	3
ENGL	121	Composition I	3
CPCA	135	PC DOS	1
OST	115	Electronic Calculators	1
CPCA	114	Databases on Microcomputers I	1
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Second Semester

OST	150	Records Management	3
MATH	120	Business Math	3
ACCT	111	Small Business Accounting	3
		or	
ACCT	121	Accounting I	3
OST	155	Word Processing Applications I	3

OST	160	Legal Transcription	3
CPCA	118	Electronic Mail/Calendar Systems	1
		TOTAL CREDIT HOURS	16

Third Semester

PL	171	Law Office Systems	3
BUS	150	Business Communications	3
BUS	225	Human Relations	3
OST	255	Word Processing Applications II	3
CPCA	112	PC Communications	1
CPCA	110	Spreadsheets on Microcomputers I	1
		General Electives	2
		TOTAL CREDIT HOURS	16

Fourth Semester

ECON	130	Basic Economics	3
		or	
ECON	230	Economics I	3
OST	275	Office Internship I	1
OST	265	Computerized Office Applications	3
BUS	140	Principles of Supervision	3
		or	
BUS	141	Principles of Management	3
		Humanities and/or Art Elective	3
		General Electives	3
		TOTAL CREDIT HOURS	16
		TOTAL PROGRAM CREDIT HOURS	64

Office Careers Vocational Certificate

At the completion of this 14-credit-hour certificate, students demonstrate proficiency in office skills, including computer and word processing knowledge. This certificate program prepares students to enter an office career in a minimal time period.

OST	105	Beginning Typing	3
OST	125	Intermediate Typing	3
OST	130	Office Systems Concepts	3
OST	155	Word Processing Applications I	3
OST	115	Electronic Calculators	1
OST	120	Machine Transcription	1
		TOTAL PROGRAM CREDIT HOURS	14

Administrative Support Specialist Vocational Certificate Program

The Administrative Support Specialist Vocational Certificate prepares students for executive and/or administrative assistant duties in the office. The program provides training in the latest technical, computer and software skills.

OST	130	Office Systems Concepts	3
OST	125	Intermediate Typing	3
CPCA	110	Spreadsheets on Microcomputers I	1
CPCA	114	Databases on Microcomputers I	1
CPCA	135	PC DOS	1
BUS	225	Human Relations	3
OST	155	Word Processing Applications I	3
OST	115	Electronic Calculators	1
OST	120	Machine Transcription	1
OST	150	Records Management	3
CPCA	118	Electronic Mail/Calendar Systems	1
CPCA	112	PC Communications	1
OST	255	Word Processing Applications II	3
OST	265	Computerized Office Applications	3
OST	260	Desktop Publishing for the Office	3
OST	275	Office Internship I	1
		TOTAL PROGRAM CREDIT HOURS	32

Office Automation Skills Vocational Certificate

The 12-hour certificate is designed to quickly teach the basic and intermediate concepts of word processing and desktop publishing. In addition, students are given an overview of the field of office automation and how it will affect your future.

Prerequisite

Prior to admission to the Office Automation Skills Vocational Certificate Program, you must be able to type at least 35 words a minute.

OST	155	Word Processing Applications I	3
OST	130	Office Systems Concepts	3
OST	255	Word Processing Applications II	3
OST	260	Desktop Publishing for the Office	3
		TOTAL PROGRAM CREDIT HOURS	12

Office Automation Technology Vocational Certificate

The Office Automation Technology Certificate Program was developed in response to the demand in the workplace for people skilled in office automation. This program offers college graduates or others with appropriate educational or work experience the opportunity to acquire state-of-the-art knowledge and skills in this rapidly changing field.

Prerequisite

Prior to admission to the Office Automation Technology Vocational Certificate Program, students must be able to type at least 35 words a minute.

First Semester			**CR**
CPCA	105	Introduction to Personal Computing – Mac	1
OST	155	Word Processing Applications I	3
OST	130	Office Systems Concepts	3
CPCA	105	Introduction to Personal Computing – IBM	1
ELEC	124	Microcomputer Hardware	3
CPCA	118	Electronic Mail/Calendar Systems	1
DRAF	115	Introduction to Computer Graphics Systems**	3
		TOTAL CREDIT HOURS	15

Second Semester

OST	255	Word Processing Applications II	3
CPCA	110	Spreadsheets on Microcomputers I*	1
CPCA	114	Databases on Microcomputers*	1
CPCA	135	PC DOS	1
CPCA	112	PC Communications	1
OST	260	Desktop Publishing for the Office I	3
OST	270	Office Automation Implementation***	3
		TOTAL CREDIT HOURS	13
		TOTAL PROGRAM CREDIT HOURS	28

* CPCA 128, Integrated Applications I, 3 credits, may be substituted for CPCA 105, CPCA 110 and CPCA 114.
** Prerequisite: MATH 111 or an appropriate score on the math assessment test.
*** Prerequisite: Permission of the program director.

Paralegal

The expanding role of the legal assistant in the delivery of legal services has created increased opportunities for paralegals. The private law firm continues to be the largest employer of legal assistants, but opportunities also are available in other organizations and institutions such as corporate legal departments, insurance companies, real estate and title firms, banks and government agencies.

If you are interested in entering this career field, you should be aware that while the number of jobs for trained paralegals is steadily rising, competition for these positions also is rapidly increasing. Moreover, the paralegal curriculum is a challenging one. The law is a complex subject, and comprehension of legal theories and concepts demands a high degree of analytical reasoning ability. You must possess excellent communication skills, analytical ability and a high level of motivation in order to successfully complete the program.

The Paralegal Program at JCCC is approved by the American Bar Association. Beginning with the spring semester of 1991, selective admission to the program is based on various academic and testing criteria.

Paralegal Postsecondary Certificate Program Options

Option I **CR**

You must have completed a four-year degree and have satisfied JCCC general education requirements prior to admission.

The following courses must be completed with a minimum G.P.A. of 2.0 prior to application for admission to the Paralegal Program.

PL	121	Introduction to Law	3
PL	123	Paralegal Studies	1

First Semester

CPCA	128	Integrated Software – IBM	3
		or the following three:	
CPCA	108	Word Processing on Microcomputers I	1
		and	
CPCA	110	Spreadsheets on Microcomputers I	1
		and	
CPCA	114	Databases on Microcomputers I	1
		TOTAL CREDIT HOURS	7

Second Semester

Following admission to the Paralegal Program

PL	131	Legal Research	3
PL	132	Litigation	4
		Paralegal Electives	6
		TOTAL CREDIT HOURS	13

Third Semester

PL	205	Legal Writing	3
PL	271	Legal Ethics, Interviewing and Investigation	3
		Paralegal Electives	7
		TOTAL CREDIT HOURS	13
		TOTAL PROGRAM CREDIT HOURS	33

Paralegal Electives

ADMJ	141	Criminal Law	3
PL	152	Real Estate Law	3
PL	155	Special Topics in Real Estate	1
PL	162	Family Law	3
PL	165	Special Topics in Family Law	2
PL	171	Law Office Management	3
PL	212	Business Organizations	3
PL	220	Computer-assisted Legal Research	2
PL	223	Computer Applications in the Law Office	3
PL	241	Will, Trusts and Probate Administration	3
PL	245	Elder Law	3
PL	261	Employee Benefits Law	2
PL	264	Workers' Compensation	2
PL	268	Bankruptcy	2
PL	275	Paralegal Internship I	1
PL	276	Paralegal Internship II	1

Option II **CR**

You must have completed a two-year degree and have satisfied JCCC general education requirements prior to admission. The following courses must be completed with a minimum G.P.A. of 2.0 prior to application for admission to the Paralegal Program.

ENGL	121	Composition I	3
PL	121	Introduction to Law	3
PL	123	Paralegal Studies	1

First Semester

CPCA	128	Integrated Software – IBM	3
		or the following three:	

CPCA	108	Word Processing on Microcomputers I	1
		and	
CPCA	110	Spreadsheets on Microcomputers I	1
		and	
CPCA	114	Databases on Microcomputers I	1
		Speech Elective	3
MATH	115	Introduction to Algebra or higher	3
		TOTAL CREDIT HOURS	16

Second Semester

Following admission to the Paralegal Program

ENGL	122	Composition II	3
PL	131	Legal Research	3
PL	132	Litigation	4
		Paralegal Electives	4
		TOTAL CREDIT HOURS	14

Third Semester

PL	205	Legal Writing	3
PL	271	Legal Ethics, Interviewing and Investigation	3
		Paralegal Electives	9
		TOTAL CREDIT HOURS	15

Fourth Semester

		Electives	15
		TOTAL PROGRAM CREDIT HOURS	60

Paralegal Electives

ADMJ	141	Criminal Law	3
PL	152	Real Estate Law	3
PL	155	Special Topics in Real Estate	1
PL	162	Family Law	3
PL	165	Special Topics in Family Law	2
PL	171	Law Office Management	3
PL	212	Business Organizations	3
PL	220	Computer-assisted Legal Research	2
PL	223	Computer Applications in the Law Office	3
PL	241	Will, Trusts and Probate Administration	3
PL	245	Elder Law	3
PL	261	Employee Benefits Law	2
PL	264	Workers' Compensation	2
PL	268	Bankruptcy	2
PL	275	Paralegal Internship I	1
PL	276	Paralegal Internship II	1

Associate of Arts Degree

The following courses must be completed with a minimum G.P.A. of 2.0 prior to application for admission to the Paralegal Program. Upon successful completion of the requirements for the associate of arts degree, you will be eligible to receive an A.A. degree and a Paralegal Certificate.

			CR
ENGL	121	Composition I	3
PL	121	Introduction to Law	3
PL	123	Paralegal Studies	1

First Semester

		Humanities and/or Art Elective	3
SPD	120	Interpersonal Communications	3
		or	
SPD	121	Public Speaking	3
		or	
SPD	125	Personal Communications	3
		Science and Mathematics Elective (see page 54, section IV)	3
		TOTAL CREDIT HOURS	16

Second Semester

Following admission to the Paralegal Program

ENGL	122	Composition II	3
PL	131	Legal Research	3
PL	132	Litigation	4
CPCA	128	Integrated Software – IBM	3
		or	
CPCA	108	Word Processing on Microcomputers I	1
		and	
CPCA	110	Spreadsheets on Microcomputers I	1
		and	
CPCA	114	Databases on Microcomputers I	1
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	16

Third Semester

PL	205	Legal Writing	3
		Paralegal Electives	5
		Health and/or Physical Education Elective	1
		Humanities and/or Art Elective	3
		Science and Mathematics Elective (see page 54, section IV)	3
		TOTAL CREDIT HOURS	15

Fourth Semester

PL	271	Legal Ethics, Interviewing and Investigation	3
		Paralegal Electives	8
		Science and Mathematics Elective (see page 54, section IV)	3
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	64

Paralegal Electives

ADMJ	141	Criminal Law	3
PL	152	Real Estate Law	3
PL	155	Special Topics in Real Estate	1
PL	162	Family Law	3
PL	165	Special Topics in Family Law	2
PL	171	Law Office Management	3

PL	212	Business Organizations	3
PL	220	Computer-assisted Legal Research	2
PL	223	Computer Applications in the Law Office	3
PL	241	Will, Trusts and Probate Administration	3
PL	245	Elder Law	3
PL	261	Employee Benefits Law	2
PL	264	Workers' Compensation	2
PL	268	Bankruptcy	2
PL	275	Paralegal Internship I	1
PL	275	Paralegal Internship II	1

Physical Therapist Assistant

The physical therapist assistant, under the supervision of a licensed physical therapist, performs direct patient care. The therapist uses physical agents such as heat, light, sound, water, cold, massage, exercise and rehabilitation techniques as prescribed by a physician. JCCC offers a cooperative program with Penn Valley Community College. The Physical Therapy Assistant Program at Penn Valley is accredited by the American Physical Therapy Association. The support courses are held at JCCC and the clinical courses at Penn Valley and affiliated clinical agencies. You must be accepted into the program and must complete registration at both JCCC and Penn Valley. Consult a JCCC counselor for additional information about the program.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

First Semester			**CR**
KPT	100	Molecular Basis of Living Systems	3
LC	130	Medical Terminology	3
ENGL	121	Composition 1	3
KPT	151	Introduction to Physical Therapy	2
BIOL	140	Human Anatomy	4
		American Institutions *	3
		TOTAL CREDIT HOURS	18

Second Semester			
KPT	153	Kinesiology	4
KPT	152	Fundamentals of Modalities I	3
KPT	161	Fundamentals of Modalities II	4
SPD	121	Public Speaking	3
KPT	159	Orthopedic Pathology	2
KPT	154	Applied Neurology	2
		TOTAL CREDIT HOURS	18

Summer			
PSYC	130	Introduction to Psychology	3
KPT	160	Medical Diseases	2
KPT	162	Clinical Observation	1
KPT	164	Pediatrics and Gerontology	2
		TOTAL CREDIT HOURS	8

Third Semester			
BIOL	225	Human Physiology	4
KPT	102	Basic Emergency Patient Care	1
KPT	155	Rehabilitation	4
KPT	158	Therapeutic Exercise	4
KPT	170	Clinical Experience I	3
KPT	171	Clinical Seminar	1
		TOTAL CREDIT HOURS	17

Fourth Semester			
KPT	172	Clinical Experience II	8
KPT	175	Special Topics	1
		TOTAL CREDIT HOURS	9
		TOTAL PROGRAM CREDIT HOURS	70-71

* All graduates from Penn Valley must meet the American Institutions requirement. The course must be taken at Penn Valley. See a JCCC counselor about courses.

Radiologic Technology

The Radiologic Technology curriculum (X-ray technology) is a cooperative program between JCCC and Penn Valley Community College and consists of a continuous 26-month period of study. You must be formally accepted into the program by both JCCC and Penn Valley. Areas of study are radiographic exposure, positioning and anatomy, and the use of imaging equipment.

Related courses are taken at JCCC with lab and clinical courses held at Penn Valley or at a cooperating health facility.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Admission requirement: College biological science with laboratory (4-5 credit hours) or one year of high school biology in the last four years.

Associate of Applied Science Degree

Degree granted by Penn Valley Community College

Fall Semester			**CR**
KRAD	160	Introduction to Radiologic Technology (beginning the second Monday in July)	2
BIOL	144	Human Anatomy and Physiology	5
LC	130	Medical Terminology	3
KRAD	171	Radiographic Exposures I	3
KRAD	172	Radiographic Positioning I	3
KRAD	173	Clinical Training I	3
		TOTAL CREDIT HOURS	19

Spring Semester

PSCI	120	Physical Science	4
KRAD	162	Image Processing	2
KRAD	174	Radiographic Exposures II	3
KRAD	175	Clinical Training II	3
KRAD	176	Radiographic Positioning II	3
		TOTAL CREDIT HOURS	15

Summer

KRAD	170	Radiologic Technology	3
KRAD	178	Clinical Training III	3
		TOTAL CREDIT HOURS	6

Fall Semester

CPCA	128	Integrated Applications I	3
ENGL	121	Composition I	3
KRAD	280	Clinical Training IV	4
KRAD	281	Physics of X-ray Equipment	3
KRAD	285	Special Procedures	2
		TOTAL CREDIT HOURS	15

Spring Semester

		American Institutions *	3
PSYC	130	Introduction to Psychology	3
KRAD	278	Imaging Modalities and Pathology	3
KRAD	282	Clinical Training V	4
SPD	121	Public Speaking	3
		TOTAL CREDIT HOURS	16

Summer Semester

KRAD	283	Final Seminar	3
KRAD	284	Clinical Training VI	2
		TOTAL CREDIT HOURS	5
		TOTAL PROGRAM CREDIT HOURS	76

Electives

KRAD	201	Mammography	3
KRAD	288	Specialty Training	9

* All graduates from Penn Valley must meet the American Institutions requirement. See a JCCC counselor about courses.

Railroad Maintenance of Way

JCCC's Railroad Maintenance of Way certificate program prepares workers to use the latest equipment and technology to keep the nation's rail system in top condition. Railroad companies are facing increased pressure to improve efficiency and on-time performance; employers must recruit and rely upon employees who possess the knowledge and skills necessary to maintain the system with a minimum of service interruption.

As part of JCCC's Metal Fabrication Technology Program, the Railroad Maintenance of Way certificate program keeps railroad workers abreast of changing developments in technology and welding techniques. This formal training will help employees keep their careers on the right track.

Enrollment is subject to the approval of the Burlington Northern training director and JCCC division administrator.

Welding Postsecondary Certificate Program

This certificate is a comprehensive course of study addressing those skills associated with maintenance and repair of railway fixed facilities. Upon successful completion of this program, you should be able to perform basic and advanced welding operations, complete specialized welding procedures involving maintenance and repair of railway track, perform structural welding applications involving code-quality work according to AWS D1.5 and perform tasks associated with most aspects of welding in maintenance of way applications.

MFAB	122	Elements of Welding	3
MFAB	123	Basic Welding	3
MFAB	132	Thermite Welding	3
MFAB	135	Track Component Welding	3
MFAB	137	Structural Welding	3
MFAB	138	Structural Welding FCAW	3
MFAB	139	Structural Welding Pipe	3
MFAB	145	Frog Welding	3
ENGL	121	Composition I	3
MATH	115	Introduction to Algebra	3
		Technical Electives	2
		TOTAL CREDIT HOURS	32

Technical Electives

DRAF	120	Introduction to Drafting	2
HVAC	145	Servicing HVAC Equipment	2
MFAB	240	Metallurgy	1
MFAB	130	MIG and TIG I	3
MFAB	230	MIG and TIG II	3

Track Welding Vocational Certificate Program

This certificate is designed to provide a concentrated program for industry-specific training in track maintenance and repairs. Upon successful completion of the program, you should have the ability to safely operate track welding equipment, perform basic and advanced welding operations and complete specialized procedures as needed to perform the job of railway track welder.

MFAB	122	Elements of Welding	3
MFAB	123	Basic Welding	3
MFAB	132	Thermite Welding	3
MFAB	135	Track Component Welding	3
MFAB	145	Frog Welding	3
		TOTAL CREDIT HOURS	15

Structural Welding Vocational Certificate Program

This certificate is designed to address the training needs for railway structural welders. Upon successful completion of the program, you should be able to demonstrate safe operation procedures for welding applications, perform skill competencies involving a variety of processes and positions, pass code welding requirements according to AWS D1.5 and perform welding operations as needed for railway maintenance of way structural welding.

MFAB	122	Elements of Welding	3
MFAB	123	Basic Welding	3
MFAB	137	Structural Welding	3
MFAB	138	Structural Welding FCAW	3
MFAB	139	Structural Welding Pipe	3
		TOTAL CREDIT HOURS	15

Supervisors Welding Vocational Certificate Program

This certificate is a program of study for supervisors of maintenance of way personnel. After completion of this program, you should be able to demonstrate safe welding procedures and identify basic aspects associated with track welding.

MFAB	127	Welding Processes	2
MFAB	143	Thermite Welding for Supervisors	2
MFAB	147	Component Welding for Supervisors	2
		TOTAL CREDIT HOURS	6

Railroad Operations

Associate of Science Degree

The JCCC Railroad Operations program offers options that could lead to a career with the more than 500 independent companies that form the U.S. railroad industry. The railroad industry employs a substantial workforce to service, maintain and manage a network of its approximately 140,000 route miles of track. Jobs include locomotive engineers, rail vehicle operators, brake/signal/switch operators, conductors, dispatchers, yardmasters and maintenance of way welders. JCCC' program offers three options. The general option requires 65 credit hours, the conductor option 66 credit hours and the dispatcher option 70 credit hours.

General Option

This option is designed to provide the student with general knowledge and skills for entry-level employment in the railroad industry. The student is introduced to the history of railroading and the various railroad crafts. Railroad operations, safety, environment and quality also are covered. The student will choose from a list of business and technical electives in order to provide a basis for possible employment and further post-employment training.

First Semester			**CR**
CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
ENGL	121	Composition I	3
MATH	133	Technical Mathematics I	4
PHIL	124	Logic and Critical Thinking	3
RRT	120	History of Railroading	3
		TOTAL CREDIT HOURS	16
Second Semester			
ENGL	123	Technical Writing I	3
MATH	134	Technical Math II	5
PHYS	125	Technical Physics I	4
RRT	121	Railroad Technical Careers	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16
Third Semester			
BUS	121	Introduction to Business	3
ECON	130	Basic Economics	3
PHIL	138	Business Ethics	1
RRT	150	Railroad Operations	3
RRT	165	Railroad Safety, Quality and Environment	3
SPD	125	Personal Communication	3
		TOTAL CREDIT HOURS	16
Fourth Semester			
INDT	140	Quality Control Using SPC	2
		Business/Related Electives	6
		Technical/Related Electives	9
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	65

Business/Related Electives

ACCT	121	Accounting I	3
BUS	123	Personal Finance	3
BUS	140	Principles of Supervision	3
BUS	141	Principles of Management	3
BUS	221	Principles of Insurance	3
BUS	225	Human Relations	3
BUS	230	Marketing	3
BUS	243	Human Resource Management	3
BUS	261	Business Law I	3
ENGL	210	Technical Writing II	3
OST	101	Keyboarding	1

Technical/Related Electives

AUTO	125	Introduction to Automotive Shop Practices	3
AUTO	160	Automotive Engines I	3
CET	105	Construction Methods	3
CET	127	Building Construction Estimating	3
CET	129	Construction Management	3

CPCA	135	PC DOS	1
CPCA	138	Windows for Micros	1
DRAF	115	Introduction to Computer Graphics Systems	3
DRAF	123	Interpreting Machine Drawings	2
DRAF	129	Interpreting Architectural Drawings	2
ELEC	120	Introduction to Electronics	3
ELEC	124	Microprocessor Hardware	3
ELEC	128	Computer Applications in Electronics	1
ELEC	133	Programmable Controllers	3
ELEC	150	Introduction to Telecommunications	4
ENGR	180	Engineering Land Surveying I	3
HVAC	123	Electromechanical Systems	4
HVAC	205	Pneumatic Control Systems	2
HVAC	218	Electronic Control Systems	2
INDT	125	Industrial Safety	1
MFAB	121	Introduction to Welding	3
MFAB	130	MIG and TIG I	3
MFAB	152	Manufacturing Materials and Processes	3
MFAB	240	Metallurgy	1
PHYS	126	Technical Physics II	3
PSCI	140	Physical Geography	3
PSCI	141	Physical Geography Lab	2

Associate of Science Degree

Conductor Option

Railroad conductors ride in locomotives and perform related logistics. Future locomotive engineers come from the conductor ranks. The final phase of this program consists of 24 weeks of training provided in cooperation with Burlington Northern Railroad. Twenty weeks are spent in the field in locations across the country. The remaining four weeks of training are held on the campus of JCCC. Selective admission to the program is based on various criteria. Interested students should meet with a JCCC counselor as early as possible.

First Semester

CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
ENGL	121	Composition I	3
MATH	133	Technical Mathematics I	4
PHIL	124	Logic and Critical Thinking	3
RRT	120	History of Railroading	3
		TOTAL CREDIT HOURS	16

Second Semester

ENGL	123	Technical Writing I	3
MATH	134	Technical Math II	5
PHYS	125	Technical Physics I	4
RRT	121	Railroad Technical Careers	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Third Semester

BUS	121	Introduction to Business	3
ECON	130	Basic Economics	3
PHIL	138	Business Ethics	1
RRT	150	Railroad Operations	3
RRT	165	Railroad Safety, Quality and Environment	3
SPD	125	Personal Communication	3
		TOTAL CREDIT HOURS	16

Fourth Semester

RRTC	123	Introduction to Conductor Service	4
RRTC	261	Conductor Service	4
RRTC	265	Conductor Field Application	10
		TOTAL CREDIT HOURS	18
		TOTAL PROGRAM CREDIT HOURS	66

Associate of Science Degree

Dispatcher Option

Railroad dispatchers control the movement of train traffic. The final phase of this program consists of 24 weeks of training provided in cooperation with Burlington Northern Railroad. Seventeen weeks are spent in the field in locations across the country. The remaining seven weeks of training are held on the campus of JCCC. Selective admission to the program is based on various criteria. Interested students should meet with a JCCC counselor as early as possible.

First Semester

CPCA	105	Introduction to Personal Computing	1
CPCA	108	Word Processing on Microcomputers I	1
CPCA	110	Spreadsheets on Microcomputers I	1
ENGL	121	Composition I	3
MATH	133	Technical Mathematics I	4
PHIL	124	Logic and Critical Thinking	3
RRT	120	History of Railroading	3
		TOTAL CREDIT HOURS	16

Second Semester

ENGL	123	Technical Writing I	3
MATH	134	Technical Math II	5
PHYS	125	Technical Physics I	4
RRT	121	Railroad Technical Careers	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Third Semester

BUS	121	Introduction to Business	3
ECON	130	Basic Economics	3
PHIL	138	Business Ethics	1
RRT	150	Railroad Operations	3
RRT	165	Railroad Safety, Quality and Environment	3
SPD	125	Personal Communication	3
		TOTAL CREDIT HOURS	16

Fourth Semester

RRTD	122	Introduction to Railroad Dispatching	2
RRTD	271	Apprentice Railroad Dispatching Training I	6
RRTD	275	Railroad Dispatching Field Observation	3
RRTD	272	Apprentice Railroad Dispatching Training II	6
RRTD	276	Railroad Dispatching Field Application	5
		TOTAL CREDIT HOURS	22
		TOTAL PROGRAM CREDIT HOURS	70

Respiratory Therapy

The respiratory care practitioner is involved in a variety of life-saving and life-supporting situations. As a member of the health care team, he or she treats patients ranging in age from newborns to senior citizens. Respiratory therapy offers unique challenges in prevention, treatment, management and rehabilitation of patients with lung problems. The employment outlook is expected to be good because of new developments in diagnostic and treatment procedures. The health care needs of an aging population also will play a role in the future of the respiratory therapist.

JCCC's program is designed to meet the requirements specified by the Joint Review Committee for Respiratory Care Education. Following completion of at least the prerequisite courses, you spend a 12-month clinic year attending didactic course activities at JCCC and direct clinic activities at several Kansas City area hospitals for eight hours a day, five days a week.

You must apply for admission to the Respiratory Therapy Program by Oct. 15 before the clinic year you plan to enter. Successful completion of the program, which includes satisfactory completion of a comprehensive program final examination, can lead to an associate of science degree or a certificate of completion, depending on the general education requirements completed. You will be eligible for the National Board for Respiratory Care examination after graduation. You will first earn the Certified Respiratory Therapy Technician (CRTT) credential and ultimately the Registered Respiratory Therapist (RRT) credential.

You should contact a counselor for additional information about the selective admission requirements, the registration process and the possible transfer of courses to four-year institutions.

Associate of Science Degree

Summer			**CR**
CHEM	122	Principles of Chemistry *	5
ENGL	121	Composition I *	3
		TOTAL CREDIT HOURS	8

First Semester

BIOL	140	Human Anatomy *	4
MATH	116	Intermediate Algebra (or Math Elective 171 or higher)*	3
PSCI	120	Physical Science (or a Physics course with lab) *	4
		Social Science and/or Economics Elective	3
		TOTAL CREDIT HOURS	14

Second Semester

BIOL	225	Human Physiology *	4
BIOL	230	Microbiology *	3
BIOL	231	Microbiology Lab *	2
		Communications Elective	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	15

* Indicates prerequisite courses that must be completed before the clinic year.

Summer (clinic year)

RT	125	Beginning Principles of Respiratory Therapy	4
RT	130	Respiratory Therapy Equipment	4
RT	135	Cardiopulmonary Medicine I	1
EMS	121	CPR I Basic Rescuer	1
		TOTAL CREDIT HOURS	10

Third Semester

RT	220	Clinical Cardiopulmonary Physiology	2
RT	271	Clinical Practice I	4
RT	230	Clinical Topics and Procedures I	4
RT	235	Cardiopulmonary Medicine II	2
RT	240	Respiratory Pharmacology	2
		TOTAL CREDIT HOURS	14

Fourth Semester

RT	272	Clinical Practice II	4
RT	231	Clinical Topics and Procedures II	4
RT	233	Respiratory Care of Children	2
RT	236	Cardiopulmonary Medicine III	2
		TOTAL CREDIT HOURS	12
		TOTAL PROGRAM CREDIT HOURS	73

Respiratory Therapy Postsecondary Certificate Program

If you successfully complete the required prerequisites, the clinic core and the comprehensive program final examination, you may receive a certificate of completion in lieu of the associate of science degree. You will technically meet the requirements of the respiratory therapy registry examination process, which will allow you to become a registered respiratory therapist. You are encouraged, however, to pursue the associate of science degree, especially if you plan to continue your education. The difference between the postsecondary certificate curriculum and the

associate of science degree is the nine hours of electives required for the associate of science degree.

First Semester			**CR**
CHEM	122	Principles of Chemistry *	5
ENGL	121	Composition I *	3
BIOL	140	Human Anatomy *	4
MATH	116	Intermediate Algebra (or Math Elective 171 or higher)*	3
		TOTAL CREDIT HOURS	15

Second Semester			
BIOL	225	Human Physiology *	4
BIOL	230	Microbiology *	3
BIOL	231	Microbiology Lab *	2
PSCI	120	Physical Science (or a Physics course with lab) *	4
		TOTAL CREDIT HOURS	13

* Indicates prerequisite courses that must be completed before the clinic year.

Summer (clinic year)			
RT	125	Beginning Principles of Respiratory Therapy	4
RT	130	Respiratory Therapy Equipment	4
RT	135	Cardiopulmonary Medicine I	1
EMS	121	CPR I Basic Rescuer	1
		TOTAL CREDIT HOURS	10

Third Semester			
RT	220	Clinical Cardiopulmonary Physiology	2
RT	271	Clinical Practice I	4
RT	230	Clinical Topics and Procedures I	4
RT	235	Cardiopulmonary Medicine II	2
RT	240	Cardiopulmonary Pharmacology	2
		TOTAL CREDIT HOURS	14

Fourth Semester			
RT	272	Clinical Practice II	4
RT	231	Clinical Topics and Procedures II	4
RT	233	Respiratory Care of Children	2
RT	236	Cardiopulmonary Medicine III	2
		TOTAL CREDIT HOURS	12
		TOTAL PROGRAM CREDIT HOURS	64

Certified Respiratory Therapy Technician (CRTT) Transition

This curriculum is designed to meet the educational needs of respiratory care practitioners who seek to become registry eligible, but are unable to enter a traditional respiratory therapy program. If you are a candidate for this curriculum, you should have a minimum of one year full-time clinical experience post-NBRC certification as a certified respiratory therapy technician (CRTT). If you do not meet this requirement, you should consider the traditional respiratory therapy program curriculum.

You must apply and be accepted into the transition curriculum through a selective admission process. This includes putting together a mini-portfolio with the assistance of the JCCC Testing/Assessment Center to gain credit for prior learning and experience.

Successful completion of the transition curriculum, including satisfactory completion of a comprehensive program final, will lead to an associate of science degree. Graduates will be eligible for the National Board for Respiratory Care registry examination.

Contact a JCCC counselor or program personnel for additional information.

Associate of Science Degree Advanced Standing Credit

The following advanced standing credit may be granted if you are accepted into the CRTT-RRT transition process based on your previous training and clinical experience. You will need to work with the JCCC Testing/Assessment Center to develop a mini-portfolio for evaluation of this previous learning. You should note that if you wish to transfer these credits at a future time, you should check with that college for transferability of advanced standing credits. The process for seeking these credits is described in the admission packet for this program.

EMS	121	Basic Rescuer-CPR	1
RT	125	Beginning Principles of Respiratory Therapy	4
RT	130	Respiratory Therapy Equipment	4
RT	135	Cardiopulmonary Medicine I	1
RT	220	Clinical Cardiopulmonary Physiology	2
RT	230	Clinical Topics and Procedures I	4
RT	235	Cardiopulmonary Medicine II	2
RT	236	Cardiopulmonary Medicine III	2
RT	240	Cardiopulmonary Pharmacology	2
RT	271	Clinical Practice I	4
		TOTAL CREDIT HOURS	26

The following are prerequisite course requirements that must be completed prior to enrollment in any respiratory course work.

BIOL	140	Human Anatomy	4
BIOL	225	Human Physiology	4
BIOL	230/1	Microbiology/Lab	3/2
CHEM	122	Principles of Chemistry	5
ENGL	121	Composition I	3
MATH	116	Intermediate Algebra (or Math Elective 171 or higher)*	3
PSCI	120	Physical Science (or a Physics course with a lab)	4
		TOTAL CREDIT HOURS	28

Note: If you are a Missouri resident, contact the JCCC Respiratory Therapy program director for corresponding course numbers at Penn Valley Community College.

Additional Associate of Science Degree Requirements

		Social Science and/or Economics Elective	3
		Communications Elective	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	9

Note: These additional degree requirements are not necessary to sit for the Registry Examinations of the National Board for Respiratory Care, but are required for the associate of science degree from JCCC and most advanced degrees at other colleges. A postsecondary certificate is granted at completion in lieu of the associate of science degree if these nine hours have not been completed.

Respiratory Therapy Course Requirements

RT	233	Respiratory Care of Children	2
RT	245	RRT Clinical Topics and Procedures	4
RT	274	RRT Clinical Practice Transition	4
		TOTAL CREDIT HOURS	10
		TOTAL PROGRAM CREDIT HOURS	73

Note: If you are a transition student, you will have a maximum of four consecutive regular semesters to complete the respiratory therapy (RT) course requirements. If you fail a respiratory course or are unable to complete it in the established time, you may still be considered for entry into the traditional respiratory therapy program curriculum.

Postsecondary Certificate

With receipt of the advanced standing credit and completion of the required prerequisites, the respiratory therapy requirements and the comprehensive program final examination, you may receive a certificate of completion in lieu of the associate of science degree. The difference between the postsecondary certificate for the CRTT transition curriculum and the associate of science degree for the CRTT transition curriculum is the nine hours of electives required for the associate of science degree.

Science Technology

Greater Kansas City and specifically Johnson County have numerous biological-, pharmaceutical- and chemical-related formulating, manufacturing, research and testing companies. Many of these facilities employ scientific technicians to support the endeavors of their professional scientists and engineers.

JCCC's Science Technology Program is designed to develop scientific support personnel for the metropolitan area. This program offers specific knowledge and training designed to provide you with entry-level skills for employment as a technician. It also provides the breadth of background sufficient to encourage change and flexibility. If you complete the 65-credit-hour curriculum, you are awarded an associate of science degree.

Associate of Science Degree

Chemical Specialty

First Semester			**CR**
CHEM	123	Principles of Technical Chemistry	6
BIOL	122	Principles of Biology	3
MATH	171	College Algebra	3
ENGL	121	Composition I	3
		TOTAL CREDIT HOURS	15

Second Semester			
CHEM	143	Principles of Technical Organic Chemistry	6
PHYS	125	Technical Physics I	4
PHYS	135	Special Topic Technical Physics I	1
MATH	172	Trigonometry	3
DP	132	BASIC for Engineering Technology	3
		TOTAL CREDIT HOURS	17

Third Semester			
CHEM	223	Technical Analytical Chemistry	4
PHYS	126	Technical Physics II	3
PHYS	136	Special Topics Technical Physics II	2
ENGL	123	Technical Writing I	3
		Humanities and/or Art Elective	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	16

Fourth Semester			
CHEM	243	Technical Instrumental Analysis	5
SPD	125	Personal Communications (recommended)	3
		or	
		Speech Elective	3
PSYC	121	Applied Psychology (recommended)	3
		or	
		Psychology Elective	3
ECON	130	Basic Economics (recommended)	3
		or	
		Economics Elective	3
		Humanities and/or Art Elective	3
		TOTAL CREDIT HOURS	17
		TOTAL PROGRAM CREDIT HOURS	65

Associate of Applied Science Degree

Chemical Specialty

First Semester			**CR**
CHEM	123	Principles of Technical Chemistry	6
BIOL	122	Principles of Biology	3
MATH	133	Technical Math I *	4
ENGL	121	Composition I	3
CPCA	105	Introduction to Personal Computing	1
		TOTAL CREDIT HOURS	17

Second Semester

CHEM	143	Principles of Technical Organic Chemistry	6
PHYS	125	Technical Physics I	4
PHYS	135	Special Topic Technical Physics I	1
MATH	134	Technical Math II	5
CPCA	108	Word Processing on Microcomputers	1
		or	
CPCA	114	Databases on Microcomputers I	1
		TOTAL CREDIT HOURS	17

Third Semester

CHEM	223	Technical Analytical Chemistry	4
PHYS	126	Technical Physics II	3
PHYS	136	Special Topics Technical Physics II	2
ENGL	123	Technical Writing I	3
		Humanities and/or Arts Elective	3
		TOTAL CREDIT HOURS	15

Fourth Semester

CHEM	243	Technical Instrumental Chemistry	5
SPD	125	Personal Communications (recommended)	3
		or	
SPD	128	Business and Professional Speech (recommended)	3
		or	
		Speech Elective	3
PSYC	121	Applied Psychology (recommended)	3
		or	
		Psychology Elective	3
ECON	130	Basic Economics (recommended)	3
		or	
		Economics Elective	3
		Health and/or Physical Education Elective	1
		TOTAL CREDIT HOURS	15
		TOTAL PROGRAM CREDIT HOURS	64

* It is recommended that you take this course in the summer before you start the program.

Veterinary Technology

A person with a background in veterinary technology can expect to find employment opportunities in laboratory care and pharmaceutical animal colonies, or assisting a veterinarian in providing professional services and performing office routines. JCCC's Veterinary Technology Program is offered in cooperation with the Veterinary Technology Program at Maple Woods Community College. You study sanitation and animal care, the preparation of animals for surgery, and anesthetic management. You also perform lab work and use radiologic techniques. The program features supervised intensive clinical study under the direction of a veterinarian. You must be accepted into the program by both JCCC and Maple Woods Community College.

Program courses and credit hours are subject to change because of requirement changes at the degree-granting institution. It is your responsibility to check with a JCCC counselor before enrollment.

Associate of Applied Science Degree

Degree granted by Maple Woods Community College

First Semester **CR**

KSAH	100	Introduction to Veterinary Technology	2
KSAH	101	Principles of Animal Science I	3
BIOL	127	General Zoology	5
KSAH	182	Veterinary Office and Computer Skills	3
ENGL	121	Composition I	3
KSAH	108	Clinical Mathematics	1
		TOTAL CREDIT HOURS	17

Second Semester

KSAH	110	Principles of Animal Science II	3
KSAH	111	Sanitation and Animal Care	2
KSAH	120	Clinical Pathology Technology I	4
CHEM	122	Principles of Chemistry	5
SPD	121	Public Speaking	3
		TOTAL CREDIT HOURS	17

Summer

KSAH	214	Veterinary Technician Internship	6

Third Semester

KSAH	200	Veterinary Hospital Technology I	3
KSAH	202	Veterinary Technology Anatomy	5
KSAH	212	Large Animal Technology	4
BIOL	230	Microbiology	3
BIOL	231	Microbiology Lab	2
		TOTAL CREDIT HOURS	17

Fourth Semester

KSAH	203	Laboratory Animal Technology	2
KSAH	209	Equine Medicine and Management	3
KSAH	210	Veterinary Hospital Technology II	3
KSAH	211	Clinical Pathology Technology II	5
KSAH	213	Radiology and Electronic Procedures	2
		American Institutions *	3
		TOTAL CREDIT HOURS	18
		TOTAL PROGRAM CREDIT HOURS	75

* All graduates from Maple Woods must meet the American Institutions requirement. If you are a JCCC student, see a counselor about courses.

JCCC/JCAVTS Cooperative Programs

Johnson County Community College and the Johnson County Area Vocational Technical School have developed cooperative agreements in the Auto Body Repair, Carpentry, Printing and Welding Programs. Students who plan to enroll in any of these programs must meet specific requirements from both institutions. Students must talk with a JCCC counselor and provide appropriate documentation to the Admissions Office before seeking admission.

Associate of Applied Science Degree

Auto Body Repair

Required Technical/Related Courses			CR
JCAVTS		Auto Body Repair*	28
AUTO	125	Introduction to Auto Shop Practices	3
AUTO	230	Auto A/C, Lighting and Power Accessories	4
MFAB	121	Introduction to Welding	3
MFAB	130	MIG/TIG I	3
BUS	140	Principles of Supervision	3
		Related and/or Technical Electives	7

Required General Education Courses

ENGL	121	Composition I	3
MATH	120	Business Math	3
		Social Science and/or Economics Elective	3
		Health and/or Physical Education Elective	1
		Humanities and/or Arts Elective	3
		TOTAL PROGRAM CREDIT HOURS	64

* Certificate of completion for the 1,080-hour JCAVTS Auto Body Repair Program

Related Electives

BUS	120	Management Attitudes and Motivation	3
BUS	145	Small Business Management	3
BUSE	138	Fast TRAC Business Plan	4
CPCA	105	Introduction to Personal Computing	1
ENGL	123	Technical Writing I	3
MATH	133	Technical Math I	4

Technical Electives

AUTO	163	Automotive Alignment, Brakes and Drivetrain	4
MFAB	125	Advanced Gas and Arc Welding	3
MFAB	230	MIG/TIG II	3
INDT	140	Quality Improvement Using SPC	2

Associate of Applied Science Degree

Carpentry

Required Technical/Related Courses			CR
JCAVTS		Carpentry*	28
CET	105	Construction Methods	3
CET	127	Building Construction Estimating	3
CET	129	Construction Management	3
DRAF	120	Introduction to Drafting	2
DRAF	129	Interpreting Architectural Drawings	2
HVAC	125	Energy Alternatives	2
BUS	140	Principles of Supervision	3
		Related and/or Technical Electives	5

Required General Education Courses

ENGL	121	Composition I	3
MATH	120	Business Math	3
		Social Science and/or Economics Elective	3
		Health and/or Physical Education Elective	1
		Humanities and/or Arts Elective	3
		TOTAL PROGRAM CREDIT HOURS	64

* Certificate of completion for the 1,080-hour JCAVTS Carpentry Program

Related Electives

BUS	120	Management Attitudes and Motivation	3
BUS	145	Small Business Management	3
BUSE	138	Fast TRAC Business Plan	4
CPCA	105	Introduction to Personal Computing	1
ENGL	123	Technical Writing I	3
MATH	133	Technical Math I	4

Technical Electives

DRAF	115	Introduction to Computer Graphics Systems	3
HVAC	121	Basic Principles of HVAC	4
HVAC	130	Passive Solar Fundamentals	3
ITMD	121	Interior Design I	3
ITMD	147	Lighting Design and Planning	1
MFAB	121	Introduction to Welding	3
INDT	140	Quality Improvement Using SPC	2

Associate of Applied Science Degree

Printing

Required Technical/Related Courses			CR
JCAVTS		Printing Technology*	28
CA	132	Typography	3
CA	134	Layout I	3
CA	140	Graphic Processes	3
CPCA	105	Introduction to Personal Computing	1
CPCA	155	Desktop Publishing I	1
PHOT	121	Fundamentals of Photography	3
BUS	140	Principles of Supervision	3
		Related and/or Technical Electives	6

Required General Education Courses

ENGL	121	Composition I	3
MATH	120	Business Math	3
		Social Science and/or Economics Elective	3
		Health and/or Physical Education Elective	1
		Humanities and/or Arts Elective	3
		TOTAL PROGRAM CREDIT HOURS	64

* Certificate of completion for the 1,080-hour JCAVTS Printing Program

Related Electives

BUS	120	Management Attitudes and Motivation	3
BUS	145	Small Business Management	3
BUSE	138	Fast TRAC Business Plan	4
ENGL	123	Technical Writing I	3
MATH	133	Technical Math I	4

Technical Electives

CPCA	108	Word Processing on Microcomputers	1
CPCA	175	Desktop Publishing II	2
DRAF	115	Introduction to Computer Graphics Systems	3
INDT	140	Quality Improvement Using SPC	2

Associate of Applied Science Degree

Welding

Required Technical/Related Courses			CR
JCAVTS		Welding*	28
AUTO	125	Introduction to Auto Shop Practices	3
DRAF	120	Introduction to Drafting	2
MFAB	125	Advanced Gas and Arc Welding	3
MFAB	230	MIG/TIG II	3
MFAB	240	Metallurgy	1
INDT	140	Quality Improvement Using SPC	2
BUS	140	Principles of Supervision	3
		Related and/or Technical Electives	6

Required General Education Courses

ENGL	121	Composition I	3
MATH	120	Business Math	3
		Social Science and/or Economics Elective	3
		Health and/or Physical Education Elective	1
		Humanities and/or Arts Elective	3
		TOTAL PROGRAM CREDIT HOURS	64

* Certificate of completion for the 1,080-hour JCAVTS Welding Program

Related Electives

BUS	120	Management Attitudes and Motivation	3
BUS	145	Small Business Management	3
BUSE	138	Fast TRAC Business Plan	4
CPCA	105	Introduction to Personal Computing	1
ENGL	123	Technical Writing I	3
MATH	133	Technical Math I	4

Technical Electives

AUTO	121	Small Engine Service	3
CET	105	Construction Methods	2
DRAF	115	Introduction to Computer Graphics Systems	3
DRAF	123	Interpreting Machine Drawings	2
HVAC	108	HVAC Technical Service I	2

Nontraditional Programs of Study

Honors Program

- Admission
- Honors Forum
- Honors Contracts
- Interdisciplinary Courses
- Community Service
- Graduation from the Honors Program
- Scholarships

International Education

Study Abroad

- Semester Programs
- Travel Courses

Television Courses

Honors Program

The Honors Program curriculum is designed to stimulate and challenge academically talented students. If you have the talent and motivation, enrolling in the Honors Program will help you will develop your intellectual potential as a college student and as a member of the academic community.

Admission

Proof of academic excellence is the first step to acceptance in the Honors Program. You must submit an official transcript or have one on file showing proof of having a 3.5 high school G.P.A. or a 3.5 college G.P.A. for your most recent year of college. Other proofs of academic excellence may be a 25 composite on the ACT test, a 1110 composite on the SAT or an equivalent score on other standardized tests taken within the last three years. You may also provide evidence that indicates the ability to do honors work. Such evidence, to be evaluated by the coordinator of the Honors Program and a faculty member, may include written, research or artistic work as shown in a portfolio.

You may enter the JCCC Honors Program at the beginning of any semester. You must maintain at least a 3.5 G.P.A. to remain in the program.

Honors Forum

The Honors Forum focuses on a current issue that affects the local, national and global communities. It will complement other courses in the curriculum by combining an emphasis on both specific content and skill development in interaction, analysis, synthesis and conflict resolution. The process of reflecting, researching, analyzing and evaluating will be as important as the content. As you develop points of view concerning the issue, you must articulate and defend those points as they are challenged by others and make judgments among alternative options.

Honors Contracts

Each academic division at JCCC offers Honors contracts developed by individual faculty members for selected courses. The contracts, offered for one hour of additional credit, are designed as extensions to the regularly scheduled courses. In order to complete the contract, you are required to meet on a regularly scheduled basis with the instructor offering the contact for mentor-student tutorial sessions. The work in the contract may include additional reading and writing assignments, expanded field or laboratory work and writing term papers and other suitable assignments.

Interdisciplinary Courses

These courses cover a broad area of knowledge and emphasize inquiry, discovery, critical thinking and discussion methods that stress student participation. You will be asked to read primary and secondary sources, take initiative in course-related activities, use analytical and evaluative skills and complete an Honors term project.

Community Service

If you plan to graduate from the Honors Program, you will be expected to perform some volunteer community service. The location and nature of the community service project will be discussed and agreed upon by both you and the Honors Program coordinator.

Graduation from the Honors Program

You may elect to participate in any part of the Honors Program; however, if you plan to graduate from the program, you must:

- Meet all requirements for a two-year degree with a 3.5 G.P.A.
- Complete four Honors contracts.
- Complete one Honors Forum class.
- Complete one interdisciplinary class.
- Perform specified community service.

If you plan to graduate from the program, you should complete an Honors graduation completion form.

Scholarships

General guidelines

1. The purpose of the Honors Program scholarship is to encourage students to complete the requirements to graduate from the Honors Program. The intent of the scholarship is to help cover tuition, fees and books.
2. Scholarship amounts, with increments of $50 a credit hour, are based on a minimum enrollment of six credit hours and a maximum enrollment of 15 credit hours. Scholarship recipients may enroll in more than 15 credit hours, but the maximum scholarship per semester will be $750. The scholarship is awarded on a semester basis.
3. Scholarship recipients will be funded for succeeding semesters if they meet all of the requirements and have completed all of the course work attempted. The scholarship can cover a maximum of 52 attempted semester hours. All scholarship recipients who drop a course are required to reapply for the scholarship for the following semester.

4. The number of new scholarships awarded each semester is determined by the funds available.

Requirements

To apply for an Honors Program scholarship, you must meet the following requirements:

1. Complete a minimum of 12 semester hours of course work at JCCC before applying.
2. Be working on the requirements to graduate from the Honors Program.
3. Have a minimum G.P.A. of 3.5 at JCCC.

Preference is given to students who have taken course work in the Honors Program, *i.e.*, Honors contracts, Honors Forum or one of the interdisciplinary courses.

How to Apply

If you meet the requirements, you may pick up application forms in the Honors Office, 237 GEB.

The application process includes these steps:

1. Complete an application form.
2. Submit at least two letters of recommendation from instructors of your JCCC classes.
3. Write an essay describing your educational and career goals.
4. If you are a finalist, interview with the Honors scholarship committee.

For application deadlines, contact the Honors Office, 237 GEB.

International Education

International education at JCCC spans the entire range of college activities from credit and continuing education courses to student clubs and special events. The college curriculum includes seven foreign languages and such courses as Eastern Civilization, International Relations, Global Resources, Cultural Anthropology, Introduction to International Business, Intercultural Communications, World Cultures and Russian, European, Latin American and World History. In addition, international and intercultural approaches are evident in many courses in the humanities, social sciences and communications classes.

JCCC maintains strong relationships with universities in China, Russia and the United Kingdom and has an active exchange program that brings faculty and students from other countries to the JCCC classrooms.

Study Abroad

Semester Programs

Through the College Consortium for International Studies, JCCC students have an opportunity to study in any one of 19 countries for a semester or a year. Programs exist in countries in Europe, Latin America, the Middle East and Asia that focus on liberal arts, language and culture, business, performing and visual arts. Eligibility and fees vary with the country. Many participants qualify for financial aid awards that allow them to participate. The application deadline for the spring semester is in October. For the fall semester, applications are due in April.

Travel Courses

JCCC offers short-term travel courses to various countries around the world. These courses usually run from one to three weeks, and the travel is carefully planned and supervised by instructors. Opportunities are available for credit or through the community education program. For additional information about all study abroad, contact the International Education office.

Television Courses

Each semester, JCCC offers telecourses that make it possible to earn college credit in the home. Noncredit telecourses also are offered. Each lesson is shown several times a week – you pick the most convenient time. If you miss a lesson, you can view it on a videotape in the JCCC library or check out videotape cassettes (VHS only) to view at home.

You need not come to campus except for a few scheduled class meetings and for exams administered in the Testing/Assessment Center.

You may apply college credits earned through telecourses to the associate degree program. In most cases, these credits will transfer to other colleges. You may be either full- or part-time. There is no limit to the number of telecourses that you may take.

It is only natural to be apprehensive about learning out of the classroom. But if you are self-disciplined and have the ability to learn without supervision, there should be no problems. If you have questions during the semester, a JCCC instructor is just a phone call away.

Travel for Credit

In a travel for credit class, you may earn from one to four credits while pursuing special interests through guided travel, reading and instruction. Travel is carefully planned and supervised by instructors. The travel for credit courses offered each semester are listed in the credit class schedule.

Course Prefix Listing

Academic Achievement Center	LC
Accounting	ACCT
Administration of Justice	ADMJ
Agribusiness	AGRI
Anthropology	ANTH
Architecture	ARCH
Art	ART
Automotive Technology	AUTO
Aviation	KAV
Banking and Finance	AIB
Biology	BIOL
Business Administration	BUS
Business Entrepreneurship	BUSE
Chemistry	CHEM
Civil Engineering Technology	CET
Commercial Art	CA
Computer Science	CS
Computers: Personal Computer Applications	CPCA
Correctional Services	KADJ
Data Processing	DP
Dental Hygiene	DHYG
Drafting Technology	DRAF
Economics	ECON
Education	EDUC
Electrical Technology	ELTE
Electronics Technology	ELEC
Emergency Medical Science	EMS
Engineering	ENGR
English	ENGL
Fashion Merchandising	FASH
Fire Services Administration	FIRE
Foreign Language	FL
Grounds and Turf Management	KAGB
Health Information Technology	KMRT
Health, Physical Education and Recreation	HPER
Hearing Impaired	HRIM
Heating, Ventilation and Air Conditioning Technology	HVAC
History	HIST
Home Economics	HMEC
Honors Program	HON
Horticulture	HORT
Hospitality Management	HMGT
Humanities	HUM
Industrial Technology	INDT
Interdisciplinary Study	IDSP
Interior Merchandising	ITMD
Interpreter Training	INTR
Journalism and Media Communications	JOUR
Learning Strategies	LS
Marketing Management	MKT
Mathematics	MATH
Metal Fabrication	MFAB
Music	MUS
Nursing	NURS
Occupational Therapy Assistant	KOT
Office Systems Technology	OST
Paralegal	PL
Philosophy	PHIL
Photography	PHOT
Physical Education	HPER
Physical Science	PSCI
Physical Therapist Assistant	KPT
Physics	PHYS
Political Science	POLS
Psychology	PSYC
Radiologic Technology	KRAD
Railroad Operations	RRT
Railroad Operations Conductor Option	RRTC
Railroad Operations Dispatcher Option	RRTD
Respiratory Therapy	RT
Sociology	SOC
Speech	SPD
Theater	THEA
Veterinary Technology	KSAH

Courses by Division Listing

Arts, Humanities and Social Science Division

Administration of Justice
Anthropology
Architecture
Art
Basic Police Academy
Commercial Art
Correctional Services
Education
Fire Services Administration
History
Humanities
Music
Philosophy
Photography
Political Science
Sociology
Theater

Business, Technology and Computer Instruction Division

Accounting
Automotive Technology
Aviation Maintenance
Business Administration
Business Entrepreneurship
Civil Engineering Technology
Computer Science
Computers: Personal Computer Application
Data Processing
Drafting Technology
Economics
Electrical Technology
Electronics Technology
Engineering
Fashion Merchandising
Heating, Ventilation and Air Conditioning
Home Economics
Hospitality Management
Industrial Technology
Interior Merchandising
Marketing and Management
Metal Fabrication
Office Systems Technology
Paralegal
Railroad Operations

Communications and Academic Enhancement Division

Academic Achievement Center
English
Foreign Language
Honors
Interpreter Training
Journalism
Learning Strategies
Speech and Debate

Physical Education Division

Health
Physical Education

Science, Health Care and Math Division

Agribusiness
Biology
Chemistry
Dental Hygiene
Emergency Medical Science
Grounds and Turf Management
Health Information Technology
Horticulture
Mathematics
Nursing
Occupational Therapy Assistant
Physical Science
Physical Therapist Assistant
Physics
Radiologic Technology
Respiratory Therapy
Veterinary Technology

Student Development Division

Hearing Impaired

Academic Offerings

Course Listings

Academic Achievement Center

DEVELOPMENTAL COURSES

The following courses are designed to help students develop and enhance the skills necessary for successful completion of college-level requirements. Study skills, reading comprehension and other basic needs will be addressed through individualized instruction, small classes or self-paced programs. These courses do not fulfill degree requirements.

LC 100
STUDY SKILLS (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Students will use books and programmed materials as they work on these areas: previewing academic reading, notetaking while reading, listening and taking class notes, preparing for and taking examinations, planning time and selecting a study area. By arrangement.

LC 101
STUDY SKILLS MINI-COURSE (1CR)

This class will focus on test-taking skills, taking notes, using a textbook, critical reading and memory recall, effective listening and classroom strategies, and library and counseling services. The format will include reading, discussion and practice exercises. 3 hrs./wk. for 5 wks.

LC 104
READING COMPREHENSION (1CR)

Students will take diagnostic tests to determine their appropriate starting level. This is a self-paced, individualized course for improving comprehension skills. Instruction is through sequenced materials and emphasizes survey techniques and vocabulary development. By arrangement.

LC 105
READING RATE (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Students will work on increasing their reading rate in this class. They may select their own materials to use with the reading pacer, or they may use one of the computer programs for the rate course. They also will work on skimming and scanning techniques. By arrangement.

LC 106
VOCABULARY DEVELOPMENT (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Students will concentrate on techniques for unlocking meaning through context clues and familiarity with roots, prefixes and suffixes. By arrangement.

LC 107
SPELLING IMPROVEMENT (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Students will work on correcting spelling errors using kits or programmed texts. By arrangement.

LC 110
POWER SPELLING (3CR)

Prerequisite: Appropriate score on the assessment test

This is a course for students who wish to improve their spelling but who have not been successful in traditional study programs. A step-by-step process involving correct spelling of morphographs (units of meaning) and how to combine them to correctly spell hundreds of words is followed in this course. 3 hrs./wk.

LC 112
BASIC MATH REVIEW (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Then, using programmed materials, students will review addition, subtraction, multiplication, division, fractions, decimals and percents. By arrangement.

LC 113
ALGEBRA PREPARATION (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Then, using programmed materials, students will deal with sets, counting numbers, integers, rational numbers, equations involving two variables, polynomials, factoring, quadratics and absolutes, graphing, exponents and logarithms. By arrangement.

LC 114
CHEMISTRY PREPARATION (1CR)

Students will take diagnostic tests to determine their appropriate starting level. Then, using programmed materials, students will cover a variety of topics including valences, chemical equations, solubility, ionic structures and complexes, the metric system, atomic theory, thermochemistry, kinetic theory, nuclear structure and chemical equilibrium. By arrangement.

LC 115
COLLEGE SKILLS DEVELOPMENT (1CR)

Students will focus on becoming more aware of their personal values, their life plans and their career plans. Topics will include learning styles, techniques of time management, test taking, study skills and available college support services. 3 hrs./wk. for 5 wks.

LC 120
INDIVIDUALIZED STUDY (1CR)
LC 121
INDIVIDUALIZED STUDY (2CR)
LC 122
INDIVIDUALIZED STUDY (3CR)

Students will work at their own pace and according to their individual ability in this class. They will use self-motivating materials and projects to study spelling, vocabulary, reading rate/comprehension, study skills, mathematics, algebra and chemistry.

LC 125
FUNDAMENTALS OF READING (3CR)

Prerequisite: Appropriate assessment score

Fundamentals of Reading is a basic-level reading course that focuses on the development of a sight vocabulary, techniques of word recognition (phonetic and structural analysis and context clues), the ability to deal with words of multiple meaning and literal comprehension and recall. 3 hrs./wk.

LC 126
READING SKILLS IMPROVEMENT (3CR)

Prerequisite: LC 125 or appropriate assessment score

In this intermediate class, students will review skills taught in Fundamentals of Reading. However, the major focus will be analytical reading skills, study techniques, flexible reading rate and vocabulary enrichment. 3 hrs./wk.

LC 127
COLLEGE READING SKILLS (3CR)

Prerequisite: LC 126 or appropriate assessment score

This advanced course includes a review of the skills taught in Reading Skills Improvement with additional focus on critical reading skills along with vocabulary development, memory techniques, rate improvement and analytical skills. 3 hrs./wk.

LC 130
MEDICAL TERMINOLOGY (3CR)

In this self-instructional approach, students will use a handbook, a computer software program and tapes to build a medical vocabulary. Definition, spelling and pronunciation will be stressed. Students will study 12 body systems, the body as a whole and an oncology unit. By arrangement.

LC 135
CAREER/LIFE PLANNING (3CR)

This is a systematic approach to career and life planning. Students will focus on a process for making occupational decisions at any point in their lives. 3 hrs./wk.

LC 150
JOB SEARCH SKILLS (1CR)

Job-hunting techniques will be explored in this class. The class will consist of lecture, assignments and role playing. In class, students will develop a résumé, complete job applications and practice interviewing. 1 hr./wk.

Accounting

ACCT 111
SMALL BUSINESS ACCOUNTING (3CR)

Corequisite: MATH 120 or credit by examination

This course will introduce the basic accounting procedures needed to maintain daily records for a small business and the use of such records in the decision-making process. Upon successful completion of the course, the student will be able to maintain a set of financial records with the occasional help of an outside accountant. This course does not prepare the student for Accounting II. 3 hrs./wk.

ACCT 115
ACCOUNTING FOR
NONPROFIT ORGANIZATIONS (3CR)

Prerequisite: ACCT 121

This course is a three-hour survey course of not-for-profit accounting and its primary users: federal, state and local governments, hospitals and schools. Upon successful completion of the course, the student should be able to effectively deal with the primary funds and accounting groups, assist in the budget process, and practice variances among the major nonprofit organizations according to their authoritative pronouncements. 3 hrs./wk. Course will not be offered every semester.

ACCT 121
ACCOUNTING I (3CR)

This course is an introduction to accounting fundamentals. Upon successful completion of this course, a student should be able to analyze transactions, use various journals and ledgers, prepare financial statements and summarize results at the close of the fiscal period for the sole proprietorship and the partnership. 3 hrs./wk.

ACCT 122
ACCOUNTING II (3CR)

Prerequisite: ACCT 121

This course is a continuation of ACCT 121. Upon successful completion of this course, the student should be able to prepare and use financial statements with increased emphasis on interpretation and use of accounting data peculiar to corporations and manufacturing firms. 3 hrs./wk.

ACCT 131
FEDERAL INCOME TAXES I (3CR)

This course teaches the student federal income tax rules and the procedures for reporting federal income tax. Upon completion of this course, the student should be able to do short- and long-range tax planning and keep records that will provide appropriate information for use in preparing federal income tax. The student should also be able to prepare the standard individual federal income tax return. 3 hrs./wk.

ACCT 135
COMPUTERIZED
ACCOUNTING APPLICATIONS (3CR)

Prerequisites: ACCT 121
Corequisite: CPCA 105

This course will provide a hands-on approach to learning how computerized integrated accounting systems function. Upon successful completion of the course, students should be able to use a microcomputer to create charts of accounts, accounts receivable and payable subsidiary ledgers, transaction journals, general ledgers, financial statements, reports and forecasts. 3 hrs./wk.

ACCT 221
COST ACCOUNTING (3CR)

Prerequisite: ACCT 122

Upon completion of this course, the student should be able to use accounting information to plan and control operations, value inventory, determine income in a manufacturing environment and evaluate subsequent results. 3 hrs./wk. Spring.

ACCT 222
MANAGERIAL ACCOUNTING (3CR)

Prerequisite: ACCT 122

Upon completion of this course, the student should be able to develop and use accounting information as an instrument of management control. Material covered includes financial statement analysis, cost application and budgeting reports to management. 3 hrs./wk.

ACCT 231
INTERMEDIATE ACCOUNTING I (3CR)

Prerequisite: ACCT 122

The course will present the use of accounting theory in the preparation of financial reports. Upon successful completion of this course, the student should be able to solve problems that arise in the presentation of cash, receivables, inventories, tangible and intangible assets on the statement of financial position, and their related effect on the statement of income. 3 hrs./wk. Fall.

ACCT 232
INTERMEDIATE ACCOUNTING II (3CR)

Prerequisite: ACCT 122

Accounting theory learned through the study of accounting concepts and technical procedures will be presented in this course. Upon completion, the student should be able to solve problems in the presentation of capital structures, long-term investments, debts, leases, pensions, the analysis of financial statements, and price-level and fair value accounting and reporting. 3 hrs./wk. Spring.

ACCT 274
FIELD STUDY: ACCOUNTING SEMINAR (3CR)

Prerequisite: ACCT 122

Job simulation is provided through the use of practice sets. After successful completion of this course, the student should be able to maintain a complete set of books through an accounting cycle, both manual and automated. 3 hrs./wk. Course will not be offered every semester.

ACCT 278
ACCOUNTING INTERNSHIP I (1CR)

Prerequisite: ACCT 121
Corequisite: ACCT 272

This internship is designed to enable students to use skills learned in accounting courses. Students will work in an approved training situation under instructional supervision. There will be a minimum of 15 hours each week of on-the-job training.

Administration of Justice

ADMJ 121
INTRODUCTION TO
ADMINISTRATION OF JUSTICE (3CR)

Emphasis will be on the historical and philosophical development of the criminal justice system. This course includes participation in the field as well as classroom experience. 3 hrs./wk.

ADMJ 124
CRIMINAL JUSTICE SYSTEM (3CR)

Subsystems of the criminal justice system will be analyzed and identified. 3 hrs./wk.

ADMJ 127
CRIMINOLOGY (3CR)

This class will explore theories of criminal behavior, treatment, correction, crime prevention and control. Contemporary trends will be highlighted. 3 hrs./wk.

ADMJ 130
CRIME PREVENTION (3CR)

Topics of special interest include the techniques public service agencies use to operate crime-prevention programs and to provide technically accurate, cost-effective security recommendations to the community. 3 hrs./wk.

ADMJ 133
JUVENILE DELINQUENCY (3CR)

This class will provide an analysis of detention procedures, disposition, custody and treatment of juvenile offenders throughout the United States with a specific interest in area systems. The origin and development of juvenile agencies, as well as the organization, functions and jurisdiction of juvenile courts, will be studied. 3 hrs./wk.

ADMJ 136
POLICE AND THE PUBLIC (3CR)

This course will identify and analyze conflict that arises between police and the communities they serve. 3 hrs./wk.

ADMJ 140
CONSTITUTIONAL CASE LAW (3CR)

Students will study Supreme Court decisions that have had significant impact on law enforcement techniques and procedures. 3 hrs./wk.

ADMJ 141
CRIMINAL LAW (3CR)

Prerequisite: ADMJ 124 or PL 121

The Kansas Criminal Code will be the focus of this class, which emphasizes elements of crimes and criminal procedure. 3 hrs./wk.

ADMJ 145
FUNDAMENTALS OF PRIVATE SECURITY (3CR)

This overview of the private security field will include a look at how industry, business, government and institutions handle security. 3 hrs./wk.

ADMJ 146
RETAIL SECURITY (3CR)

This is a study of retail security supervision and management. Topics will include employment practices, employee dishonesty, controlling shoplifters and building and perimeter protection. 3 hrs./wk.

ADMJ 148
FAMILY VIOLENCE AND SEXUAL ABUSE (3CR)

A description and causal analysis of the different physical, psychological and sexual abuse acts that may occur within the primary family unit will be provided in this course. The study will include possible causative factors; psychological and social impact on the various family members; psychological, social and legal implications; treatments; and the relationship between abuse and crime. 3 hrs./wk.

ADMJ 154
FUNDAMENTALS OF
CRIMINAL INVESTIGATION (3CR)

Prerequisite: ADMJ 124

Topics covered in this course will include crime-scene search techniques, collection and preservation of evidence, interviewing, and logical reconstruction of the crime. 3 hrs./wk.

ADMJ 157
PATROL PROCEDURES (3CR)

Prerequisite: ADMJ 124

This course will cover basic police patrol functions including report writing, traffic law enforcement, arrest, search and seizure, patrol and peacekeeping. 3 hrs./wk.

ADMJ 164
SUPERVISORY TECHNIQUES FOR POLICE (3CR)

Prerequisite: ADMJ 124 or approval of the program director

Current theory and practice of the supervisor's role in the police service will be discussed. 3 hrs./wk.

ADMJ 166
POLICE ORGANIZATION AND MANAGEMENT (3CR)

Prerequisite: ADMJ 124 or approval of the program director

The organization of a police department will be the focus of this class. Emphasis will be on achieving departmental objectives through the management of people, money and materials. 3 hrs./wk.

ADMJ 221
INTRODUCTION TO CRIMINALISTICS (3CR)

Prerequisite: ADMJ 154 or approval of the program director

This course will provide training in the techniques and methods used to establish the identity and individualization of persons and things in a criminalistic laboratory. 3 hrs./wk.

ADMJ 225
DEFENSIVE TACTICS FOR POLICE (3CR)

Prerequisite: ADMJ 124 and ADMJ 136

Subjects covered in this class will include the use of the baton and service revolver and constitutional limitations on the use of force. Students will be required to furnish ammunition for the service revolver. 3 hrs./wk.

ADMJ 265
ADVANCED POLICE TRAINING (12CR)

Prerequisite: Open only to currently employed, full-time police officers attending the Police Academy under sponsorship of a law enforcement agency

This course consists of 180 clock hours of law enforcement training provided in addition to the 320 hours required by the Kansas Minimum Standards Training Act for recruits attending the Police Academy. While the required 320-hour curriculum is provided without fee, enrollment in advanced training is required of all those attending the academy. The curriculum covers law, criminal investigations, patrol procedures, defensive tactics, report writing and specialized training required by local law enforcement agencies.

ADMJ 271
EMERGENCY DISPATCHER FIELD STUDY (3CR)

Prerequisite: Only students in appropriate programs will be accepted. Approval of the program director is required.

Students will gain on-the-job training under the supervision of a qualified dispatcher in law enforcement, fire protection or emergency medical services. The field study will be conducted at an approved dispatching station and arranged by the JCCC program coordinator. By arrangement.

ADMJ 281
READINGS IN POLICE SCIENCE (3CR)

Prerequisite: 15 credit hours in ADMJ courses

The class will consist of selected readings in police science on topics such as police administration, criminal investigation, criminology, corrections, juvenile problems and evidence. By arrangement.

Agribusiness

AGRI 107
TURF MANAGEMENT I (GRASSES) (3CR)

This course is designed to familiarize students with all of the major cool- and warm-season turfgrasses and to familiarize students with the adaptation and tolerances, cultural management and major disease and insect pests of each major category of turfgrass. Upon successful completion of this course, students should be able to demonstrate the ability to properly identify the major categories of turfgrass and to establish a turfgrass based on their knowledge of seeding, sodding, sprigging, plugging and past establishment procedures. Students should also be able to develop a pest and disease control program for each major category of turfgrass. 3 hrs./wk.

AGRI 109
TURF MANAGEMENT II
(ORNAMENTAL MANAGEMENT) (3CR)

Corequisite: BIOL 125

Upon successful completion of this course, the student should be able to develop an understanding of planting and ornamentation of ornamental trees and shrubs commonly grown in the Midwest, including the greater Kansas City area. 3 hrs./wk.

AGRI 115
TURF AND ORNAMENTAL PLANTS:
PEST MANAGEMENT (3CR)

This course will explore the concepts of turf and ornamental plant identification, description, establishment, growth, care, maintenance and pest control in the local area. The student will become familiar with federal and state regulations pertaining to horticulture chemical application. Upon successful completion of this course, the student will be prepared to take the Kansas or Missouri licensing examination to become a certified applicator of restricted horticulture pesticides and herbicides. 3 hrs./wk.

AGRI 120
INTRODUCTION TO AGRIBUSINESS (3CR)

This survey of agribusiness and its role in the economy will include a look at career opportunities in the field. Students also will compare several business forms. 3 hrs./wk.

Anthropology

ANTH 125
CULTURAL ANTHROPOLOGY (3CR)

The political, economic, religious, family and social aspects of major groups of people around the world will be examined. Hunters, tribesmen, peasants and industrial populations also will be studied. 3 hrs./wk.

ANTH 126
PHYSICAL ANTHROPOLOGY (3CR)

This study of physical anthropology will include archaeology, human variation, physical evolution, primate societies and the emergence of human society. Cross-disciplinary topics of interest will be included. 3 hrs./wk.

ANTH 130
WORLD CULTURES (3CR)

This ethnographic course in anthropology will examine a representative group of societies from each major environmental region of the world. Hunters and gatherers such as the pygmy and the Eskimo, tribal farmers from the Pacific Islands and the Americas, chiefdoms such as the Swazi and the Tahitians, state structures from Africa and Southeast Asia, and folk societies such as the peasants of Ireland and China will be studied holistically. 3 hrs./wk.

ANTH 140
ARCHAEOLOGY (3CR)

This introductory course is designed to give students a systematic study of cultural humanity of the past. Ancient technologies and human behavior, social organization and religious beliefs will be examined from a sampling of a few well-known sites from New and Old World archaeology. 3 hrs./wk.

ANTH 210
PEOPLES OF THE WORLD (3CR)

Prerequisites: POLS 130 and SOC 160. Available to noncore students with the program director's permission.

This interdisciplinary course will draw on economics, psychology, sociology and anthropology to help students better understand the increasing global connections between peoples and societies. Students will investigate the cultural basis of values, beliefs and behavior and learn how this affects their relationships both within their communities and across cultural boundaries. Specific topics will include the individual in North America today, the North American's relationship to the peoples of Earth, Earth as an economic system, views of work in the United States and other countries, comparative political participation, and cross-cultural value systems. 3 hrs./wk.

Architecture

ARCH 120
INTRODUCTION TO ARCHITECTURE (3CR)

This course is an introduction to the profession of architecture through a study of its history, vocabulary, theories and practices. The facets that make up the total architectural curriculum as well as the various professional roles that architects can be expected to perform will be covered. Architectural study is seen as both an art and a science. The interdisciplinary character of architectural practice is emphasized. 3 hrs. lecture/wk.

ARCH 130
ARCHITECTURAL GRAPHICS I (3CR)

This course is designed to build a conceptual and manual foundation for further professional architectural education. Students will learn to apply a variety of media and drawing systems such as freehand drawing and architectural lettering; equipment usage; applied geometry; line, tone, texture and color studies; and multiview, paraline, axonometric and oblique drawings as they relate to architectural forms. Emphasis will be on learning to think in spatial terms as well as developing graphic presentation skills using standard graphic conventions. 6 hrs. integrated lecture, studio/wk.

ARCH 131
ARCHITECTURAL GRAPHICS II (3CR)

Prerequisite: ARCH 130

This course builds upon the conceptual and manual skills acquired in Architectural Graphics I. Students will expand their ability by learning to apply a variety of media and advanced drawing systems such as design drawing techniques, model building, graphic diagramming, grid perspective drawing, projection perspective drawing and shade and shadow studies. Emphasis will continue to be on learning to think in spatial terms as well as developing a new repertoire of graphic presentation skills. 6 hrs. integrated lecture, studio/wk.

ARCH 140
ARCHITECTURAL DESIGN (3CR)

Corequisite: ARCH 131

This course introduces the student to the process and vocabulary of design. The purpose of the content is to develop the ability to solve two- and three-dimensional design problems with basic methods, vocabulary and media appropriate to the architectural profession.
6 hrs. integrated lecture, studio/wk.

Art

ART 121
ART FUNDAMENTALS (3CR)
This intensive exploration of the visual arts is designed to acquaint students with art forms and art application. 6 hrs./wk.

ART 123
ELEMENTARY ART METHODS (3CR)
This is an exploration of art activities for children from preschool through sixth grade. 6 hrs./wk.

ART 124
DESIGN 2-D (3CR)
This is an introductory study of the principles of visual perception, two-dimensional space organization and the visual elements of line, shape, value and texture. Concepts, materials and processes necessary to an understanding of two-dimensional form are explored using traditional and digital tools and techniques. 6 hrs./wk.

ART 127
DESIGN 3-D (3CR)
Prerequisite: ART 124
This is a study of the function of three-dimensional organization in the development of visual ideas. Concepts, materials and processes necessary to an understanding of the three-dimensional relationships of space, form, form evolution and the dynamics of structure are explored. 6 hrs./wk.

ART 129
DESIGN, COLOR (3CR)
This is a study of the nature of color, its physical properties and visual qualities. Basic theories, phenomena and their applications will be explored using pigment, colored paper and digital color systems. 6 hrs./wk.

ART 130
DRAWING I (3CR)
This is an introductory course with an emphasis on the development of fundamental drawing skills, increased power of observation and an awareness of the personally expressive and compositional aspects of drawing. 6 hrs./wk.

ART 131
DRAWING II (3CR)
Prerequisite: ART 130
Advanced problems with an emphasis on conceptual and mixed media drawing will be explored. 6 hrs./wk.

ART 135
PAINTING I (3CR)
This is an introductory course with emphasis on the development of visual perception and creative response through studies of still life, landscape and human form. 6 hrs./wk.

ART 136
PAINTING II (3CR)
Prerequisite: ART 135
This course will offer a stronger emphasis on the perceptual and conceptual problems in painting and the development of an individual direction. 6 hrs./wk.

ART 142
CERAMICS I (3CR)
This course is an introduction to ceramics, emphasizing the combination of technical insights and creative thought. Emphasis will be on wheel-throwing, hand-building and slab construction. Students will be encouraged to develop their own creative responses through attention to both product and process. 6 hrs./wk.

ART 143
CERAMICS II (3CR)
Prerequisite: ART 142
This course will deal with more advanced methods and studio experiences in ceramic wheel techniques, creative expression and glaze formulation. Emphasis will be on development of a sense of thrown form and creative decoration. 6 hrs./wk.

ART 145
SCULPTURE I (3CR)
Students will explore and study natural and synthetic sculptural forms as they create work using traditional or contemporary media and techniques. 6 hrs./wk.

ART 146
SCULPTURE II (3CR)
Prerequisite: ART 145
This continuation of ART 145 will focus on advanced methods and techniques with emphasis on materials, forms and the student's selection of an individual direction. 6 hrs./wk.

ART 148
METAL AND SILVERSMITHING I (3CR)
The metalsmithing techniques of casting and constructing using brass, copper and silver will be studied along with buffing, sawing, filing and soldering processes. 6 hrs./wk.

ART 149
METAL AND SILVERSMITHING II (3CR)
Prerequisite: ART 148
Students will study advanced metalsmithing techniques of casting, constructing and etching using copper, brass, bronze, silver and other materials. 6 hrs./wk.

ART 151
WEAVING I (3CR)
In this introductory fiber course, projects will range from two-harness weaver-controlled techniques to more complete procedures involving the use of four-harness floor looms. 6 hrs./wk.

ART 152
WEAVING II (3CR)
Prerequisite: ART 151
Advanced problems in structural weaving will be explored using multiharness looms. A notebook is required. 6 hrs./wk.

ART 155
SMALL LOOM TECHNIQUES (3CR)
This is a study of the art of textile construction methods. Topics will include single and double element construction, fiber properties, spinning and dyeing. 6 hrs./wk.

ART 166
RAKU CERAMICS (3CR)
This course will deal with the oriental process of making and firing Raku pottery – a spontaneous, low-fire approach to a finished product involving the rapid firing and cooling of the pottery. Hand-formed (pinched and slab) as well as wheel-thrown forms will be researched. Emphasis will be on nonwheel manipulations of form. Students will be encouraged to develop a personal philosophical basis for their creative process and product. 6 hrs./wk.

ART 172
WATERCOLOR PAINTING (3CR)
This is an introductory course in transparent water media with emphasis on fundamental painting skills; color, value and composition; increased visual perception; and an awareness of personal expression. 6 hrs./wk.

ART 180
INTRODUCTION TO ART HISTORY (3CR)
The historical study of art traces its development from prehistoric times to early Italian Renaissance art. The course examines the aesthetic elements that mark the styles of major periods in two-dimensional, three-dimensional and architectural works. 3 hrs./wk.

ART 182
MODERN ART HISTORY (3CR)
This introduction to modern art studies a selected group of art objects produced in Europe and America from the Renaissance to the present. The course examines the aesthetic elements that mark styles of various periods and artists. Emphasis is on painting, sculpture and architecture. 3 hrs./wk.

ART 222
PRINTMAKING I (RELIEF AND INTAGLIO) (3CR)
Prerequisite: ART 130 or CA 130
This course will introduce students to traditional and contemporary relief and intaglio printmaking processes. The relief techniques covered will be woodcut, lino cut and cut-block print. The intaglio techniques covered will be drypoint, etching, aquatint, softground, photo etching and collograph. In both cases, editioning will be expected. Technical and aesthetic concerns must be demonstrated in the final print presentation. 6 hrs./wk.

ART 223
SILKSCREEN (3CR)
Prerequisite: ART 124 and either ART 130 or CA 130
In an exploration of silkscreen techniques, this class will cover paper stencil, hand-cut film and photo stencil processes. 6 hrs./wk.

ART 231
LIFE DRAWING I (3CR)
Prerequisite: ART 130
This is a study of the fundamentals of figure drawing. Students will work from live models, skeletons and other presentations. 6 hrs./wk.

ART 232
LIFE DRAWING II (3CR)
Prerequisite: ART 231
This course will offer advanced figure drawing with emphasis on varying figure form interpretations. 6 hrs./wk.

ART 235
STUDIO WORKSHOP I (3CR)
Prerequisite: ART 131 or ART 136
Emphasis will be on individual studio activity in painting or drawing. The student will decide the course content under a faculty member's supervision. 6 hrs./wk.

ART 236
STUDIO WORKSHOP II (3CR)
Prerequisite: ART 235

Emphasis will be on individual studio activity. The student will decide the course content under the supervision of a faculty member. 6 hrs./wk.

ART 244
CERAMICS WORKSHOP I (3CR)
Prerequisites: ART 143 and permission of the program director

Students will have the opportunity to pursue advanced individual research under the direction of the instructor. Emphasis will be on creative expression as well as on the development of technical skills. 6 hrs./wk.

ART 281
DIRECTED READING
IN CONTEMPORARY AMERICAN ART (1CR)
Prerequisite: Approval of the program director

The technical and philosophical points of view of contemporary American artists will be examined in this course. By arrangement. 1 hr./wk.

ART 298
AMERICAN ART SINCE 1945 (1CR)

A study of American painting and drawing, this class will trace developments from 1945 through today. Students will study work in major museums and important commercial galleries through travel to major art centers.

Automotive Technology

AUTO 116
BASIC AUTO I (4CR)
Prerequisite: MATH 111 or an appropriate score on the math assessment test

Upon successful completion of this course, the student should have a working knowledge of shop equipment and safe working habits. Other basic competencies will include lubrication and cooling system service and a working knowledge of belts and accessories, basic ignition and carburetor adjustments, and brake service. The use and identification of service manuals, fasteners, hand tools and equipment also will be covered. 3 hrs. lecture, 7 hrs. lab/wk. (AVTS)

AUTO 118
BASIC AUTO II (5CR)
Prerequisite: AUTO 116

Upon successful completion of this course, the student should have developed an understanding of internal engines, two- and four-stroke cycle, theory and basic electricity. Students also will have the opportunity to develop a working knowledge of driveline service and an understanding of emission standards and basic diagnostic procedures. 4 hrs. lecture, 6 hrs. lab/wk. (AVTS)

AUTO 121
SMALL ENGINE SERVICE (3CR)

Upon successful completion of this course, the student should be able to examine areas in class on two- and four-stroke cycle engines. The student should be able to understand lubricating, cooling, fuel and governor systems; troubleshooting engine problems; inspection of engine components; and servicing the fuel, cooling and exhaust systems. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 125
INTRODUCTION TO
AUTOMOTIVE SHOP PRACTICES (3CR)
Corequisite: MATH 111 or a satisfactory score on the math assessment exam

Upon successful completion of this course, the student should be able to develop shop safety habits and become proficient in tire, battery, cooling system, lubrication service and minor electrical diagnosis.This course is an introductory course required for all students in the Automotive Technology program. Emphasis will be placed on learning basic skills needed to enter advanced automotive classes. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 157
AUTO CARBURETION,
DIESEL AND FUEL INJECTION (4CR)
Prerequisite: AUTO 160

Upon successful completion of this course, the student should be able to construct, operate and diagnose computer-controlled carburetors, fuel pumps, injection pumps and injectors in diesel and gasoline engines. The student should become proficient in the diagnoses and repair of most computer-controlled systems, carburetors, fuel pumps and injection systems. 3 hrs. lecture-demonstration, 3 hrs. lab/wk.

AUTO 160
AUTOMOTIVE ENGINES I (3CR)
Corequisite: AUTO 125

Upon successful completion of this course, the student should be able to demonstrate an understanding of four-stroke-cycle internal combustion engines, calculating compression ratio, piston displacement, horsepower and torque, and analyze and correct internal engine malfunctions. 2 hrs. lecture-demonstration, 3 hrs. lab/wk.

AUTO 163
AUTOMOTIVE ALIGNMENT, BRAKES AND DRIVETRAIN (4CR)

Prerequisite: AUTO 125

Upon successful completion of this course, the student should complete competencies in suspension systems (including electronic), steering systems (two- and four-wheel), brake systems with anti-lock features, manual transmission/transaxles assemblies and final drive components. 3 hrs. lecture-demonstration, 3 hrs. lab/wk. Spring.

AUTO 222
AUTOMOTIVE STARTING, CHARGING AND IGNITION (3CR)

Prerequisite: AUTO 160

Upon successful completion of this course, the student should be able to become proficient in the diagnosis and repair of most starting, charging and ignition systems. The construction, operation and diagnosis of the starting, charging and ignition systems will be covered in this course, including computer-controlled assemblies. 2 hrs. lecture, 3 hrs. lab/wk.

AUTO 230
AUTOMOTIVE A/C, LIGHTING AND POWER ACCESSORIES (4CR)

Prerequisite: AUTO 160

Upon successful completion of this course, the student should be able to construct, operate and diagnose auto air conditioning, lighting systems and power accessories such as power windows, speed control and instrument panel components. 3 hrs. lecture, 3 hrs. lab/wk.

AUTO 242
SERVICE MANAGEMENT AND TECHNIQUES I (7CR)

Prerequisites: AUTO 125, AUTO 157, AUTO 160, AUTO 163
Corequisites: AUTO 222 and AUTO 250

Upon successful completion of this course, the student should be proficient in ordering parts, writing repair orders, presenting work orders to customers, questioning customers about automobile service problems, answering the telephone and assigning work loads. Students will perform repair work on engines, transmissions, steering, suspension and brakes. 4 hrs. lecture-demonstration, 9 hrs. lab/wk.

AUTO 244
SERVICE MANAGEMENT AND TECHNIQUES II (7CR)

Prerequisites: All courses required during the first three semesters for the Automotive Program

Upon successful completion of this course, the student should become proficient in customer relations, ordering parts, work-load supervision, filling out repair orders and telephone usage. Students will perform service work on air conditioning, electronic control problems and automatic transmissons/transaxles. 4 hrs. lecture-demonstration, 9 hrs. lab/wk.

AUTO 250
AUTOMATIC TRANSMISSIONS AND TRANSAXLES (4CR)

Prerequisite: AUTO 125

Upon completion of this course, the student should be able to diagnose, service and repair various automatic transmissions and progress to automatic transaxles, including computer-controlled systems. 3 hrs. lecture-demonstration, 3 hrs. lab/wk.

AUTO 271
AUTOMOTIVE TECHNOLOGY INTERNSHIP I (3CR)

Prerequisite: Division administrator approval

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. work min./wk.

AUTO 272
AUTOMOTIVE TECHNOLOGY INTERNSHIP II (3CR)

Prerequisite: AUTO 271 and approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. work min./wk.

Aviation

KAV 100
INTRODUCTION TO AVIATION MAINTENANCE I (14CR)

General aviation practices will be introduced. Also addressed will be theory and practical application in basic electricity, drafting, fluid lines and fittings, materials and processes, ground operation and servicing, publications, and the mechanic's privileges and limitations. 19.7 hrs. lecture, 11.9 hrs. lab/wk.

KAV 101
CARBURETION AND LUBRICATION (7CR)

Prerequisites: KAV 100 and KAV 111

This class will present the theory and practical application of engine lubricating systems, engine fuel systems, fuel metering systems and induction systems. 9.6 hrs. lecture, 4.8 hrs. lab/wk.

KAV 102
WOOD AND FABRIC (3CR)

Prerequisites: KAV 100 and KAV 111

The fundamentals of wood structures, aircraft covering and aircraft finishes will be introduced. 4.5 hrs. lecture, 2.7 hrs. lab/wk.

KAV 103
AIRCRAFT RECIPROCATING POWERPLANT (6CR)

Prerequisites: KAV 100 and KAV 111

Aircraft reciprocating powerplants will be introduced along with the theory and practical application of reciprocating engines and engine exhaust systems. 8.4 hrs. lecture, 4.8 hrs. lab/wk.

KAV 104
ASSEMBLY AND RIGGING (5CR)

Prerequisites: KAV 100 and KAV 111

Students will focus on the theory and practical application of aircraft assembly and rigging and airframe assembly inspection. 8.4 hrs. lecture, 4.8 hrs. lab/wk.

KAV 105
PROPELLERS (5CR)

Prerequisites: KAV 100 and KAV 111

The theory and practical application of a wide range of propeller types will be introduced as will engine cooling systems. 6 hrs. lecture, 3.6 hrs. lab/wk.

KAV 106
HYDRAULIC AND PNEUMATIC SYSTEMS (7CR)

Prerequisites: KAV 100 and KAV 111

Areas covered will include inspection, checking, servicing and troubleshooting hydraulic and pneumatic power systems and air conditioning, pressurization and oxygen systems. 9.6 hrs. lecture, 4.8 hrs. lab/wk.

KAV 107
JET PROPULSION POWERPLANT (5CR)

Prerequisites: KAV 100 and KAV 111

This course will present operating principles of gas turbine engines, their application to present-day aircraft, and theory and practical application in inspection, servicing and troubleshooting. 6 hrs. lecture, 2.4 hrs. lab/wk.

KAV 108
AIRCRAFT ELECTRICAL
AND RELATED SYSTEMS (5.5CR)

Prerequisites: KAV 100 and KAV 111

This course will examine theory and practical application in aircraft electrical, position and warning, and ice and rain control systems. 7.2 hrs. lecture, 3.6 hrs. lab/wk.

KAV 109
AIRCRAFT IGNITION AND STARTING SYSTEMS (6CR)

Prerequisites: KAV 100 and KAV 111

The principles of aircraft ignition and starting systems will be introduced with emphasis on the practical application of ignition timing and magneto disassembly and repair. 5.4 hrs. lecture, 3 hrs. lab/wk.

KAV 110
TECHNICAL MATH (4CR)

Students will learn algebraic functions, factoring, linear equations, quadratic equations, systems of equations, exponents and radicals. Also covered will be trigonometric functions, solutions of right triangles, functions of the general angle, and graphs of trigonometric functions. Laboratory emphasis will be on elementary physics related to aircraft. 4 hrs./wk.

KAV 111
INTRODUCTION TO
AVIATION MAINTENANCE II (4.5CR)

This course will present general aviation practices and theory and practical applications in basic electricity. 6.2 hrs. lecture, 3.2 hrs. lab/wk.

KAV 115
ENGLISH (3CR)

This is an English course for aviation majors only. Methods of rhetorical organization, sentence and paragraph development, and diction will be stressed. Students will write and read essays of various types. 3 hrs./wk.

KAV 200
SHEET METAL STRUCTURES (4CR)
Prerequisites: KAV 100 and KAV 111

Gas welding, sheet metal fabrication, and methods and application of aircraft structural repair will be presented. 10.2 hrs. lecture, 7.8 hrs. lab/wk.

KAV 201
POWERPLANT TESTING (2.5CR)
Prerequisites: KAV 100 and KAV 111

This course will address reciprocating engine and engine system theory and inspection and theory and practical application in the removal, installation, run-up and troubleshooting of aircraft reciprocating engines. 2.4 hrs. lecture, 4.8 hrs. lab/wk.

KAV 202
AIRCRAFT FUEL AND
FIRE PROTECTION SYSTEMS (4CR)
Prerequisites: KAV 100 and KAV 111

Aircraft fuel systems and fire protection systems will be addressed. Topics will include inspection, checking, servicing and troubleshooting. 3 hrs. lecture, 1.4 hrs. lab/wk.

KAV 203
ELECTRICITY, GENERATOR – ALTERNATOR (5.5CR)
Prerequisites: KAV 100 and KAV 111

This course will present the theory of aircraft engine electrical systems, practical applications of generating power, and electrical control systems. 7.2 hrs. lecture, 3.6 hrs. lab/wk.

KAV 204
AIRCRAFT COMMUNICATIONS/NAVIGATION SYSTEMS (6CR)
Prerequisites: KAV 100 and KAV 111

This course will focus on the theory and practical application of auto pilot and approach systems and inspection and repair of antenna and equipment installations. 6.9 hrs. lecture, 3.3 hrs. lab/wk.

KAV 205
FIRE PROTECTION SYSTEMS (5.5CR)
Prerequisites: KAV 100 and KAV 111

This course will review engine systems through analysis of related instruments and control systems. Engine fire protection also will be covered. 7.2 hrs. lecture, 3.6 hrs. lab/wk.

KAV 206
AIRFRAME INSPECTION AND WELDING (5.5CR)
Prerequisites: KAV 100 and KAV 111

In this review of airframe theory courses, the emphasis will be on areas of difficulty. 7.2 hrs. lecture, 3.6 hrs. lab/wk.

Banking and Finance

AIB 101
PRINCIPLES OF BANKING (3CR)

Upon successful completion of this course, the student should be able to identify aspects of banking from the fundamentals of negotiable instruments to contemporary issues and developments within the industry. In addition, the student should be able to demonstrate an understanding of the competitive and regulatory environments; bank regulations and examination; bank loans and investments; and the importance of full-service commercial banking. 3 hrs./wk.

AIB 104
TRUST OPERATIONS (3CR)

Upon successful completion of this course, the student should be able to define and explain basic trust terminology, the nature and complexities of the investment process and the purpose of investments. In addition, the student should be able to list the trust services available; explain economic forecasting principles and illustrate their applications; describe the techniques of valuing stocks and other securities; and explain the concepts of portfolio management. This course is comprehensive and focuses on the theory and practice of trust department investment services. 3 hrs./wk.

AIB 107
LAW AND BANKING: PRINCIPLES (3CR)

Upon successful completion of this course, the student should be able to identify the laws, regulations and legal processes directly related to banking. In addition, the student should be able to outline the serious legal problems that occur in routine banking operations if the principles and concepts are not followed. This course places emphasis on the Uniform Commercial Code and legal terminology related to banking and commercial transactions. 3 hrs./wk.

AIB 109
MARKETING FOR BANKERS (3CR)

Upon successful completion of this course, the student should be able to define marketing and explain why the marketing concept is essential for banks in today's competitive economic environment. In addition, the student should be able to describe the factors that motivate customers to purchase financial services and be able to prepare a marketing plan. The course also requires the student to outline and explain how a bank should integrate its public relations, advertising, sales promotion, selling and service distribution functions. 3 hrs./wk.

AIB 124
COMMERCIAL LENDING (3CR)

Prerequisite: ACCT 121 or ACCT 122

Upon successful completion of this course, the student should be able to define, analyze and evaluate how the commercial lending business is organized, how it contributes to bank profitability and the total commercial lending process. This comprehensive treatment of commercial lending is designed for entry-level commercial loan officers and anyone who wants to know more about the role of commercial lending in the banking industry and collective economy. This course will give the student a conceptual framework for the study of commercial lending. 3 hrs./wk.

Biology

BIOL 110
NUTRITION FOR LIFE (2CR)

Designed for students who wish to apply nutrition information to their lives, this course explores how food selection affects body size, body composition, performance, disease resistance and longevity. Students will analyze the composition of their diets and develop a plan of action to improve their eating behaviors. 2 hrs. lecture/wk.

BIOL 115
NATURAL HISTORY OF KANSAS (3CR)

This course describes the physical and biological processes that have led to the present Kansas landscape. Physical science topics include geology, climate patterns and soil formation; biological science topics include ecology and a survey of plants and animals of Kansas. The relationship of the physical and biological environment to past and present land and resource use will be explored.
3 hrs. lecture/wk.

BIOL 122
PRINCIPLES OF BIOLOGY (3CR)

Students will explore selected concepts and principles important to an understanding of how biological systems operate. They also will examine the world of both plants and animals. This course is not open to students who have taken BIOL 120 Life Science. 3 hrs./wk.

BIOL 123
PRINCIPLES OF BIOLOGY LAB (1CR)

Prerequisite or corequisite: BIOL 122 or the equivalent

This introductory lab will focus on the structures and functions of plants and animals. 2 hrs./wk.

BIOL 124
OCEANUS: THE MARINE ENVIRONMENT (3CR)

This course will focus on the marine environment as a unique feature of the planet Earth and investigate areas of intense scientific and public concern: the physical size and diversity of contained life forms; the marine environment's contribution to the physical and historical development of man; its impact on geopolitical and economic matters; the impact of oceanic pollutants; and the potential exploitation of marine resources. 3 hrs. lecture/wk.

BIOL 125
GENERAL BOTANY (5CR)

This is a survey of the life, structure and growth of plants. Divisions of the plant kingdom will be presented with emphasis on the life cycles, anatomy, physiology and ecology of major groups. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 127
GENERAL ZOOLOGY (5CR)

This is a survey of the life, structure and growth of animals. Students will concentrate on identifying animals by their structural characteristics and will look at the role adaptation plays in anatomical and physiological features. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 130
ENVIRONMENTAL SCIENCE (3CR)

Students will study the human population's impact on the environment. Topics will include population, air and water pollution, hazardous wastes, land use and energy. 3 hrs./wk.

BIOL 131
ENVIRONMENTAL SCIENCE LAB (1CR)

Prerequisite or corequisite: BIOL 130

Students will sample the local environment for air, water and noise pollution. Field trips will include visits to a local industry to observe pollution control and to a sewage treatment plant. 2 hrs. lab/wk. plus up to three field trips.

BIOL 140
HUMAN ANATOMY (4CR)

Students will study gross and microscopic aspects of cells, tissues and organ systems of the human body. They will concentrate on a detailed analysis of the structure of each body system. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 144
HUMAN ANATOMY AND PHYSIOLOGY (5CR)

Students will study the relationship of structure to function in the organ systems of the human body. Emphasis will be on the location of anatomical features and their functions. 3 hrs. lecture, 4 hrs. lab/wk.

BIOL 145
HUMAN ANATOMY/PHYSIOLOGY DISSECTION (1CR)

Prerequisites: BIOL 144 and approval of the division administrator

Students will dissect the fetal pig and study the organ systems and their functions. The bovine uterus, heart and brain and the porcine testis and kidney will also be dissected. Students will compare and contrast these structures and functions with the human body. 2 hrs. lab/wk.

BIOL 146
GENERAL/HEAD AND NECK ANATOMY (4CR)

Prerequisites: Admission to the Dental Hygiene program and CHEM 122, ENGL 121 and SOC 122 (with a minimum 2.0 G.P.A.)

The cells, tissues and organ systems of the body will be examined with emphasis on the head and neck. Students will discuss and analyze each system of the body and the embryology of the head and neck. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 150
BIOLOGY OF ORGANISMS (5CR)

Prerequisites: BIOL 122 and BIOL 123

Phyla of protista, plant and animal kingdoms will be presented with emphasis on the life cycles, anatomy, physiology and ecology of the major groups. 4 hrs. lecture, 3 hrs. lab/wk.

BIOL 205
GENERAL GENETICS (3CR)

Prerequisite: BIOL 122 or the equivalent

Heredity and variation of plants and animals will be studied, including classical and molecular genetics. 3 hrs./wk.

BIOL 210
PATHOPHYSIOLOGY (4CR)

Prerequisites: BIOL 144 or BIOL 140 and BIOL 225

This introduction to the physiology of disease will cover common disorders of the body from the cellular level to the systemic level. Topics will include causes, symptoms, diagnostic tests and treatment of disease. 4 hrs./wk. Spring.

BIOL 225
HUMAN PHYSIOLOGY (4CR)

Prerequisites: CHEM 122 and BIOL 140 or BIOL 146

The physical and chemical processes of human cells, tissues, organs and systems will be studied. Living organisms and physiological tools will be used to demonstrate the principles of general physiology. 3 hrs. lecture, 3 hrs. lab/wk.

BIOL 230
MICROBIOLOGY (3CR)

Prerequisite: CHEM 122 or one year of high school chemistry

The cell structure, physiology, antimicrobial agents, immunology and host-parasite relationships of microorganisms will be studied. 3 hrs./wk.

BIOL 231
MICROBIOLOGY LAB (2CR)

Prerequisite or corequisite: BIOL 230

Students will grow and identify microorganisms and perform experiments to test the organisms' response to various environmental conditions. 4 hrs./wk.

BIOL 235
GENERAL NUTRITION (3CR)

Corequisite: BIOL 225 or the equivalent

Students will study the source and purpose of essential nutrients, evaluate various diets and explore the role diet plays in preventing disease. 3 hrs./wk.

BIOL 240
GENERAL PHARMACOLOGY (3CR)

Prerequisite: BIOL 225

This is a study of drugs – how they work, what they do, what effects they cause. 3 hrs./wk. Spring.

BIOL 298
SPECIAL TOPICS IN BIOLOGY:
SOUTHWESTERN FIELD COURSE (4CR)

Students will travel through the varied environments of the Southwestern United States to observe and study the field biology of each area. The course will include pretrip lectures in addition to the two-week field trip.

BIOL 299
YUCATAN FIELD COURSE: NATURAL HISTORY (3CR)

This travel-for-credit course consists of on-campus seminars followed by two weeks in Mexico. The class is an introduction to the natural history, flora and fauna of selected geographical locations of the Yucatan Peninsula. The course will include pretrip lectures in addition to the two-week trip.

Biomedical Equipment Technology

(See Electronics Technology, page 152.)

Business Administration

BUS 120
MANAGEMENT ATTITUDES AND MOTIVATION (3CR)

Upon successful completion of this course, the student should be able to assess personal strengths and weaknesses and set goals for personal and professional life; define communication and listening skills; analyze human relations problems; apply problem-solving strategies to human relations issues in the workplace; and define and compare management styles. Class meets for 48 hrs.

BUS 121
INTRODUCTION TO BUSINESS (3CR)

Upon successful completion of this course, the student should be able to explain the basic principles of the American free enterprise economic system. In addition, the student should be able to explain the fundamentals of starting a business and the interrelationship among the four functional areas: accounting, finance, management and marketing. 3 hrs./wk.

BUS 123
PERSONAL FINANCE (3CR)

Upon successful completion of this course, the student should be able to define the role of a consumer in the economy; develop a basic financial plan; apply budgeting procedures in a daily and monthly spending plan; calculate principal and interest; define the types of consumer credit; identify the types of housing mortgages; and explain the important considerations in buying, selling and renting. In addition, the student should be able to calculate individual insurance needs in the areas of life insurance, health insurance, property and liability insurance, automobile insurance and other types of special insurance, and be able to explain employee and retirement benefits, including tax-sheltered plans. 3 hrs./wk.

BUS 122
INTRODUCTION TO LAW (3CR)

Upon successful completion of this course, the student should be able to explain the major substantive and procedural aspects of law. This course is available to students with a general interest in the law, and is required for students seeking admission to the Paralegal Program. 3 hrs./wk.

BUS 126
TRANSPORTATION RATES I (3CR)

Prerequisite: Permission of the division administrator

Upon successful completion of this course, the student should be able to identify and explain motor carrier rates. 3 hrs./wk.

BUS 127
TRANSPORTATION RATES II (3CR)

Prerequisite: Permission of the division administrator

Upon successful completion of this course, the student should be able to identify and explain Middlewest Freight Bureau Tariff 125 and MWB 226 (commodities). 3 hrs./wk.

BUS 128
TRANSPORTATION RATES III (3CR)

Prerequisite: Permission of the division administrator

Upon successful completion of this course, the student should be able to identify and explain Middlewest Motor Freight Bureau Tariff 129 (rule for discounts and allowances), MWB 600 local distribution and Rocky Mountain Motor 303 (class and commodity rates). 3 hrs./wk.

BUS 140
PRINCIPLES OF SUPERVISION (3CR)

Upon successful completion of this course, the student should be able to define the supervisor's role within a company and identify the skills necessary to successfully fulfill that role. In addition, the student should be able to determine the supervisor's role in supervising employees on an individual basis and as a group. The student should also be able to apply the principles of supervision in simulated work situations. 3 hrs./wk.

BUS 141
PRINCIPLES OF MANAGEMENT (3CR)

Upon successful completion of this course, the student should be able to state the basic functions of management, explain the nature of organizations and organizational theories and types, explain the importance of effective communication within the organizational structure, develop and define the techniques for directing and motivating employees, explain the effects of change on an organization and develop techniques for coping with those effects. In addition, the student should be able to explain and discuss the application of business ethics in managerial decision making. 3 hrs./wk.

BUS 145
SMALL BUSINESS MANAGEMENT (3CR)

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. 3 hrs./wk.

BUS 147
INTRODUCTION TO CREDIT MANAGEMENT (3CR)

Prerequisite: ACCT 121

Upon successful completion of this course, the student should be able to explain the role and types of commercial credit in a business environment and the determination and development of a credit policy. In addition, the student should be able to analyze a company's financial statements to determine credit worthiness and use applicable law and credit regulations governing commercial credit policies. The student should also be able to describe and use basic collection principles. 3 hrs. lecture/wk.

BUS 148
INTERMEDIATE CREDIT MANAGEMENT (3CR)

Prerequisite: BUS 147

Upon successful completion of this course, the student should be able to apply credit management procedures to the diagnosis and solution of credit problems. In addition, the student should be able to explain risk analysis, credit management controls and procedures, the role of the credit auditor, the role of credit insurance and calculate ratios and a trend analysis based on data in financial statements. 3 hrs. lecture/wk.

BUS 150
BUSINESS COMMUNICATIONS (3CR)

Prerequisite: ENGL 121

Upon successful completion of this course, the student should be able to demonstrate efficient summarizing and outlining, demonstrate listening skills that help improve retention rate, write correspondence and memos using the principles of correct writing style and format, explain the basic rules of report writing and apply those principles to a short report, and prepare an effective oral business presentation. 3 hrs./wk.

BUS 215
SAVINGS AND INVESTMENTS (3CR)

Upon successful completion of this course, the student should be able to define, analyze and evaluate types of savings instruments and other investments. In addition, the student should be able to determine which instruments are desirable for a personal financial plan. The student should also be able to demonstrate an understanding of basic financial-planning concepts and tax-planning procedures. 3 hrs./wk.

BUS 221
PRINCIPLES OF INSURANCE (3CR)

Upon successful completion of this course, the student should be able to state the objectives of and the steps involved in the risk management process; explain the life, health, property and liability exposures for a family; determine the property and liability needs and expenses for a business; explain the needs for both private and social insurance; state the factors included in insurance costs; and analyze current issues in insurance. 3 hrs./wk.

BUS 225
HUMAN RELATIONS (3CR)

Upon successful completion of this course, the student should be able to evaluate the impact of human relations as it relates to the social system, technical system and administrative system of a work environment. In addition, the student should be able to analyze these systems and their effects on individual, group and organizational performance. 3 hrs./wk.

BUS 230
MARKETING (3CR)

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, wholesaler 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. 3 hrs./wk.

BUS 235
INTRODUCTION TO INTERNATIONAL BUSINESS (3CR)

Upon successful completion of this course, the student should be able to explain the foreign economic, political and socio-cultural environments relevant to international trade and finance. In addition, the student should be able to explain the basic functions of a firm engaged in international trade (management, marketing and finance) and the international monetary system and foreign exchange. 3 hrs./wk.

BUS 243
HUMAN RESOURCE MANAGEMENT (3CR)

Upon successful completion of this course, the student should be able to state the principles of human resource management; describe the human resource function as an integral part of management; differentiate between the roles of the personnel and line manager in the management of personnel; define and evaluate strategic planning, recruitment, selection and training; define the primary methods of human resource development; employ methods of employer appraisal; and state the major components and coverages of the Equal Employment Opportunity Act and other personnel/human resources-related laws. 3 hrs./wk.

BUS 261
BUSINESS LAW I (3CR)

Upon successful completion of this course, the student should be able to to describe the American legal system and identify and describe the basic principles of law as applied to business crimes, torts, contracts, sales and negotiable instruments. In addition, the student should be able to apply basic principles of law to cases involving daily business operations. 3 hrs./wk.

BUS 263
BUSINESS LAW II (3CR)

Prerequisite: BUS 261

Upon successful completion of this course, the student should be able to describe the basic principles of law as applied to real and personal property, bailments, estates and trusts, secured transactions, bankruptcy, and agency and business organizations. In addition, the student should be able to apply basic principles of law to cases involving daily business operations. 3 hrs./wk.

BUS 271
MANAGEMENT SEMINAR (3CR)

Prerequisite: BUS 141

Upon successful completion of this course, the student should be able to apply management decision-making principles to simulated management problems. In addition, the student should be able to explain the theory and practice of the management process. 3 hrs./wk.

BUS 298
BUSINESS IN JAPAN (3CR)

In this travel-for-credit course, students will take part in seminars on campus before traveling to Japan where they will visit Japanese factories and other business-related agencies. 52 lecture hours.

Business Entrepreneurship

BUSE 131
FINANCIAL MANAGEMENT FOR SMALL BUSINESS (2CR)

Prerequisite: ACCT 111 or ACCT 121

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; prepare a cash-flow 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. 2 hrs./wk.

BUSE 138
FAST TRAC BUSINESS PLAN (4CR)

Upon successful completion of this course, the student should be able to write a sound business plan. Students should be able to assess their strengths and weaknesses as business entrepreneurs; collect, analyze and organize market research data into a marketing plan; and prepare the financial projections for their business ideas. In addition, students should be able to tailor their business plans based on the intended use of each plan (internal management, raising investment capital, borrowing money); and identify and evaluate various resources available for funding small businesses. 4 hrs. lecture/wk.

BUSE 160
LEGAL ISSUES FOR SMALL BUSINESS (2CR)

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. 2 hrs./wk.

BUSE 180
ENTREPRENEURSHIP SEMINAR:
THE SMALL BUSINESS ENVIRONMENT (2CR)

Prerequisites: Admission to the Entrepreneurship Program, ECON 130 or ECON 230, BUS 230

Upon successful completion of this course, the student should be able to assess the current economic, social and political climate for small business. In addition, the student should be able to explain how demographic, technological and social changes create opportunities for small business ventures. 2 hrs./wk.

BUSE 190
ENTREPRENEURSHIP SEMINAR: SMALL BUSINESS ANALYSIS (2CR)

Upon successful completion of this course, the student should be able to identify problems that frequently arise in small business and utilize problem-solving skills to formulate solutions. In addition, the student should be able to apply the knowledge of business concepts and techniques in the analysis of cases and actual business situations. 2 hrs./wk.

BUSE 210
ENTREPRENEURSHIP INTERNSHIP I (1CR)

Corequisite: BUSE 180 or BUSE 190

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. A minimum of 15 hours each week on-the-job training is required.

BUSE 215
ENTREPRENEURSHIP INTERNSHIP II (1CR)

Corequisite: BUSE 180 or BUSE 190

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. A minimum of 15 hours each week on-the-job training is required.

Chemistry

CHEM 120
THE WORLD OF CHEMISTRY (3CR)

This course is for students who will benefit from an understanding of the concepts of chemistry without emphasis on mathematical problem solving. Historical foundations of chemistry, application to industrial processes and current research topics will be covered. Demonstrations and computer graphics will illustrate and model accepted theories. 3 hrs. lecture/wk.

CHEM 121
THE WORLD OF CHEMISTRY LAB (1CR)

Corequisite: CHEM 120

This optional laboratory course is designed to accompany CHEM 120. The course includes the careful observation and recording of data, both qualitatively and quantitatively. Results are interpreted in terms of current models for chemical systems. The experiments are selected to illustrate chemical principles. 3 hrs. lab/wk.

CHEM 122
PRINCIPLES OF CHEMISTRY (5CR)

This is an introduction to the fundamentals of chemistry. It will cover the general concepts of inorganic chemistry with some organic chemistry and biochemistry. 4 hrs. lecture, 3 hrs. lab/wk.

CHEM 123
PRINCIPLES OF TECHNICAL CHEMISTRY (6CR)

Corequisite: MATH 133

This introduction to the fundamental concepts of chemistry will emphasize the general concepts of inorganic chemistry with sufficient study of organic chemistry to introduce the student to biochemistry. Labs will introduce students to the processes and expectations of an industrial laboratory. 4 hrs. lecture, 6 hrs. lab/wk.

CHEM 124
GENERAL CHEMISTRY I LECTURE (4CR)

Corequisites: CHEM 125 and MATH 171

Students will relate atomic structure to chemical systems, calculate the amount of material used in chemical reactions, use the periodic table as an aid to understanding chemical systems and interpret chemical reactions. 4 hrs./wk. with prior chemistry background or 5 hrs./wk. with no prior chemistry background.

CHEM 125
GENERAL CHEMISTRY I LAB (1CR)

Corequisite: CHEM 124

Experiments of a qualitative and quantitative nature that support topics from General Chemistry I Lecture will be carried out. 3 hrs./wk.

CHEM 131
GENERAL CHEMISTRY II LECTURE (4CR)

Prerequisites: CHEM 124 and CHEM 125
Corequisite: CHEM 132

In this continuation of CHEM 124, topics will include kinetics, acid-base chemistry, equilibrium, chemical thermodynamics and electro-chemistry. 4 hrs./wk.

CHEM 132
GENERAL CHEMISTRY II LAB (1CR)

Prerequisite: CHEM 124 and CHEM 125
Corequisite: CHEM 131

The laboratory consists of qualitative and quantitative experiments designed to parallel and support General Chemistry II Lecture. 3 hrs./wk.

CHEM 140
PRINCIPLES OF ORGANIC CHEMISTRY (5CR)

Prerequisite: CHEM 122 or CHEM 131 and CHEM 132

Nomenclature, theory and applications of basic organic chemistry will be covered. Functional group reactions will lead into a study of carbohydrates, proteins, lipids and other biochemical topics. 4 hrs. lecture, 3 hrs. lab/wk.

CHEM 143
PRINCIPLES OF
TECHNICAL ORGANIC CHEMISTRY (6CR)

Prerequisite: CHEM 123

This course is a continuation of the study of organic and biochemistry initiated in CHEM 123. Biologically important concepts will be introduced in the study of basic functional group chemistry and extended into traditional biochemical topics such as carbohydrates, enzymes, lipids and proteins. The labs will emphasize the synthesis, separation, identification and characterization techniques common to the technician's role. 10 hrs. lecture, lab/wk.

CHEM 220
ORGANIC CHEMISTRY I (5CR)

Prerequisites: CHEM 131 and CHEM 132

Electronic theories and reaction mechanisms of organic compounds will be the major focus of this course. Students will work on techniques in the lab and will prepare representative compounds. 3 hrs. lecture, 6 hrs. lab/wk.

CHEM 221
ORGANIC CHEMISTRY II (5CR)

Prerequisite: CHEM 220

In this continuation of Organic Chemistry I, organic qualitative analysis will be introduced. 3 hrs. lecture, 6 hrs. lab/wk.

CHEM 223
TECHNICAL ANALYTICAL CHEMISTRY (4 CR)

Prerequisites: CHEM 143, PHYS 135 and MATH 134 or MATH 171

This course will introduce students to the fundamentals of modern wet quantitative chemical analysis. The topics of data analysis, quality control, gravimetric, titrimetric and potentiometric analysis will be related to the industrial environment through extensive supportive labs. 3 hrs. lecture, 5 hrs. lab/wk.

CHEM 227
INTRODUCTION TO QUANTITATIVE ANALYSIS (5CR)

Prerequisites: CHEM 131 and CHEM 132

This is an introduction to the concepts of acid-base, chromatography, coulometry, equilibrium, oxidation-reduction and spectrophotometry as they apply to quantitative chem-ical analysis. The lab will introduce modern quantitative experimental techniques. 3 hrs. lecture, 6 hrs. lab/wk.

CHEM 243
TECHNICAL INSTRUMENTAL CHEMISTRY (5CR)

Prerequisites: CHEM 223, PHYS 136 and MATH 134 or MATH 172

This course will introduce students to the fundamentals of modern instrumental quantitative analysis. The topics of spectrophotometry, fluorometry, chromatography and polarography will be related to the technician's role in the industrial environment through intensive supportive labs. 3 hrs. lecture, 6 hrs. lab/wk. Spring.

CHEM 250
BIOCHEMISTRY (4CR)

Prerequisites: CHEM 131, CHEM 132, 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. 4 hrs. lecture/wk.

CHEM 251
BIOCHEMISTRY LABORATORY (2CR)

Prerequisites: CHEM 131, CHEM 132, CHEM 140 or CHEM 220

Corequisite: CHEM 250

The laboratory will consist of qualitative and quantitative experiments using biological molecules. Particular emphasis on biochemistry laboratory techniques including chromatography and spectroscopy will be used. 4 hrs. lab/wk.

Civil Engineering Technology

CET 105
CONSTRUCTION METHODS (3CR)

Upon successful completion of this course, the student should be able to understand terminologies, methods, procedures, sequences of operation and types of construction and planning in civil and building construction. 3 hrs./wk.

CET 127
BUILDING CONSTRUCTION ESTIMATING (3CR)

Prerequisite: DRAF 129 or division administrator approval

This is an introduction to the principles of building materials estimating. Upon successful completion of this course, students should be able to take off quantities of materials from drawings and use reference books, tables and C.S.I. format to perform estimates. 3 hrs./wk.

CET 129
CONSTRUCTION MANAGEMENT (3CR)

This course is for students interested in learning management principles for construction projects. Upon successful completion of this course, the student should be able to perform many processes associated with construction projects and complete forms typically used in project management. Topics will include contract documents, shop drawings, scheduling, job costs and management issues. Computers will be used to track project resources and progress. 3 hrs. lecture/wk.

CET 140
CIVIL ENGINEERING MATERIALS (3CR)

Corequisite: MATH 133 or equivalent

Upon successful completion of this course, the student will be able to analyze materials commonly used in civil engineering construction projects. Common properties of soil, concrete and asphalt will be studied for classification as engineering materials. Students will learn to perform typical materials tests in accordance with ASTM guidelines. 2 hrs. lecture, 3 hrs. lab/wk.

CET 211
TECHNICAL STATICS AND MECHANICS (3CR)

Prerequisite: MATH 134 or MATH 172

Upon successful completion of this course, the student should be able to evaluate force systems in equilibrium, centroids, moment of inertia, trusses, frames and friction. The topics of elastic stress and strain, torsion, and beam and column behavior also will be covered. Computer applications will be included. 3 hrs. lecture/wk.

CET 258
STRUCTURAL DESIGN (3CR)

Prerequisite: CET 211 or ENGR 252

Upon successful completion of this course, the student should be able to analyze and design simple structural systems. Structural members and systems composed of steel and wood will be investigated with regard to strength and structural behavior. Design standards include AISC and NDS. Computer analysis of structures will be introduced. 3 hrs. lecture/wk.

CET 270
FLUID MECHANICS (3CR)

Prerequisites: MATH 172 or MATH 134

Upon successful completion of this course, the student should be able to analyze fluid systems using the fundamental properties of pressure, hydrostatic force, buoyancy, flow in pipes, open channel flow and flow measuring devices. The student should also be able to solve practical problems related to engineering technology. Computer applications will be included. 3 hrs. lecture/wk.

Commercial Art

CA 130
REPRESENTATIONAL DRAWING I (3CR)

In this introduction to representational drawing, the emphasis is on techniques of visual analysis and the accurate rendering of structure in terms of both line and value. This course is designed to provide students with the kinds of drawing skills needed for application in their chosen profession, as well as in most of the essential courses within the Commercial Art program. Studio problems focus on the communication of accurate visual information to a mass audience. 6 hrs./wk.

CA 131
REPRESENTATIONAL DRAWING II (3CR)

Prerequisite: CA 130

This course is a continuation of Representational Drawing I with emphasis on the creative application of acquired theory, perceptual skills and techniques. Compositional problems as well as techniques used to convey emotional content will be explored. 6 hrs./wk.

CA 132
TYPOGRAPHY (3CR)

This study of the principles of contemporary typographic design focuses on such factors as size, form, contrast, color, spacing and design of the printed word and the printed page. Information concerning typography from traditional letterpress through digital type design and typesetting will be included. Emphasis will be on the most effective visual methods of communicating to a mass audience through the printed letter, word, line and page. Artists who are responsible for communicating through the printed word must be familiar with the visual typographic elements by which they can communicate messges. 6 hrs./wk.

CA 134
LAYOUT I (3CR)

Prerequisite: CA 132

This course is a study of basic layout elements and the acquisition of skills necessary to produce layouts. Traditional through contemporary techniques will be explored. Advertising and editorial grid systems and electronic page design will be emphasized. 6 hrs./wk.

CA 140
GRAPHIC PROCESSES (3CR)

Prerequisite: PHOT 121

This technical graphic arts process course will cover a variety of professional materials and techniques used to produce line art, halftones, proofing and presentation materials. Digital prepress applications will be explored. 6 hrs./wk.

CA 230
ILLUSTRATION TECHNIQUES (3CR)

Prerequisite: CA 131

This course will provide an understanding of the work of the professional illustrator. Processes involved in effective research, creative visual problem solving and image production utilizing both digital and traditional applications will be explored. 6 hrs./wk.

CA 231
LAYOUT II (3CR)

Prerequisite: CA 134

This course is a continuation of Layout I with emphasis on the effective composition of verbal and visual messages designed for publication. Layouts must be designed to fulfill a wide variety of client needs and specifications. They must at the same time stay within cost-effective limits and effectively fulfill their visual function. The design vehicle "comps" will be produced using traditional and digital tools to express the conceptual ideas. 6 hrs./wk.

CA 235
PRODUCTION ART I (3CR)

Prerequisites: CA 134 and CA 140

This is a study of the fundamentals of preparing art for reproduction. Emphasis is on practical exercises and the acquisition of skills related to traditional and digital prepress production methods and techniques necessary for the preparation of camera-ready art. 6 hrs./wk.

CA 236
PRODUCTION ART II (3CR)

Prerequisites: CA 231 and CA 235

This course is a continuation of Production Art I with additional practical experience in the production of camera-ready art. The emphasis is on digital prepress production. It requires the application of production skills to problems of professional scope and complexity. 6 hrs./wk.

CA 241
AIRBRUSH TECHNIQUES (3CR)

Prerequisite: CA 230

This is an introduction to airbrush techniques and materials used in both fine and commercial art. 6 hrs./wk.

CA 244
VISUAL COMMUNICATIONS (3CR)

Prerequisites: Completion of all third semester program courses

This course will explore the scope and potential of graphic design as a vehicle for visual communication in contemporary society through signs and symbols as well as the communicative power of form and color. Traditional and electronic methods will be used to develop comprehensives. 6 hrs./wk.

CA 245
GRAPHIC DESIGN (3CR)

Prerequisite: Completion of all third semester program courses

This course focuses on the utilization of the student's total design capability and technical knowledge in solving graphic design problems of professional scope and complexity. 6 hrs./wk.

CA 272
PROFESSIONAL PREPARATION (3CR)

Prerequisites: Permission of the program director based upon recommendation of the faculty following a review of the student's work and performance in the program

This course will provide commercial art students a professional commercial art work experience through a directed and evaluated internship program. Student interns will complete a minimum of 180 hours a semester in an approved studio or agency and will be compensated with at least minimum wage. Instruction will be provided in the organization and presentation of previous and current work in portfolio formats of two-dimensional work and slides that meet professional career goals, basic résumé writing, interviewing techniques and employment searches. 3 hrs./wk.

Computers: Personal Computer Applications

CPCA 105
INTRODUCTION TO PERSONAL COMPUTING (1CR)

This course provides a basic introduction to the use and understanding of the personal computer system. Instruction on the operation of a microcomputer is provided through lecture, demonstration and hands-on experience. Emphasis will be placed on the use of the graphical user interface (GUI) operating environment. Word processing, electronic spreadsheets and database management (the three major categories of business software) are introduced. 1 hr. lecture/wk.

CPCA 108
WORD PROCESSING ON MICROCOMPUTERS I (1CR)

Prerequisites: CPCA 105 using the same hardware or equivalent experience and SEC 101 if typing speed is less than 35 w.p.m.

Concepts and use of word processing software will be covered. Functions such as editing, printing, merging, pagination, spelling check and centering will be included. 1 hr. lecture/wk.

CPCA 110
SPREADSHEETS ON MICROCOMPUTERS I (1CR)

Prerequisite: CPCA 105 using the same hardware or equivalent experience

Students will learn the concepts and uses of spreadsheet software. They will build basic worksheet models used to solve typical business applications. Graphing and database capabilities of spreadsheet programs will also be covered. 1 hr. lecture/wk.

CPCA 111
SPREADSHEETS ON MICROCOMPUTERS II (2CR)

Prerequisite: CPCA 110 using the same hardware and application software or equivalent experience

Upon successful completion of this course, students will be able to use the advanced concepts of spreadsheets, including statistical, logical and financial functions; create and use macros and programming logic; use data tables and database functions; and develop custom menus. 2 hrs. lecture/wk.

CPCA 112
PC COMMUNICATIONS (1CR)

Prerequisite: CPCA 105 or equivalent experience

Upon successful completion of this course, the student will be able to describe, define and use the terminology of PC communications. Other basic competencies will include accessing bulletin boards, other systems and online databases to perform such operations as uploading and downloading files and sending and receiving electronic mail. 1 hr. lecture/wk.

CPCA 114
DATABASES ON MICROCOMPUTERS I (1CR)

Prerequisite: CPCA 105 using the same hardware or equivalent experience

Students will learn the concepts and uses of database software. Functions such as building, loading, entering, changing, deleting, sorting, calculating and reporting will be used. Students will use a database to solve typical business applications. 1 hr. lecture/wk.

CPCA 115
DATABASES ON MICROCOMPUTERS II (2CR)

Prerequisite: CPCA 114 using the same hardware and software

Upon completion of this course, the student will be able to design and define a relational database, create custom screens for data entry and updating, transfer files to and from the database and manipulate data with a relational database language. An introduction to fourth-generation language programming will be conducted. 2 hrs. lecture/wk.

CPCA 118
ELECTRONIC MAIL/CALENDAR SYSTEMS (1CR)

Upon successful completion of this course, students will be able to use many of the features of electronic mail. They should be able to send and receive messages, reply and resend messages, store and retrieve information stored in electronic mail logs, set up distribution lists, determine if the mail has been received and work with automatic reminders and the calendar functions. 1 hr. lecture/wk.

CPCA 121
INTRODUCTION TO PROJECTMANAGEMENT (1CR)

Prerequisite: CPCA 105

Upon completion of this course, students should be able to effectively manage projects or programs, making necessary management decisions automatically, based on proven project management techniques and methodologies. Students should be able to develop and manage projects using the critical path method, program evaluation review technique charts, resource loading and leveling, sub-projects, Gannt charts and allowances for planned, changed and actual activities. 1 hr. lecture/wk.

CPCA 123
PRESENTATION GRAPHICS (1CR)
Prerequisite: CPCA 105 using the same hardware, or equivalent experience

Upon completion of this course, students should be able to organize and produce an effective on-computer or slide-generated presentation, complete with printed speaker notes and handouts and overhead transparencies, using the basic features of the presentation graphics program PowerPoint on IBM-compatible or Macintosh computer platforms. Students will use master pages, template files, text formatting, color schemes, various drawing tools, the automated outline feature and animation dissolve sequences and incorporate scanned photographs. 1 hr. lecture/wk.

CPCA 125
WORD PROCESSING ON MICROCOMPUTERS II (2CR)
Prerequisite: CPCA 108 using the same hardware and application software or equivalent experience

Upon completion of this course, students will be able to use the advanced concepts and applications of word processing software. The applications will include mailing labels, form letters, use of data files, find/replace, spelling check, footnotes, skeleton formats, merging files, print controls, envelopes and creating indexes. 2 hrs. lecture/wk.

CPCA 128
INTEGRATED APPLICATIONS I (3CR)

The student will attain an in-depth proficiency with the use of a word processing, spreadsheet and database application. The methods of transferring and integrating data written through these application programs will also be learned. The emphasis will be hands-on with practical projects. 3 hrs./wk.

CPCA 134
MANAGING YOUR MACINTOSH (1CR)
Prerequisite: CPCA 105 (Macintosh) or equivalent practical experience

This course is designed for the student using the Macintosh. The course will focus on system management, font installation, virus protection, commercial utilities peripherals and ShareWare/FreeWare utilities. 1 hr. lecture/wk.

CPCA 135
PC DOS (1CR)
Prerequisite: CPCA 105 using the same hardware and application software or equivalent experience

At the completion of this course, students will be expected to know the major commands of the IBM PC disk operating system. Basic file and disk management projects will be completed in this course. 1 hr. lecture/wk.

CPCA 137
PC DOS INTERMEDIATE (1CR)
Prerequisite: CPCA 135

This course is a continuation of CPCA 135 PC DOS. System considerations, batch files, screen and printer handling and memory management will be among the advanced DOS features covered. Extensive projects will be required so that the student will have practical, hands-on experience in the most popular microcomputer operating system. 1 hr. lecture/wk.

CPCA 138
WINDOWS FOR MICROS (1CR)
Prerequisite: CPCA 105 or equivalent

This course introduces the student to a powerful graphics microcomputer windowing environment. By learning to work within windows, students should find it easy to start and work with software applications, transfer information between applications and organize and manage files created with applications. 1 hr. lecture/wk.

CPCA 155
DESKTOP PUBLISHING I (1CR)
Prerequisite: CPCA 105 or CPCA 108 using the same hardware or equivalent experience

Upon successful completion of this course, students will be able to use the basic features of a desktop publishing program to produce documents that include both text and graphic elements. In addition, students will produce multi-column documents that are typical of the publications business employees desire. 1 hr. lecture/wk.

CPCA 160
LOCAL AREA NETWORK FUNDAMENTALS (1CR)
Prerequisites: CPCA 112 or ELEC 150 and CPCA 135

This course will cover the evolution of local area networks, the need and cost justifications for LANs in both workgroup and the total company, the decentralization of the processing of data and the components of a local area network. Students will receive hands-on demonstration in using a network. 1 hr. lecture/wk.

CPCA 163
LOCAL AREA NETWORK COMPONENTS (1CR)
Prerequisite: CPCA 160 or DP 230

This course includes a review of the concepts and components of local area networks and a detailed study of network hardware such as servers, workstations and network cards. Topology, media and access protocols will be presented with hands-on use of hardware. The principles used in evaluating vendor hardware will be covered. A class project will require the development and presentation of a local area solution to a business scenario. 1 hr. lecture/wk.

CPCA 166
LOCAL AREA NETWORK OPERATING SYSTEMS (1CR)
Prerequisite: CPCA 163

This course will include the outlining of the functions of network operating systems, identification of desirable features to be used in the selection of a system based on requirements, a discussion of internal and external relationships with LAN servers, presentation of the evaluation of major vendors and development of system generation considerations. A Novell system will be generated in class. 1 hr. lecture/wk.

CPCA 170
LOCAL AREA NETWORK ADMINISTRATION (1CR)
Prerequisite: CPCA 166 or DP 232

This course will cover the duties of the network administrator. User and application access will be taught. Other topics covered will be the audit and improvement of security and database integrity of LANs, training requirements and techniques for LAN users, network printing, and correction and performance analysis tools available for LANs. 1 hr. lecture/wk.

CPCA 173
LOCAL AREA NETWORK APPLICATIONS (1CR)
Prerequisites: CPCA 170 or DP 232

Students will review the prerequisites for networking application software such as multi-user and file-sharing attributes. Products involving databases, communications, spreadsheets and word processing will be discussed. Multi-user considerations for in-house program design will be addressed. A class project will involve sharing of physical resources, data files and application software. 1 hr. lecture/wk.

CPCA 175
DESKTOP PUBLISHING II (2CR)
Prerequisite: CPCA 155 or equivalent in same software package

Upon completion of this course, the student will be able to use advanced features and techniques of a desktop publishing program. The student will be able to produce complex, multi-column and multi-page documents that include linked text, layered drawn elements, manipulated imported files (text, graphic, database and spreadsheet) and self-generated PostScript files. Creating printer spreads, crop and fold marks and spot color separations (with knockouts) will be covered. 2 hrs. lecture/wk.

CPCA 180
OS/2 (1CR)
Prerequisite: CPCA 105 or equivalent

This course introduces the student to a powerful operating system with a graphic interrface. Upon successful completion of this course, the student should be able to start and work with software applications, run more than one application at a time, transfer information between applications and organize and manage files created with applications. The student should be able to run OS/2, DOS and Microsoft Windows applications. 1 hr./wk.

Computer Science

CS 180
INTRODUCTION TO ARTIFICIAL INTELLIGENCE (3CR)
Prerequisite: A computer programming course or the equivalent

Upon successful completion of this course, students will be able to use a computer to program introductory exercises in an object-oriented language and to build a small expert system, define terms and application areas of the field, and describe knowledge representation and problem-resolution techniques used in artificial intelligence. 3 hrs. lecture/wk.

CS 200
CONCEPTS OF PROGRAMMING ALGORITHMS (4CR)
Prerequisite: DP 134 or the equivalent

This course emphasizes programming methodology and problem solving. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. An appropriate block-structured high-level programming language will be studied and used to implement algorithms. Separate sections using either the Pascal or the C language will be offered. 3 hrs. lecture/wk. Lab by arrangement.

CS 210
DISCRETE STRUCTURES I (3CR)
Prerequisite: MATH 171 or both MATH 116 and DP 134

This course offers an introduction to the topics of discrete structures, including switching circuits, Boolean algebra, logic, set theory and mathematical induction. 3 hrs. lecture/wk.

CS 211
DISCRETE STRUCTURES II (3CR)
Prerequisite: CS 210

This course will provide continued study of topics in discrete structures, including relations, functions, partitions, orderings, graphs and techniques of proving theorems. 3 hrs. lecture/wk.

CS 250
BASIC PROGRAMMING STRUCTURES (4CR)
Prerequisite: CS 200 using C or PASCAL as appropriate
Corequisite: CS 210 for students transferring to most four-year computer science programs

This course will cover advanced programming topics using either C or PASCAL. Files, recursion, data structures and large program organization will be used in projects. Students will write programs using the concepts covered in the lecture. 3 hrs. lecture/wk. Lab by arrangement.

Computer Systems Technology

(See Electronics Technology, page 152.)

Construction Management

(See Civil Engineering Technology, page 134.)

Core Curriculum

ANTH 210
PEOPLES OF THE WORLD (3CR)
Prerequisites: POLS 130 and SOC 160. Available to noncore students with the instructor's permission.

This interdisciplinary course will draw on economics, psychology, sociology and anthropology to help students better understand the increasing global connections between peoples and societies. Students will investigate the cultural basis of values, beliefs and behavior and learn how this affects their relationships both within their communities and across cultural boundaries. Specific topics include the individual in North America today, the North American's relationship to the peoples of Earth, Earth as an economic system, views of work in the United States and other countries, comparative political participation and cross-cultural value systems. 3 hrs./wk.

COM 125
ORAL AND WRITTEN COMMUNICATIONS (6CR)
Prerequisite: ENGL 106 or the appropriate assessment test score

This course will combine the two primary modes of com-munication – writing and speaking – to demonstrate their natural connections. Students will learn research skills and apply them to significant topics in written papers and speeches. Critical thinking, group process and argumentation will be employed to further this process. 6 hrs./wk.

HIST 124
COMMUNITY LIFE AND VALUES (3CR)

This course will study the cultural values that are associated with classical Rome, Renaissance Florence and baroque Rome. Architecture, literature, the visual arts and philosophy of the three periods will be examined, and the values revealed will be compared to those of a modern community/city. 3 hrs./wk.

HLT 260
LIFETIME WELLNESS: A PERSONAL GOAL (3CR)

This course will offer an overall view of health care trends today. Specific areas will include exercise, nutrition, stress management, illness risk factors and holistic health. The primary focus will deal with health maintenance, and participants will be entered into a personalized Life Inventory Computer Program to provide information for their plan to improve and maintain their own lifetime fitness and wellness. 4 hrs. lecture, lab/wk.

HUM 136
THE HUMAN EXPERIENCE (3CR)

The themes of freedom and personal identity will be traced in the arts and sciences from the classical period of the 18th century through the romanticism of revolution in politics and the arts and finally in more modern idioms. The course will conclude with a consideration of each student's personal identity through family language. 3 hrs./wk.

MATH 165
FINITE MATH, A CULTURAL APPROACH (3CR)
Prerequisite: MATH 116 or the appropriate score on the math assessment test

This course is the first part of a two-semester sequence of courses on the beauty, scope, practical applications and relevance of mathematics. It is designed to teach math concepts as well as quantitative skills. Topics will include inductive and deductive reasoning, mathematical patterns, sets, topology, noneuclidian geometry, probability, statistics, matrices, exponential and logarithmic functions and math induction. The common themes throughout the course will be innovations in personal computers, related mathematical and cultural history and reasoning ability. 3 hrs./wk.

MATH 175
DISCRETE MATH AND ITS APPLICATIONS (3CR)
Prerequisite: MATH 165

This course is the second of a two-semester sequence of courses on the beauty, scope, practical applications and relevance of mathematics. It will focus on applications of general interest drawn primarily from the social and biological

sciences and business. Topics will be placed in a historical context, and mathematical reasoning will be stressed. Many applications will be computer-oriented. 3 hrs./wk.

POLS 130
POLITICAL ECONOMY: POWER IN SOCIETY (3CR)

This course will examine the economic and political dimensions of social power as a vehicle for introducing students to the social sciences. The concept of power will be used to show commonalities and differences in the social sciences and examine the language, methods, scope and insights of political and economic studies. Through examination of the manifestations of power through authority, force and influence, the significance of political economy will be revealed. 3 hrs./wk.

SCI 121
SCIENCE: A DYNAMIC PROCESS (4CR)

This course is an introduction to the process of learning about the natural world through science. Hands-on experiments will be done in the laboratory. Development of conceptual schemes will be seen in case studies in biology, chemistry, physics and geology. The course leads into Physical Science or Principles of Biology. 3 hrs. lecture, 3 hrs. lab/wk.

SOC 160
SOCIAL POWER: MOTIVATION AND ACTION (3CR)

This course will concentrate on the socio-psychological aspects of power. Topics will include the development of personality, the role of social class and ideology, the mechanics of domination and subordination, discrimination, economic inequality, powerlessness and the search for community. Basic terminology and theoretical foundations of both sociology and psychology will be at the heart of the course. 3 hrs./wk.

TECH 220
TECHNOLOGICAL LITERACY (3CR)

Prerequisites: SCI 121 and PSCI 120 or BIOL 122. Available to noncore students with the program director's permission.

This course is an overview of technology in our society. Upon successful completion of this course, the student will be able to define what technology is and detail a historical perspective of technological trends. Major course components also will include in-depth looks at energy, manufactured materials, electronics and computers, and transportation. The impact of these on society and individuals will be assessed. 3 hrs./wk.

Correctional Services

KADJ 185
PRINCIPLES OF CORRECTIONS (3CR)

Prerequisite: Approval the of program director

Topics will include the development and philosophy of corrections; ancient codes; medieval justice; and development of parole, probation and community treatment. 3 hrs./wk.

KADJ 186
CORRECTIONAL PSYCHOLOGY (3CR)

Prerequisite: Approval of the program director

In this class, students will study psychological theories of crime and delinquency, diagnostic approaches used in correctional settings, psychopathology, classification procedures, and individual and group counseling. 3 hrs./wk.

KADJ 188
PRINCIPLES OF RESIDENTIAL YOUTH CARE (3CR)

Prerequisites: KADJ 185 and approval of program director

The role of the youth case worker will be explored in this course along with the basic theory of treatment, organizational structure and problem-solving skills. 3 hrs./wk.

KADJ 191
CORRECTIONS IN THE COMMUNITY (3CR)

Prerequisites: KADJ 185 and approval of program director

This course will cover community correctional programs, diversion, half-way programs, prerelease centers, group homes, probation and parole. The community support for these programs also will be discussed. 3 hrs./wk.

KADJ 192
CORRECTIONAL ADMINISTRATION (3CR)

Prerequisites: KADJ 185 and approval of program director

This survey of management patterns in correctional agencies will cover management by objectives and accountability, public relations, training, budgeting, record keeping, and custody and treatment classifications. 3 hrs./wk.

KADJ 193
COMMUNICATION AND MANAGEMENT TECHNIQUES WITH CHILDREN AND YOUTH (3CR)

Prerequisite: KADJ 188

Methods of teaching and guiding children and youth in residential care centers or community programs will be explored. The theory and application of techniques for dealing with problem behavior will be covered, and listening and communication skills will be developed. 3 hrs./wk.

KADJ 194
HUMAN SERVICES PRACTICUM I (3CR)

Prerequisites: KADJ 185 and approval of the program director

This course will offer initial field experience in social services, corrections, juvenile treatment, mental health or other community services. It will require a minimum of 10 hours a week or 160 hours during the semester in placement.

KADJ 261
HUMAN SERVICES PRACTICUM II (3CR)

Prerequisites: KADJ 194 and approval of the program director

This course will provide continued field placement or second placement in social services, corrections, juvenile treatment, mental health or other community services. A minimum of 160 hours during the semester in placement plus an evaluation of agency effectiveness will be required.

Data Processing

DP 110
INTRODUCTION TO COMPUTERS (2CR)

This television course features a survey of electronic data processing and computer hardware and software systems and developments that will provide the student with a background in information processing. 2 hrs. lecture/wk.

DP 124
BUSINESS DATA PROCESSING (3CR)

In this introductory, nontechnical computer course, students will study computer concepts, terminology, issues and uses. Extensive hands-on experience with the microcomputer is provided in word processing, spreadsheets, database management and DOS to reinforce the concepts. 3 hrs. lecture/wk. Lab by arrangement.

DP 132
BASIC FOR ENGINEERING TECHNOLOGY (3CR)

Corequisite: MATH 133

Students will become acquainted with computer capabilities. The class will present BASIC language using the computer to solve academic and nonacademic problems in science and engineering. 3 hrs. lecture/wk. Lab by arrangement.

DP 134
PROGRAMMING FUNDAMENTALS (4CR)

Upon successful completion of this course, students will be able to use the elementary concepts of computers, including several number systems. In addition, students will design, develop and write modular programs on a microcomputer in a structured programming language using standard structured concepts. 3 hrs. lecture/wk. Lab by arrangement.

DP 138
VISUAL BASIC FOR WINDOWS (4CR)

Prerequisite: DP 134

Upon successful completion of this course, students should be able to describe the Visual Basic programming environment, identifying the controls and objects available for creating Windows applications. Students should be able to define the basic terminology used by Visual Basic. Students will create forms, draw controls for each form, design menu bars, set form and control properties, write event and general procedures and test and debug their applications. 3 hrs. lecture, 2 hrs. lab/wk.

DP 140
EDITOR (1CR)

In this introductory course, students will focus on using an editor to create and manipulate files on a computer. They also will submit a computer program for execution. 1 hr. lecture, lab/wk.

DP 145
ASSEMBLER LANGUAGE
FOR MICROCOMPUTERS (4CR)

Prerequisite: DP 134 or DP 132

Students will study the use of assembler language for a microcomputer in order to understand the basic concepts of the personal computer and its use in problem solving. Topics include the CPU, registers and memory segmentation. Practical applications will include DOS and BIOS systems services, array and bit processsing and library calls. 3 hrs. lecture/wk. Lab by arrangement.

DP 148
COBOL I (4CR)

Prerequisites: DP 134 and DP 140. DP 140 may be taken as a corequisite.

Students will study the use of COBOL programming language. Emphasis will be on the function and use of statements in the four divisions of ANSI COBOL. 3 hrs. lecture/wk. Lab by arrangement.

DP 150
ASSEMBLER LANGUAGE I (4CR)

Prerequisites: DP 134 and DP 140. DP 140 may be taken as a corequisite. It is recommended that this class be taken after DP 148.

Students will use assembler language in order to understand the basic concepts of the IBM mainframe. Topics include CPU, registers and memory fetching. Practical applications include I/O, array processing and bit manipulation. 3 hrs. lecture/wk. Lab by arrangement.

DP 157
RPG III BEGINNING (4CR)

Prerequisite: DP 134

Corequisite: DP 140 for RPG III

Students will study the RPG III programming language. Emphasis will be on coding, testing, debugging and documenting programs with math calculations, subroutines and/or level breaks on an IBM AS/400 computer. 3 hrs. lecture/wk. Lab by arrangement.

DP 162
dBASE PROGRAMMING (4CR)

Prerequisite: DP 134 or the equivalent

Students will have the opportunity to learn how to use dBASE IV to create, maintain and manipulate databases. The use of command level dBASE IV programming language to custom design business systems and selectively retrieve information using single or multiple databases also will be studied. 3 hrs. lecture/wk. Lab by arrangement.

DP 174
TELEPROCESSING (3CR)

Prerequisite: DP 134

Teleprocessing is a form of information handling in which a data processing system utilizes communication equipment. This class will be concerned with that part of the system external to the central computer. 3 hrs. lecture/wk.

DP 178
AS/400 CL PROGRAMMING (4CR)

Prerequisite: DP 134

Corequisite: DP 140 for RPG III

This course will cover the use of control language commands in programs at the command line. The course will also cover the use of variables, expressions, CL as input and output, logic control, passing control, data areas and built-in functions. 3 hrs. lecture, 1 hr. lab/wk.

DP 180
AS/400 UTILITIES (4CR)

Prerequisite: DP 134

Corequisite: DP 140 for RPG III

This course will study the data file utility (DFU), screen design aid (SDA), structured query language, Office/Vision/400 and data definition specifications (DDS) for an IBM AS/400. 3 hrs. lecture, 1 hr. lab/wk.

DP 204
UNIX OPERATING SYSTEM (3CR)

Prerequisite: DP 258

This course will cover beginning concepts and principles of the multi-user, multi-tasking UNIX operating system. Students will complete projects in UNIX ranging from using simple commands to simple script files and awk. Other topics presented will be system administration and security. 3 hrs. lecture/wk.

DP 215
OS/VS JOB CONTROL LANGUAGE (3CR)

Prerequisite: DP 148 or DP 150

Students will study the use of OS/VS JCL and typical applications. Emphasis will be on rules of coding JCL, optimizing resources, use of symbolic parameters and overriding statements. An IBM mainframe will be used in the application of JCL and utilities. 3 hrs. lecture/wk.

DP 230
DATA COMMUNICATIONS
FOR MICROCOMPUTERS (3CR)

Prerequisite: DP 132 or DP 134

Students will be exposed to the concepts and technical vocabulary used in data communications. Instruction in operation and programming of modems, UARTS and modems through lecture, demonstration and hands-on experience will be included. The computers used will be IBM or IBM-compatible MS-DOS systems. 3 hrs. lecture/wk.

DP 232
LOCAL AREA NETWORKING SYSTEMS (3CR)

Prerequisites: CPCA 160 or DP 230

This comprehensive course will cover components, network operating systems and administration of local area networks for IBM and compatible MS-DOS workstations and applications. Considerable use will be made of integrated lecture and laboratory techniques that allow the student to apply technology involving concepts, components and products in a local area network. 3 hrs. lecture, lab/wk.

DP 234
C++ SYNTAX (1CR)

Prerequisite: CS 200 or equivalent as approved by the division administrator

This course is designed to bridge the syntax gap between programming in another language and programming in C++. Students create programs similar to those assigned in CS 200, Concepts of Programming Algorithms, using C++. This course is required for those students unfamiliar with the syntax of C++ and who are currently enrolled in CS 250, Basic Programming Structures, using C++, or DP 235 Advanced C++ Applications. 1 hr. lecture/wk.

DP 235
INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING (4CR)

Prerequisite: CS 250 using C

Corequisite: DP 234 if CS 250 is taken with Pascal

This course will cover advanced programming topics using the C language. Emphasis will be on input/output facilities, data structures, bit-oriented instructions and construction of general purpose functions. Students will write programs using the Borland C/C++ compiler. 3 hrs. lecture/wk. Lab by arrangement.

DP 236
ADVANCED C APPLICATIONS II (4CR)

Prerequisites: DP 235

Upon successful completion of this course, the student will be able to develop applications in the C programming language using sophisticated data structures such as lined lists, stacks, queues and binary trees. In addition, the student will be able to develop specialized input/ output routines and provide comprehensive error checking and improved visual interfaces. 3 hrs. lecture/wk. Lab by arrangement.

DP 242
INTRODUCTION TO SYSTEM DESIGN AND ANALYSIS (3CR)

Prerequisite: One semester of a computer language beyond an introduction to BASIC

Students will study the basic philosophy and techniques of developing and using business information systems. The emphasis will be on the human involvement necessary in systems design and implementation. The course will address the use of specific technical approaches available in information processing. 3 hrs. lecture/wk.

DP 243
SYSTEMS ANALYSIS AND DESIGN USING COMPUTER-AIDED SOFTWARE ENGINEERING (CASE) (4CR)

Prerequisites: DP 242 or equivalent experience

The students will gain practical experience in using the tools and techniques of structured systems analysis and design. Methodologies will be introduced for defining end-user requirements, data modeling, process modeling and peer reviews. The student will learn the basics of a computer-aided software engineering (CASE) tool, then apply the tool in developing a fully functional business area information system. Emphasis is placed on the human factors and end-user involvement necessary in building modern information systems. 3 hrs. lecture, 1 hr. lab/wk.

DP 248
COBOL II (4CR)

Prerequisite: DP 148

In this advanced COBOL programming class, students will use ANSI COBOL to solve problems with data on a direct access device. They will work on methods for building, maintaining and using files in a sequential, random and indexed manner. They also will study the sort feature of COBOL. 3 hrs. lecture/wk. Lab by arrangement.

DP 250
ASSEMBLER LANGUAGE II (4CR)

Prerequisite: DP 150

Advanced features of assembler language for the IBM 370 will be covered. Topics will include macros, subprograms, table handling, file access and a complete set of ALC instructions. 3 hrs. lecture/wk. Lab by arrangement.

DP 253
CUSTOMER INFORMATION CONTROL SYSTEM COMMAND LEVEL COBOL (4CR)

Prerequisite: DP 248

This is an introduction to command level CICS using COBOL language. The class will cover the basic CICS commands and their uses as well as CICS management modules and their functions, including program control, terminal control, basic mapping support, file control and temporary storage. Debugging on the transaction level will be discussed. 3 hrs. lecture/wk. Lab by arrangement.

DP 257
RPG III ADVANCED (4CR)
Prerequisite: DP 157

The advanced features of the RPG III language will be explored. Topics will include creating physical and logical files using the DDS utility, table and array methodology, subfiles, and programming an interactive computer system. An IBM AS/400 minicomputer will be used in compiling and executing programs. 3 hrs. lecture/wk. Lab by arrangement.

DP 258
OPERATING SYSTEMS (3CR)
Prerequisite: DP 145 or DP 148 or DP 150 or DP 157 or CS 200

The basic concepts and principles of a digital computer operating system will be explained. Also explored through a study of a typical digital computer operating system will be the relationships between hardware and software. 3 hrs. lecture/wk.

DP 260
DATABASE MANAGEMENT (4CR)
Prerequisite: DP 248 or DP 257 or CS 250

Students will study characteristics and objectives of database management systems versus traditional file management systems. Topics include relational, hierarchical and network models; data modeling using the entity-relational model; normalization to avoid modification anomalies; and operational considerations. Students will learn the use of a relational DBMS (Oracle) and a standard structured query language. 3 hrs. lecture/wk. Lab by arrangement.

DP 264
APPLICATION DEVELOPMENT AND PROGRAMMING (4CR)
Prerequisites: DP 242 and DP 260 or DP 162
Corequisite: One of the following: DP 269 or DP 257 or DP 253 and CPCA 121

This course is designed for students to apply the foundation of systems analysis and design, database design and programming to a significant data processing system. Students should work within a team to analyze a problem, develop and present a proposed data processing solution, build a demonstrable prototype of the system and develop a significant portion of the system. The student should develop a project schedule and present progress information to the class and develop job search skills and both written and oral communication skills. 3 hrs. lecture, 2 hrs. lab times/wk.

DP 267
ADVANCED CICS (5CR)
Prerequisite: DP 253

Upon successful completion of this course, the student will be able to use advanced BMS techniques, linkage section for I/O, CICS system commands, CEDF and debugging transaction; read CICS dumps; and work with other CICS system transactions. The student will also be able to use multiple datasets, transient data and alternate indexes. 3 hrs. lecture, 4 hrs. lab/wk.

DP 269
GUI PROGRAMMING (4CR)
Prerequisites: DP 235 using C++ or DP 235 using C and DP 234 (Pascal/C to C++) or equivalent course to CS 250 using C or Pascal and DP 234 (Pascal/C to C++)

Upon completion of this course, students should be able to demonstrate applications in the Graphical User Interface programming language and use the appropriate GUI library. Techniques of object-oriented programming developed in DP 235 will be applied to problems involving user interaction. The common user access standards of GUI programming will be used throughout the course. The message queue and ordered linked lists objects used in DP 235 will be applied to problems involving user selection and updating information in a database. Students will make extensive use of the application framework for the GUI environment provided by the GUI language compiler. It is strongly recommended that students be familiar with common user programs that run under the chosen operating system (Windows, OS/2, X-Windows) before taking the course. 3 hrs. lecture, 2 hrs. lab/wk.

DP 270
DATA PROCESSING INTERNSHIP (1CR)
Prerequisites or corequisites: DP 248 and division administrator approval

Students will work in an approved training situation under instructional supervision. The internship is designed to give the student the opportunity to use the skills learned in data processing courses. 15 hrs. on-the-job training/wk.

Dental Hygiene

DHYG 121
CLINICAL DENTAL HYGIENE I (6CR)

Prerequisites: Admission to the Dental Hygiene Program and CHEM 122, ENGL 121 and SOC 122 (minimum 2.0 G.P.A.)
Corequisites: BIOL 146, DHYG 125 and PSYC 130

This course will include an introduction to the dental hygiene profession, dental hygiene techniques, the principles of instrumentation, patient evaluation, patient education and primary preventive treatment, auxiliary procedures and aseptic techniques. 2 hrs. lecture, 13 hrs. lab/wk.

DHYG 125
DEVELOPMENTAL DENTISTRY (2CR)

Corequisites: BIOL 146, DHYG 121 and PSYC 130

This course will include a study of embryology; oral histology; developmental disturbances of the face, oral cavity and related structures; and dental morphology and occlusion. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 140
CLINICAL DENTAL HYGIENE II (5CR)

Prerequisite: DHYG 121
Corequisites: DHYG 142, DHYG 146, DHYG 148, BIOL 225, BIOL 230 and no grade below a "C" in DHYG courses

The focus of this course will be on the clinical application of dental hygiene techniques, instrumentation skills, oral health products, patient motivation and educational techniques. Procedures for medical and dental emergencies in the dental office also will be covered as well as an introduction to selected dental specialties. 2 hrs. lecture, 8 hrs. clinic/wk.

DHYG 142
DENTAL RADIOLOGY (2CR)

Prerequisites: DHYG 121 and no grade below a "C" in DHYG courses
Corequisites: DHYG 140, BIOL 225, BIOL 230, DHYG 146 and DHYG 148

This class will concentrate on the theory and clinical practice of exposing, processing, mounting and evaluating oral radiographs with emphasis on radiation protection and infection control for the patient and operator. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 146
PERIODONTICS (2CR)

Prerequisites: DHYG 121 and no grade below a "C" in DHYG courses
Corequisites: DHYG 140, BIOL 225, BIOL 230, DHYG 142 and DHYG 148

This course will include recognition of the etiology, clinical signs and symptoms of periodontal diseases and an in-depth study of the inflammatory process and its relationship to periodontal disease. 2 hrs. lecture/wk.

DHYG 148
DENTAL HEALTH EDUCATION (1CR)

Prerequisites: DHYG 121 and no grade below a "C" in DHYG courses
Corequisites: BIOL 225, BIOL 230, DHYG 140, DHYG 142 and DHYG 146

Students will study health and apply education methods for individuals and groups with special emphasis on psychological, social and economic factors. 2 hrs. lab/wk.

DHYG 221
CLINICAL DENTAL HYGIENE III (7CR)

Prerequisites: DHYG 140, BIOL 235 and no grade below a "C" in DHYG courses
Corequisites: DHYG 225, DHYG 230, DHYG 235 and DHYG 240

Students will continue to work on clinical techniques, including preparation and application of dental hygiene treatment plans. Advanced instrumentation, expanded functions and current advances in dental hygiene services will be addressed. 2 hrs. lecture, 16 hrs. clinic/wk.

DHYG 225
PATHOLOGY AND PERIODONTOLOGY (3CR)

Prerequisites: DHYG 140, BIOL 235 and no grade below a "C" in DHYG courses
Corequisites: DHYG 221, DHYG 230, DHYG 235 and DHYG 240

Included in this course will be a description of periodontal treatment and therapy with emphasis on root planing and soft tissue curettage. Also covered will be basic pathological processes and identification of common oral conditions, their etiology and treatment. 3 hrs. lecture/wk.

DHYG 230
DENTAL THERAPEUTICS (3CR)

Prerequisites: DHYG 140, BIOL 235 and no grade below a "C" in DHYG courses
Corequisites: DHYG 221, DHYG 225, DHYG 235 and DHYG 240

This course will introduce the basic principles of drug actions, emphasizing dental-related therapeutics and drugs associated with common system disorders;

information on the selection of professional products; and principles necessary in administering local anesthesia. 3 hrs. lecture, 1 hr. lab/wk. for 8 wks.

DHYG 235
DENTAL MATERIALS (2CR)
Prerequisites: DHYG 140, BIOL 235 and no grade below a "C" in DHYG courses
Corequisites: DHYG 221, DHYG 225, DHYG 230 and DHYG 240

This course deals with specific dental materials relative to the dental hygiene profession. Instruction will include procedures, properties and manipulation of these dental materials. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 240
COMMUNITY DENTAL HEALTH (2CR)
Prerequisites: DHYG 140, BIOL 235 and no grade below a "C" in DHYG courses
Corequisites: DHYG 221, DHYG 225, DHYG 230 and DHYG 235

Topics will include public health agencies, statistical procedures for critiquing scientific literature, identifying dental needs of different groups and planning dental health education programs. Preventive techniques, health promotion, consumer advocacy and the role of the dental hygienist in public health will be emphasized. Field experience will be included. 1 hr. lecture, 3 hrs. lab/wk.

DHYG 245
NITROUS OXIDE ANALGESIA (1CR)
Prerequisite: DHYG 230
Corequisite: DHYG 250

This course will concentrate on the principles of administration and monitoring nitrous oxide analgesia. Upon completion of the course, didactic and clinical proficiency in nitrous oxide analgesia will meet certification standards set by state dental boards. 1 hr. lecture, lab/wk.

DHYG 250
CLINICAL DENTAL HYGIENE IV (7CR)
Prerequisites: DHYG 221 and no grade below a "C" in DHYG courses

This course will offer continued development of proficiency in clinical techniques and current procedural practices of the dental hygienist with emphasis on self-evaluation. Topics will include ethics, jurisprudence, office management, current dental hygiene issues and preparation courses for board exams. 2 hrs. lecture, 16 hrs. clinic/wk., 1 hr. board review for first 8 wks.

Drafting Technology

DRAF 115
INTRODUCTION TO
COMPUTER GRAPHICS SYSTEMS (3CR)
Prerequisite: MATH 111 or an appropriate score on the math assessment test

This course is an introduction to computer graphics systems. Upon successful completion of this course, the student should be able to identify the components of a computer graphics system. Each student will have an opportunity to get hands-on exposure to several computer graphics software packages. Emphasis will be on the development of an understanding of the various types of applications for which each package is best-suited. Students will also be exposed to the various hardware peripherals necessary for the support of computer graphics. Software will range from defining line vectors to the use of menu-controlled color packages. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 116
ENGINEERING GRAPHICS/CAD-2D DRAFTING I (5CR)
Prerequisite: MATH 111 or an appropriate score on the JCCC math assessment test. Basic high school drafting or trigonometry

This course is an introduction to computer-aided drafting as a tool in the study of graphical communications. Emphasis will be on familiarization with CAD hardware, proficiency in the application of 2-D CAD software to various types of engineering drawings, understanding of descriptive geometry fundamentals, geometric construction, technical vocabulary and engineering/drafting design standards (ANSI) and procedures. Comparisons between traditional drafting methods and CAD's approach to generating engineering drawings will be presented. CAD will be used throughout the semester. 4 hrs. lecture, 6 hrs. lab/wk. (AVTS)

DRAF 118
ENGINEERING GRAPHICS/CAD-2D DRAFTING II (5CR)
Prerequisite: DRAF 116

This course is a continuation of Engineering Graphics/CAD-2D. Upon successful completion of this course, the student should be able to use 2-D and 3-D CAD commands in the engineering design process. The following CAD topics will be included: isometric drawing, basic 3-D, paper space and model space; slides and shows; XREF, digitizer scaling, file management and interface. Application problems will be selected from architectural, civil, electromechanical and technical illustration fields. 4 hrs. lecture, 6 hrs. lab/wk. (AVTS)

DRAF 120
INTRODUCTION TO DRAFTING (2CR)

This course should be taken by students without prior drafting experience. Upon successful completion of this course, the student should be able to identify and apply the essential, basic skills necessary to proceed through the drafting program, including lettering, measuring, geometric construction, sketching, isometrics, orthographic views, dimensioning and auxiliary view. 1 hr. lecture, 3 hrs. lab/wk.

DRAF 123
INTERPRETING MACHINE DRAWINGS (2CR)

This course will provide students with general knowledge in reading machine-type engineering drawings. Upon successful completion of this course, the student should be able to interpret orthographic multiview drawings, symbols, abbreviations, surface finishes, dimensioning and geometric form and position tolerancing. 2 hrs./wk.

DRAF 129
INTERPRETING ARCHITECTURAL DRAWINGS (2CR)

This beginning course will explain the fundamentals of interpreting (reading) architectural drawings. Upon successful completion of this course, students should be able to understand plan and elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential and commercial construction drawings. 2 hrs./wk.

DRAF 138
ARCHITECTURAL DRAFTING (3CR)

This course is an introduction to the production of architectural drawings for residential and commercial construction. Upon successful completion of this course, the student should be able to identify and produce the various drawings that compose a complete set of architectural working drawings. 2 hrs. lecture, 3 hrs. lab/wk. Fee: $5

DRAF 150
ELECTRICAL DRAFTING (3CR)

Prerequisites: MATH 133 and DRAF 230 or ENGR 131

Upon successful completion of this course, the student should be able to identify drafting teachniques applicable to industrial lighting, motor controls, power distribution and generation. Emphasis will be on the use of tables, catalogs and applications software as aids to decision making required on electrical drawings. Project assignments will be completed primarily using CAD. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 160
PROCESS PIPING (3CR)

Prerequisite or corequisite: DRAF 122 or approval of the division administrator

This course is an introduction to process piping drafting. Upon successful completion of this course, the student should be able to identify techniques applicable to, and definitions related to, industrial process piping. Symbols for fittings and valves will be drawn in plan view, elevation view and in isometric, relative to piping standards and specifications. Calculations relative to pipe lengths and fitting locations will be made. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 180
STRUCTURAL DRAFTING (3CR)

Prerequisites: DRAF 230 and ENGR 131
Corequisite: MATH 134

Upon successful completion of this course, the student should be able to produce structural drawings and details of steel, concrete and wood structures for manufacturing, construction, engineering and architectural firms. Project work will be done using CAD. 2 hrs. lecture, 3 hrs. lab./wk.

DRAF 222
MECHANICAL DRAFTING (3CR)

Prerequisite: DRAF 230 or ENGR 131
Corequisite: MATH 134

This course is part of the Drafting Technology – Machine Option. Students successfully completing this course will be able to draw details and assembly views of mechanical parts. The types of parts drawn in this class include castings, sheet metal pieces, piping, pressure vessels and injection mold inserts. Important concepts include dimensioning, form and position tolerancing, coordinate tolerancing and calculations related to material allowances. Project assignments will be completed using CAD. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 225
CIVIL DRAFTING (3CR)

Prerequisite: DRAF 230 or ENGR 131
Corequisite: MATH 134 or MATH 172

Upon successful completion of this course, the student will be able to apply drafting techniques used in civil engineering offices. The student will learn to draw civil engineering plans from surveying and engineering data. The student will be able to produce plan and profile drawings, roadway cross sections, earthwork calculations, subdivision plats, topographic maps and property maps. The student will use CAD in drawing projects. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 230
INTERMEDIATE COMPUTER-AIDED DRAFTING (3CR)

Prerequisites: DRAF 130 and DRAF 124 or approval of the division administrator

This course provides an increased knowledge of computer-aided drafting as it is used in today's industries. Students will build on their CAD experience by learning new commands and techniques that increase system productivity. Special emphasis will be on developing construction techniques and command usage to increase CAD proficiency. Additional study of standard symbols, layers and editing functions will occur. Concepts covered will include dimensioning variables and styles, attributes and external referencing as well as paper space and model space as used in multiple-view drawings. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 231
COMPUTER-AIDED DRAFTING 3-D (3CR)

Prerequisite: DRAF 230

In this course, students will explore the use of computer-aided drafting and design software for the construction of 3-dimensional computer models. Emphasis will be on using 3-D software to produce multiple-view drawings. Visualization commands and techniques will be discussed and developed. Topics will include viewing commands, wireframe and surface construction and solid modeling. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 232
COMPUTER-AIDED DRAFTING APPLICATIONS (3CR)

Prerequisite: DRAF 231

This course is the fourth in a series of computer-aided drafting courses. Upon successful completion of this course, the student should be able to use a CAD system for advanced drafting applications. The student will select a specific area of interest within a CAD system for further study. Details of system components will be discussed as will CAD management styles and techniques. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 233
ADVANCED CAD APPLICATIONS (3CR)

Prerequisite: DRAF 232

Upon successful completion of this course, the student should be able to describe advanced aspects of computer-aided design-based systems (CAD). Through lectures, lab exercises and discussions, the student will gain insight into the workings of graphic control routines, custom menus and database translators. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 261
GRAPHIC COMMUNICATIONS I
FOR INTERIOR DESIGN (3CR)

Students enrolled in this course are JCCC interior merchandising students and professionals in the interior design field. Upon successful completion of this course, the student should be able to interpret residential and commercial drawings and draft floor plans, interior elevations and full sections of architectural interiors. The student should be able to read and produce two-dimensional architectural drawings. 6 hrs. lecture, lab/wk.

DRAF 264
CAD: INTERIOR DESIGN (3CR)

Corequisite: ITMD 122 or approval of the 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 software will be used. No previous computer experience is required. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 266
GRAPHIC COMMUNICATIONS II
FOR INTERIOR DESIGN (3CR)

Prerequisite: DRAF 261

Upon successful completion of this course, the student should be able to describe the fundamentals of pictorial representation and demonstrate the ability to draw perspectives, section evaluations and isometric illustrations. The student will be expected to produce drawings with realistic appearance of building interiors, cabinets, furniture and decor. 2 hrs. lecture, 3 hrs. lab/wk.

DRAF 271
DRAFTING INTERNSHIP I (3CR)

Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 2 hrs. lecture, 15 hrs. min./wk.

DRAF 272
DRAFTING INTERNSHIP II (3CR)

Prerequisites: DRAF 271 and approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students the opportunity to develop job- and career-related skills while in a work setting. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 2 hrs. lecture, 15 hrs. min./wk.

Economics

ECON 130
BASIC ECONOMIC ISSUES (3CR)

This course is designed to give the student an exposure to the basic nomenclature and theoretical foundations needed for understanding current economic issues. It is primarily for students planning to take only one economics course and for those who want a nontechnical introduction to the subject. The emphasis will be on using economic concepts to analyze the selected current local, national and international issues. 3 hrs. lecture/wk.

ECON 230
ECONOMICS I (3CR)

Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic macroeconomic concepts, including supply of and demand for products, national income determination, money and banking, and monetary and fiscal policy. The student enrolling in this course should have successfully completed one year of high school algebra or the equivalent. (Macro) 3 hrs./wk.

ECON 231
ECONOMICS II (3CR)

Upon successful completion of this course, the student should be able to use economic terminology and principles to explain and discuss basic microeconomic concepts, including extended analysis of product supply and demand and theory of the firm and product and resource market structures. Students enrolling in this course should have successfully completed one year of high school algebra or the equivalent. (Micro) 3 hrs./wk.

Education

EDUC 121
INTRODUCTION TO TEACHING (3CR)

Teaching concepts and practices as they apply to today's elementary and secondary schools will be introduced. Topics will include the roles and responsibilities of the teacher, various modes of instruction, specialized areas in teaching, and professional requirements and concerns. Twenty hours of observation in a school setting are required. 3 hrs./wk.

EDUC 130
FOUNDATIONS OF
EARLY CHILDHOOD EDUCATION (3CR)

This introductory survey course is designed to provide students with current information on topics relevant to employment in early childhood programs. The course will explore the historical and philosophical roots of early childhood education, general principles in child development, the teacher's role, values and ethics in early childhood education, curriculum design and classroom management. Twenty hours of observation in a group child care setting are required. 3 hrs. lecture/wk.

EDUC 131
EARLY CHILDHOOD CURRICULUM I (3CR)

Corequisite: EDUC 130

This methods course is designed for students who are, or will be, working in an early childhood education setting and parents/others who desire to develop an intellecturally challenging environment for young children. The focus of the course is curriculum areas that deal with language and physical development. 3 hrs. lecture/wk.

EDUC 220
SURVEY OF THE EXCEPTIONAL CHILD (3CR)

This is a survey of the exceptional children now being served in public schools and their characteristics. Included will be mental retardation; learning disabilities; behavior and communication disorders; hearing, visual, physical and health impairments; and giftedness. 3 hrs./wk.

EDUC 222
BASIC STRATEGIES FOR SPECIAL
EDUCATION PARAPROFESSIONALS I (1CR)

The education of disabled people – from kindergarten through adulthood – will be surveyed. The role of the paraprofessional in various helping situations will be emphasized. Outside readings and a 12-hour practicum will be required. One six-hour session.

EDUC 223
BASIC STRATEGIES FOR SPECIAL EDUCATION PARAPROFESSIONALS II (1CR)
Prerequisite: EDUC 222

Emphasis will be on defining the responsibilities and role of the paraprofessional in special education programs. Outside readings and a 12-hour practicum are required. One six-hour session.

EDUC 231
EARLY CHILDHOOD CURRICULUM II (3CR)
Prerequisite: EDUC 131

This methods course is designed for students who are, or will be, working in an early childhood education setting and parents/others who desire to develop an intellecturally challenging environment for young children. The focus of the course is on curriculum areas that deal with the physical and social aspects of the world. Included in this inquiry curriculum are mathematics, science, social studies and nutrition. 3 hrs./wk.

Electrical Technology

ELTE 122
NATIONAL ELECTRICAL CODE I (4CR)

This is an introductory course on the use and interpretation of the National Electrical Code. Students should develop a working knowledge of the code that will permit them to apply it to everyday applications. Upon successful completion of this course, the student should be able to use the code to design service entrances, feeders, branch circuits and discern between wiring methods used in difference occupancies. 4 hrs. lecture, 1 hr. demonstration/wk.

ELTE 125
RESIDENTIAL WIRING METHODS (4CR)
Corequisite: HVAC 123

This is an introductory course on residential wiring methods that includes practical application and hands-on experience in implementing the code requirements. Upon successful completion of this course, the student should acquire the necessary skills to wire a residence to meet the minimum requirements as set forth in the National Electrical Code for residential occupancies. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 200
COMMERCIAL WIRING METHODS (4CR)
Prerequisites: ELTE 125 and HVAC 123

This is an advanced course of industrial wiring methods. Upon successful completion of this course, the student should be able to read industrial blueprints and apply the National Electrical Code to industrial wiring systems. The student will gain working knowledge and hands-on experience with industrial wiring techniques. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 205
INDUSTRIAL ELECTRICAL WIRING (4CR)
Prerequisites: ELTE 125 and HVAC 123

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 National Electrical Code to industrial wiring systems. The student will gain working knowledge and hands-on experience with industrial wiring techniques. 3 hrs. lecture, 3 hrs. lab/wk.

ELTE 210
CODE CERTIFICATION REVIEW (3CR)
Prerequisite: ELTE 122

Upon successful completion of this course, the student should be able to use the current National Electrical Code to do calculations involving loads, lighting and circuit sizing. The course will cover typical load calculations used in both residential and commercial settings. 3 hrs. lecture/wk.

ELTE 271
ELECTRICAL INTERNSHIP I (3CR)
Prerequisite: Approval of the division administrator

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 employers, college staff and each student to provide a variety of job experiences directly related to the student's career goals. Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

ELTE 272
ELECTRICAL INTERNSHIP II (3CR)
Prerequisite: ELTE 271 and approval of the division administrator

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 employers, college staff and each student to provide a variety of job experiences directly related to the student's career goals. Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

Electronics Technology

ELEC 120
INTRODUCTION TO ELECTRONICS (3CR)

This is a beginning course in electronics technology that is appropriate for both the electronics major and the casual student. An overview of basic electronic theory, principles and components is presented. In addition, the laboratory exercises will emphasize the operation and use of the primary pieces of electronic test equipment and the fabrication of selected circuits. 2 hrs. lecture, 2 hrs. lab-lecture, 2 hrs. lab/wk.

ELEC 122
CIRCUIT ANALYSIS I (3CR)

Prerequisite: MATH 133 and ELEC 120

Upon successful completion of this course, the student should be able to identify and use fundamental DC circuit concepts such as Kirchoff's laws, power and energy formulas, Ohm's Law, Thevenin's Theorem and Norton's Theorem as they apply to resistive circuits. 3 hrs./wk.

ELEC 124
MICROCOMPUTER HARDWARE (3CR)

This course introduces the student to maintenance, upgrading, setup and expansion of personal computer hardware. Topics will include digital electronics, microprocessors and computer architecture with a detailed study of troubleshooting IBM microcomputers and clones. Topics will be supported by laboratory projects and computer-aided instruction. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 125
DIGITAL ELECTRONICS I (3CR)

Students will study and practice the basic concepts of digital electronics. Topics will include digital number systems, logic gates, logic circuits, flip-flops, digital arithmetic, counters and registers. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 128
COMPUTER APPLICATIONS IN ELECTRONICS (1CR)

Upon successful completion of this course, the student should be able to use the electronics department's computers to run the CAI programs, perform basic DOS functions using a shell program, write a report using a word processing program, draw schematics using a schematic capture program, make bills of material and parts lists using a spreadsheet and database program, draw simple printed circuit boards using a printed circuit board layout program and identify various hardware components of a personal computer. 1 hr. lecture/wk.

ELEC 130
ELECTRONIC DEVICES I (3CR)

Prerequisite: ELEC 122

This is the first course in electronic devices. Principal topics include diodes and transistors, special-purpose diodes and diode application circuits. Both bipolar junction transistors and field effect transistors are examined, and application circuits for both transistor types are constructed. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 133
PROGRAMMABLE CONTROLLERS (3CR)

Upon completion of this course, the student should be able to identify the hardware components of programmable controllers, apply basic programming concepts, control functions using symbols and follow operation procedures. The student should be able to enter, edit and test controller programs. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 136
BASIC ELECTRONICS (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

This course is an introduction to electronics with a review of basic electrical concepts. Upon successful completion of this course, the student will be able to use an oscilloscope, function generator, DC power supply, digital multi-meter and watt-meter. The course will also include an introduction to electronics devices, schematics, basic electronic formulas and programmable logic controllers. 1 hr. lecture, 2 hrs. lab/wk.

ELEC 140
CIRCUIT ANALYSIS II (3CR)

Prerequisites: ELEC 122 and MATH 134

Upon successful completion of this course, the student should be able to analyze circuits involving resistors, capacitors and inductors driven by time variant sources. This analysis will involve both time and frequency responses. Extensive use will be made of complex arithmetic and phasers in calculating the responses. 3 hrs. lecture/wk.

ELEC 142
INTRODUCTION TO ELECTRICAL CODE (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

This course is designed for students with experience in electrical wiring and use of the National Electrical Code (NEC). Upon successful completion of this course, the student should be able to apply NEC articles to determine ampacity, size of conductors, grounding and bonding and overcurrent protection. In addition, the student should be able to understand motors and transformer ratings and their installation. 1.5 hrs. lecture, 1 hr. lab/wk.

ELEC 144
INTRODUCTION TO PLCs (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

This course is an introduction to programmable logic controllers using Allen Bradley PLC-5 processors and is designed for electricians and maintenance personnel. Upon successful completion of this course, the student will be able to identify the components of programmable controllers, configure and set up the controllers for specific operations, write and test basic programs and apply troubleshooting procedures to locate problems. 1.5 hrs. lecture, 1 hr. lab/wk.

ELEC 146
HYDRAULIC PRINCIPLES (2CR)

This course is designed for operators and maintenance personnel who use hydraulic systems in their work. Upon successful completion of this course, the student should be able to apply hydraulic principles to improve operational availability of equipment. Students will learn to read hydraulic diagrams and perform preventive maintenance and troubleshooting. In order to explain component operation, there will be extensive use of cutaway components. 1 hr. lecture, 1.5 hrs. lab/wk.

ELEC 150
INTRODUCTION TO TELECOMMUNICATIONS (4CR)

This is an introductory-level course in telecommunications principles that includes both voice and data communications. Topics include voiceband communications, digital transmission, switching and signaling and future technologies. 3 hrs. lecture/wk.

ELEC 165
ADVANCED PROGRAMMABLE CONTROLLERS (3CR)

Prerequisite: ELEC 133 or the equivalent

This course is a continuation of programmable controller application and concepts. Upon successful completion of this course, the student should be able to program a file-organized programmable controller using software and menu-driven terminals. Also, the student should be able to use more advanced controller programs such as sequencers, file and block transfers and analog control function and understand programmable controller networking. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 172
PLC APPLICATIONS (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

This course is designed for electricians and maintenance personnel. It is intended as an advanced course for people with basic knowledge in programmable logic controllers operation. Allen Bradley PLC-5 family of processors is used for hands-on training. Upon successful completion of this course, the student should be able to use advanced PLC instructions such as file, block transfer, stack concepts/operations and sequences, and configure and operate a network of processors. 1 hr. lecture, 1.5 hrs. lab/wk.

ELEC 175
TELECOMMUNICATIONS (3CR)

Prerequisite: ELEC 130

Upon successful completion of this course, the student should be able to explain telecommunications in terms of the hardware functions of an entire system. This system includes both voice and data: terminals, telephone sets, interfaces, networks, modems, protocols and the media used to interconnect the system. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 180
INTRODUCTION TO RAILROAD ELECTRONICS (1CR)

Prerequisites: Approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to state basic safety procedures in electronics, explain basic principles of electronics, perform basic electronic calculations and use basic electronic tools. 2.5 hrs. lecture, lab/wk.

ELEC 181
CIRCUIT ANALYSIS DC/AC (6CR)

Prerequisites: ELEC 180 and the approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of the railroad electronic maintainers. Upon successful completion of this course, the student should be able to identify and use fundamental DC circuit concepts such as Kirchhoff's laws, power and energy formulas, Ohm's Law, Thevenin's Theorem and Norton's Theorem as they apply to resistive circuits. Also upon successful completion of this course, the student should be able to analyze circuits involving resistors, capacitors and inductors driven by time-variant sources. This analysis will involve both time and frequency responses. 3 hrs. lecture, 2 hrs. lab, 3 hrs. alternate deliver/wk.

ELEC 182
SEMICONDUCTOR DEVICES AND CIRCUITS (6CR)

Prerequisites: ELEC 181 and the approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to describe the characteristics of basic semiconductor devices, explain practical circuits using semiconductor devices and analyze these circuits for DC and AC quantities. 3 hrs. lecture, 2 hrs. lab., 3 hrs. alternate delivery/wk.

ELEC 183
DIGITAL TECHNIQUES (6CR)

Prerequisites: ELEC 182 and the approval of the railroad training administrator and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to analyze basic digital circuitry consisting of arrangements of gates and flip-flops using TTL and CMOS integrated circuits, as well as relay logic. This analysis will include the application of elementary Boolean algebra, truth tables and timing diagrams. 3 hrs. lecture, 2 hrs. lab., 3 hrs. alternate delivery/wk.

ELEC 210
MEDICAL ELECTRONICS PRINCIPLES (3CR)

Corequisites: ELEC 225 and ELEC 230

Upon successful completion of this course, the student should be able to describe the physiological variables measured in modern medical equipment. The student will be able to analyze the transducers and electronic circuits used to measure physiological variables. 3 hrs. lecture-demonstration, 3 hrs. lab/wk. Fall.

ELEC 211
MEDICAL ELECTRONICS APPLICATIONS (3CR)

Prerequisite: ELEC 210

Upon successful completion of this course, the student should be able to evaluate and repair actual biomedical equipment used in hospitals. Students should be able to solve problems not related to electronics facing the biomedical equipment technician. 2 hrs. lecture-demonstration, 3 hrs. lab/wk. Spring.

ELEC 225
DIGITAL ELECTRONICS II (3CR)

Prerequisite: ELEC 125

This is the second course in digital electronics. Students will complete the study of basic digital electronics and will begin a study of digital computer hardware and organization. Building, testing and troubleshooting of digital circuitry will be emphasized in the laboratory part of the course. Each student will build a simple computer in the laboratory. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 230
ELECTRONIC DEVICES II (3CR)

Prerequisites: ELEC 130 and ELEC 140

This is a continuation of the electronic devices sequence. Principal topics include operational amplifiers, thyristors and voltage regulators. Operational amplifier applications include comparators, summing amplifiers, integrators and differentiators and active filters. Additional topics include frequence response with respect to discrete and operational amplifiers. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 240
ELECTRONIC COMMUNICATION SYSTEMS (3CR)

Corequisites: ELEC 130 and ELEC 140

Upon successful completion of this course, the student should be able to apply theory and practical applications of relevant aspects of electrical communication systems and components. 2 hrs. lecture, 2 hrs. lab/wk.

ELEC 245
MICROPROCESSORS (3CR)

Prerequisite: ELEC 225

This is a basic course on microprocessors and microprocessor systems. Principle topics include machine language and the interfacing of memory, input devices and output devices. All topics are supported by laboratory projects. Troubleshooting is emphasized in the laboratory. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 250
MICROCOMPUTER MAINTENANCE (3CR)

Prerequisite: ELEC 225

Upon successful completion of this course, the student should be able to maintain, upgrade and repair personal computers and peripherals. Students will configure, build, add cards, test, troubleshoot and repair IBM clone computers. Topics will include diagnotic software, DOS, memory, bus types, video, parallel and serial ports, printers, modems, floppy drives, hard drives and virus prevention. 2 hrs. lecture, 3 hrs. lab/wk.

ELEC 271
ELECTRONICS INTERNSHIP I (3CR)

Prerequisite: Approval of the division administrator

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 area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. min./wk.

ELEC 272
ELECTRONICS INTERNSHIP II (3CR)

Prerequisites: ELEC 271 and approval of the division administrator

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 area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. min./wk.

ELEC 284
ELECTRONIC COMMUNICATIONS (6CR)

Prerequisites: ELEC 183 and approval of the Burlington Northern training director and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to state the principles of amplitude, frequency, phase and pulse modulation and describe the technologies of transmitters, receivers, antennas, local area networks, wide area networks and telephone systems. 3 hrs. lecture, 2 hrs. lab, 3 hrs. activity/wk.

ELEC 285
MICROPROCESSOR TECHNIQUES (6CR)

Prerequisites: ELEC 183 and approval of the Burlington Northern training director and the JCCC division administrator

This course is designed to meet the needs of railroad electronic maintainers. Upon successful completion of this course, the student should be able to analyze and troubleshoot 6800 family microprocessor circuitry as well as microprocessor interface circuitry. 3 hrs. lecture, 2 hrs. lab, 3 hrs. activity/wk.

Emergency Medical Science

EMS 121
CPR I – BASIC RESCUER (1CR)

This class is an in-depth study of the techniques, rationale and background of basic life support procedures. Successful completion of both the classroom and lab portions of this class will lead to American Heart Association certification in basic life support at the Basic Rescuer level. A certification fee is required. This class is offered through the Emergency Medical Science Program. Students will be trained by instructors who are educated and experienced in prehospital care procedures. This course will meet the general education health and/or physical education requirement needed for graduation. 2.5 hrs. lecture, lab/wk. for 8 wks.

EMS 125
CPR II – BASIC CPR INSTRUCTOR (1CR)

Prerequisite: Successful completion of EMS 121 and/or current certification by AHA as Basic Rescuer

This class will include a review of EMS 121 (Basic Rescuer) techniques, designing and implementing CPR courses, demonstration of mastery performances and mini-lectures. Upon successful completion of this class, students will be certified by the American Heart Association as a BCLS instructor. A certification fee is required. This class is offered through the Emergency Medical Technology Program. 2.5 hrs. lecture, lab/wk. for 8 wks.

EMS 128
EMS FIRST RESPONDER (3CR)

This course provides training in emergency medical care for those who may be the first responding to a medical incident. The student will receive both classroom and psychomotor skills training in CPR, patient assessment and fracture, airway and trauma management. Successful completion of this course will enable the student to sit for the First Responder certification examinations administered by the Kansas Board of Emergency Medical Services. 2.5 hrs. lecture, 1 hr. lab/wk.

EMS 130
EMERGENCY MEDICAL TECHNICIAN (6CR)

This class is an in-depth study of the techniques, rationale and material necessary to perform as an emergency medical technician. Classroom instruction will cover medical terminology, anatomy and physiology, patient assessment, and recognition and treatment of various medical emergencies. An extrication session will give students hands-on experience with auto accident situations. Upon instructor recommendation, students will participate in clinical observation in a hospital setting. Students successfully completing this course will be allowed to sit for the Kansas EMT State Certification Examination, which is administered by the Board of Emergency Medical Services. 3.5 hrs. lecture, 3.5 hrs. lab/wk. Students also will be required to attend approximately six Saturday sessions lasting approximately four hours each. (Saturday dates and times will be announced during the first class session.)

EMS 140
BASIC CARDIOLOGY AND EKG RECOGNITION (2CR)

Prerequisite: Permission of the program director

Topics will include basic anatomy, physiology, electrophysiology of the cardiac system, recognition of EKG tracings and an overview of coronary artery disease. 2 hrs./wk. Class limited to 30.

Mobile Intensive Care Technician

EMS 220
MICT I (10CR)

Prerequisite: Admission to the MICT Program

This fundamental course will cover roles and responsibilities, medical terminology, anatomy and physiology as they apply to the MICT. Other topics will include diagnostic signs and assessment of patients, biomedical communication, venipuncture, medication administration techniques, advanced airway management, managing the cardiac patient and ECG interpretation. 17 hrs. lecture, 4 hrs. lab/wk.

EMS 225
MICT II (10CR)

Prerequisite: EMS 220 with a minimum grade of "C"

This fundamental course will cover diagnosis, etiology and field treatment of victims of respiratory emergencies and hypertensive, vascular, diabetic, OB, endocrine and environmental emergencies. Also covered will be treatment of victims experiencing overdoses or poisoning; chest, neurological and abdominal trauma; fracture; and shock. 14.5 hrs. lecture/wk., 7 hrs. lab avg./wk.., 10.5 hrs. field observation avg./wk.

EMS 230
MICT III CLINICALS (12CR)

Prerequisite: EMS 225 with the minimum grade of "C"

The student will practice diagnostic and treatment skills under supervision in an emergency department, critical care unit, surgery/recovery room, labor/delivery room and a pediatrics unit. Some field experience will be included. 5 hrs. lecture avg./wk., 2.5 hrs. lab avg./wk., 22.5 hrs. clinical lab/wk., 10.5 hrs. field lab avg./wk.

EMS 271
MICT IV FIELD INTERNSHIP (15CR)

Prerequisite: EMS 230 with a minimum grade of "C"

The student will act as an MICT, under supervision, with an existing advanced life-support ambulance service. The student also will present case histories, analyze systematic medical care and evaluate medical care using prehospital protocols. 7 hrs.lecture avg./wk., 2.5 hrs. lab avg./wk., 55 hrs. field lab avg./wk.

Engineering

ENGR 121
ENGINEERING ORIENTATION (2CR)

Upon successful completion of this course, the student should be able to describe careers in engineering and use fundamental concepts in engineering problem solving. Topics include engineering disciplines, aptitude and academic requirements, professional responsibilities, problem definition and solution, engineering design and terminology. Students take field trips to engineering companies and work sites. The intent of this course is to introduce students to engineering careers and to the engineering problem-solving process. 2 hrs. lecture/wk.

ENGR 131
ENGINEERING GRAPHICS I (4CR)

Prerequisites: High school geometry and trigonometry, DRAF 120 or permission from the division administrator

Upon successful completion of this course, the student will be able to apply graphic principles used in the engineering design process. The course will cover graphics concepts using computer-aided drafting software. Topics include 2-D and 3-D CAD commands, geometric construction, multiview orthographic projection, auxiliary views, sectional views, isometrics and descriptive geometry. 3 hrs. lecture, 4 hrs. lab/wk.

ENGR 132
ENGINEERING GRAPHICS II (3CR)

Prerequisite: ENGR 131

Upon successful completion of this course, the student should be able to apply techniques in detail and assembly drawing, dimensioning, auxiliary view, sectioning and developments. Emphasis will be on creative design processes and visualization. 2 hrs. lecture, 3 hrs. lab/wk.

ENGR 171
PROGRAMMING FOR ENGINEERING AND SCIENCE (3CR)

Prerequisite: MATH 171

Upon successful completion of this course, the student should be able to use FORTRAN programming language to develop programming techniques for solving scientific and engineering problems on digital computers. This course will prepare the student for advanced studies in numerical methods and other computer applications. 2 hrs. class/wk. Minimum of 3 hrs. lab/wk. By arrangement.

ENGR 180
ENGINEERING LAND SURVEYING I (3CR)

Prerequisite or corequisite: MATH 172 or MATH 134 or the equivalent

Upon successful completion of this course, the student should be able to identify the basic applications of plane surveying procedures; measurement of horizontal distances, directions, angles, leveling, traversing, curves and stadia coordinates; computations with the aid of a computer; and topographical property and construction surveying. Students will take part in field operations using equipment such as auto levels, theodolites, EDM and total station. 2 hrs. lecture, 3 hrs. lab/wk.

ENGR 222
CIRCUIT THEORY I (3CR)

Prerequisites: MATH 243 and PHYS 220 and competence in computer programming
Corequisites: MATH 244 and PHYS 221

This course is the first of a two-semester sequence dealing with electrical circuit theory. Upon successful completion of this course, the student should be able to analyze linear passive electrical circuits. Computer applications will be included. 3 hrs. lecture/wk.

ENGR 231
THERMODYNAMICS (3CR)

Prerequisites: MATH 242, PHYS 220 and CHEM 124 and competence in computer programming

Upon successful completion of this course, the student should be able to describe thermodynamic principles. Students will apply these principles to the analysis of energy systems, including various power and refrigeration cycles. Topics include work and energy, first and second laws of thermodynamics, entropy and enthalpy. 3 hrs./wk.

ENGR 251
STATICS (3CR)

Prerequisite: MATH 242

Corequisite: PHYS 220

Upon successful completion of this course, the student should be able to describe and predict the conditions of rest and motion of bodies under the action of forces. The principles used will include vectors, force systems, equilibrium, free body diagram, centroids, moments of inertia, trusses, frames and shear and moment diagrams. Computer applications will be included. 3 hrs. lecture/wk.

ENGR 252
MECHANICS OF MATERIALS (3CR)

Prerequisites: ENGR 251 and competence in computer programming

Upon successful completion of this course, the student should be able to apply the principles of mechanics related to the strength of materials. This course is a continuation of Statics with the basic principles covered including simple stress and strain, torsion, shear, bending and deflection. Applications will be considered for beams, columns and beam-column members. 3 hrs. lecture/wk.

ENGR 254
DYNAMICS (3CR)

Prerequisites: ENGR 251 and competence in computer programming

Upon successful completion of this course, the student should be able to apply the principles of dynamics, the branch of engineering mechanics that studies objects in motion. Topics covered include unbalanced force systems (Newton's second law), displacement, velocity and acceleration, work and energy, and impulse and momentum. Computer applications will be included. 3 hrs. lecture/wk.

English

DEVELOPMENTAL COURSES

ENGL 100 through ENGL 120 are designed to help students develop basic skills in writing, grammar and sentence patterns. Most courses also will work in composing, proofreading, gathering and documenting information. Emphasis will be on assessing and developing a plan to meet individual student needs. These courses do not fulfill degree requirements.

ENGL 100
ENGLISH AS A SECOND LANGUAGE I (3CR)

Prerequisite: Appropriate assessment score

This course is designed for students who are familiar with English but who have limited skills. The class will focus on pronunciation and listening comprehension as well as basic grammar and sentence structure. 3 hrs./wk.

ENGL 101
ENGLISH AS A SECOND LANGUAGE II (3CR)

Prerequisite: ENGL 100 or appropriate assessment score

This course will include continued work in pronunciation, grammar and sentence structure and will emphasize improvement of both reading and writing skills. 3 hrs./wk.

ENGL 102
WRITING STRATEGIES (3CR)

Prerequisite: Appropriate placement test score

Intended for reluctant writers, this course is designed to develop their confidence and competence. The focus will be on developing sentence-level skills that will be applied to paragraph development. Students will be taught methods of self-monitoring their written work to reduce the frequency of conventional errors. 3 hrs./wk.

ENGL 103
PRACTICAL WRITING SKILLS (1CR)

A practical writing course in English for nonnative speaking students and the hearing impaired, this course will focus on basic sentence patterns, techniques to expand and modify sentences, and practical methods for developing writing. Individualized instruction and practice in reading, writing and speaking will be included. By arrangement.

ENGL 105
BASIC ENGLISH GRAMMAR (3CR)

This course will focus on grammar, usage and mechanics of edited English, emphasizing clear, correct communication in varied sentence patterns. 3 hrs./wk.

ENGL 106
INTRODUCTION TO WRITING (3CR)

Prerequisite: ENGL 102 or appropriate placement test score

In this introductory writing course, students will review sentence skills, and then move into writing paragraphs, emphasizing topic selection, organization, development and editing. The course will conclude with an introduction to the essay. 3 hrs./wk.

ENGL 107
SENTENCE PATTERN SKILLS (1CR)

Students will work at their own pace in reviewing the parts of speech, elements of the sentence and basic sentence patterns. Emphasis will be on diagramming and combining sentences. The class will include individualized tutoring and practice in writing. By arrangement.

ENGL 108
COMPOSING SKILLS (1CR)

In this review of the various aspects of composition, students will examine creating, outlining and developing a variety of paragraph and essay forms. The class will include individualized tutoring and practice in writing. By arrangement.

ENGL 109
PROOFREADING SKILLS (1CR)

Students will learn to recognize and correct errors on exercise sheets and in their own writing. The class will include individualized tutoring and practice in writing. By arrangement.

ENGL 110
ENGLISH GRAMMAR REVIEW (1CR)

Students will take diagnostic tests to determine the level at which they should begin work. They will use programmed materials dealing with parts of speech, punctuation, capitalization, sentence structure, verb forms, modifiers, pronoun choices, sentence fragments and run-ons. By arrangement.

ENGL 112
RESEARCH SKILLS (1CR)

This course is a review of the research process, beginning with limiting the subject and moving to revising the finished product. Emphasis will be on the gathering of resource material and correctly documenting it into a scholarly paper. Students will receive individualized tutoring and practice in research writing. By arrangement.

ENGL 115
REVISION SKILLS (1CR)

This course is designed to instruct the practicing writer in skills needed to revise all writing, including business, college and personal. Students will use a variety of computer programs and self-paced materials. The course is individualized and will include instructor feedback.

ENGL 120
WRITING IN THE DISCIPLINES (1CR)

This course is designed to provide the student with a process for complementing the variety of written assignments typically assigned in classes other than composition. The student will practice writing a variety of short papers using a prescribed process for each assignment. The course is individualized and will include instructor feedback and models for each assignment. By arrangement.

ENGL 121
COMPOSITION I (3CR)

Prerequisite: ENGL 106 or appropriate placement test score

This standard freshman English I course will concentrate on invention, paragraph development, essay format and an introduction to the research paper. Students will practice developing the form and content of clear, interesting compositions. 3 hrs./wk.

ENGL 122
COMPOSITION II (3CR)

Prerequisite: ENGL 121

This standard freshman English II course will emphasize analysis, synthesis and evaluation through essays written in response to assigned readings. Related research projects will be assigned. 3 hrs./wk.

ENGL 123
TECHNICAL WRITING I (3CR)

Prerequisite: ENGL 121

Students will write memos, letters, short reports, long reports, instructions and technical descriptions related to business and industry. 3 hrs./wk.

ENGL 210
TECHNICAL WRITING II (3CR)

Prerequisite: ENGL 123

Upon successful completion of this course, the student will be familiar with writing techniques appropriate for technology, industry and business. The student also will learn to create forms, plans, summaries, newsletter articles, press releases, memorandums, letters, and short and long reports. 3 hrs./wk.

ENGL 222
ADVANCED COMPOSITION (3CR)

Prerequisite: ENGL 122

Students will write a broad range of expository pieces, including interview, informative and descriptive writing, business report and memorandum writing, and science, analysis and critical writing. 3 hrs./wk.

ENGL 223
CREATIVE WRITING (3CR)

Prerequisite: ENGL 122

Students will study and practice poetry, fiction and drama writing. Topics will include the process of writing poems, short stories and short plays or scripts. Marketing creative work will also be covered. 3 hrs./wk.

ENGL 224
CREATIVE WRITING WORKSHOP (3CR)

Prerequisite: ENGL 223

Students with serious writing aspirations will get advanced practice in writing creatively. Advanced strategies for marketing will be covered, and students will regularly critique each other's work. 3 hrs./wk.

ENGL 230
INTRODUCTION TO FICTION (3CR)

Prerequisite: ENGL 122

This introduction to fiction from different countries and eras will emphasize fictional techniques and themes in selected novels and short stories. Students will read, discuss and write about the assigned fiction. 3 hrs./wk.

ENGL 231
AMERICAN PROSE (3CR)

Prerequisite: ENGL 122

Students will read complete works of selected American writers and be assigned related writing projects. The course will focus on important works of various writers and the relationship between their lives and times and their art. 3 hrs./wk.

ENGL 232
CHILDREN'S LITERATURE (3CR)

Prerequisite: ENGL 122

Students will look at children's literature, both past and present. Topics will include children's needs, criteria for selecting books, types of children's literature, and the best authors and illustrators. 3 hrs./wk.

ENGL 233
THE DEAF IN LITERATURE (2CR)

The portrayal and function of deaf characters in selected works will be examined. Students will read, discuss and write about the assigned selections. 2 hrs./wk.

ENGL 235
DRAMA AS LITERATURE (3CR)

Prerequisite: ENGL 122

Beginning with the Greek dramatists and ending with the contemporary scene, students will read and analyze full-length plays and the comments of playwrights, directors, actors and critics. They will analyze drama from psychological, historical, philosophical and dramatic perspectives and write essays demonstrating their understanding of the works studied. Students will be required to attend selected area productions. 3 hrs./wk.

ENGL 241
BRITISH WRITERS (3CR)

Prerequisite: ENGL 122

Students will read a variety of famous British writers and learn about their lives, times and works. Topics from selected writers will promote group discussion, and students will be assigned related writing projects. 3 hrs./wk.

ENGL 243
THE LITERATURE OF SCIENCE FICTION (3CR)

Prerequisite: ENGL 122

The themes and myths of major science fiction writers will be presented, and major science fiction movies and short subjects will be reviewed. The class will include group presentations, simulations, guest speakers and related reading and writing assignments. 3 hrs./wk.

ENGL 245
WRITING LITERATURE FOR CHILDREN (3CR)

Prerequisite: ENGL 232

This course is a continuation of Children's Literature, focusing primarily on writing and marketing literature for children. The course will cover proper research, technique and form, emphasizing the best methods to produce quality prose, poetry and drama for young readers. 3 hrs./wk. Spring.

ENGL 250
WORLD MASTERPIECES (3CR)

Prerequisite: ENGL 122

Students will read works from selected influential Western writers. The course will focus on important works of various writers and trace their influence on later writers. Writing projects will be assigned. 3 hrs./wk.

ENGL 254
MASTERPIECES OF THE CINEMA (3CR)

Prerequisite: ENGL 122

Major American and foreign films will be shown and discussed with video and film shorts added for variety and interest. The class will feature group presentations, written film critiques and related reading assignments. 3 hrs./wk.

ENGL 256
AMERICAN POETRY (3CR)

Prerequisite: ENGL 122

This course is a study of the poetry written in America from colonial times until the present, with emphasis on the relationship between the poetry and the lives and cultural milieu of the poets. Students will participate in class discussions, and writing projects will be assigned. 3 hrs./wk.

Fashion Merchandising

FASH 121
FASHION FUNDAMENTALS (3CR)

Upon successful completion of this course, the student should be able to define appropriate fashion terminology and explain the structure of the industry, including the design process, production and marketing of the fashion product. 3 hrs./wk.

FASH 123
APPAREL CONSTRUCTION I (4CR)

Upon successful completion of this course, the student should be able to apply clothing construction principles, techniques and skills in apparel construction. The class will use lecture, demonstration and hands-on experience to teach the skills needed to plan and construct four garments during this class. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 124
APPAREL CONSTRUCTION II (4CR)

Prerequisite: FASH 123 or two years of high school apparel construction training or division administrator approval

Upon successful completion of this course, the student should be able to apply intermediate apparel construction principles, techniques and skills in the production of various garments. This continuation of FASH 123 will focus on the planning and construction of an ensemble of intermediate complexity made from muslin fitting samples with emphasis on precise fitting alteration. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 125
VISUAL MERCHANDISING (3CR)

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. 3 hrs./wk.

FASH 127
CAD: PATTERN DESIGN (4CR)

Upon successful completion of this course, the student should be able to apply the use of flat pattern methods in developing patterns for original apparel designs. Basic slopers and the CAD (computer-assisted design) Pattern Design System will be used to develop and manipulate patterns. The class will use lecture, demonstration and hands-on experience to teach skills needed in manual and computer-assisted pattern design. The student will plan and create patterns in this class. 2 hrs. lecture, 4 hrs. lab/wk.

FASH 130
FASHION ILLUSTRATION I (3CR)

Upon completion of this course, students should be able to create fashion illustrations for their portfolios. In addition, the student should be able to apply color, mood, detail and form using various media. 3 hrs./wk.

FASH 132
MARKETING COMMUNICATIONS (3CR)

Upon successful completion of this course, the student should be able to develop a marketing communications strategy for a retail establishment. In addition, the student should be able to prepare a plan including the definition of the target market and application of advertising, sales promotion, publicity, public relations, television, newspaper and radio. 3 hrs./wk.

FASH 135
IMAGE MANAGEMENT (1CR)

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. 1 hr./wk.

FASH 140
GARMENT DESIGN I (3CR)

Prerequisite: FASH 130

Upon successful completion of this course, students should be able to translate garment ideas from color sketches (croquis); continue the design process through fabric selection and pattern drafting; figure yardage, notions and wholesale cost; and construct a finished garment. 6 hrs. lecture, lab/wk.

FASH 150
TEXTILES (3CR)

Upon successful completion of this course, the student should be able to differentiate fibers and textiles according to their characteristics and select fibers and textiles for specific applications. In addition, the student should be able to identify the properties and characteristics of natural and man-made fibers, construction methods and various finishing processes, including weaving, knitting, felting, printing and dyeing. 3 hrs./wk.

FASH 220
CAD APPAREL DESIGN (3CR)

Upon successful completion of this course, the student should be able to apply the concepts of relating clothing to the cultural, social, psychological, physiological and economic aspects and practices of chosen individuals and cultural groups. In addition, the student should be able to apply computer-aided design to create fashion silhouettes. 3 hrs./wk.

FASH 224
HISTORY OF COSTUME (3CR)

Upon successful completion of this course, the student should be able to identify the political, economic, technological and sociological factors that have influenced Western costume worn by women, men and children from ancient Egyptian times to the present. 3 hrs./wk.

FASH 230
FASHION ILLUSTRATION II (3CR)

Prerequisite: FASH 130

Upon successful completion of this course, the student should be able to produce refined fashion illustrations to enhance the portfolio. Fashion Illustration II is a continuation of Fashion Illustration I. Greater emphasis is placed on development of a personal illustration style and presentation of a professionally executed portfolio. 3 hrs./wk.

FASH 231
MERCHANDISING PLANNING AND CONTROL (3CR)
Prerequisite: MATH 120

Upon completion of the course, the student should be able to describe the management structure of retail merchandising operations, contrast merchandising functions among the various types of retail operations and explain the buying process and the financial operations of retail merchandising and the application of these principles in simulated case situations. 3 hrs./wk.

FASH 242
CONSUMER PRODUCT EVALUATION (3CR)

Upon successful completion of this course, the student should be able to evaluate a wide range of textile and nontextile products ranging from lingerie to china on the basis of specialized product knowledge. In addition, the student should be able to prepare research projects on selected products. 3 hrs./wk.

FASH 268
FIELD STUDY: THE MARKET CENTER (3CR)
Prerequisite: FASH 121

Upon successful completion of this course, the student should be able to identify and distinguish between national, regional and local retail market centers. In addition, the student should be able to explain the importance of market centers, analyze the marketing mix of selected retailers and describe uses of fashion auxiliary services. 3 hrs./wk.

FASH 277
FASHION SEMINAR: CAREER OPTIONS (2CR)

Upon successful completion of this course, the student should be able to define individual career goals after a thorough examination of five career areas within the fashion industry. In addition, the student should be able to explain strategies for success in the workplace. 2 hrs./wk.

FASH 280
FASHION SEMINAR: INDUSTRY TOPICS (2CR)

Upon successful completion of this course, the student should be able to explain the impact of demographic trends and societal issues on fashion products and markets. In addition, the student should be able to apply existing market research reports to problem solving and decision making. 2 hrs./wk.

FASH 283
FASHION INTERNSHIP I (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in the fashion industry. A minimum of 15 hours on-the-job training/wk.

FASH 284
FASHION INTERNSHIP II (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in the fashion industry. A minimum of 15 hours on-the-job training/wk.

FASH 285
FASHION INTERNSHIP III (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in the fashion industry. A minimum of 15 hours on-the-job training/wk.

FASH 286
FASHION INTERNSHIP IV (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in the fashion industry. A minimum of 15 hours on-the-job training/wk.

FASH 298
EUROPEAN FASHION EMPHASIS (3CR)

Upon successful completion of this course, the student will be able to compare American and European retail merchandising, advertising and visual presentation. This travel-for-credit course includes visits to selected European cities.

Fire Services Administration

FIRE 121
FUNDAMENTALS OF FIRE PREVENTION (3CR)

This class will cover the organization and function of fire prevention, inspections, surveying and mapping, recognizing life and fire hazards, eliminating fire hazards and public relations. 3 hrs./wk.

FIRE 125
BUILDING CONSTRUCTION FOR FIRE SERVICE (3CR)

Students will explore how to classify buildings by occupancy and type of construction. Emphasis will be on fire protection features, including building equipment, facilities, fire-resistive materials and high-rise considerations. 3 hrs./wk.

FIRE 130
FIRE INVESTIGATION (3CR)

How to determine the cause of a fire will be explained in this introductory course. The course does not deal with arson investigation except as it relates to determining the cause of a fire. 3 hrs./wk.

FIRE 132
ARSON INVESTIGATION (3CR)

Prerequisite: FIRE 130

Arson investigation techniques and procedures will be covered in this class for advanced students. Topics will include evidence preservation, interviewing and courtroom procedures. 3 hrs./wk.

FIRE 135
BUILDING AND FIRE CODES (3CR)

Advanced students will study how to read and interpret codes and ordinances, especially the Life Safety Codes that are used extensively in fire prevention. 3 hrs./wk.

FIRE 137
EXTINGUISHING, DETECTION AND ALARM SYSTEMS (3CR)

This introductory course for advanced students will cover types of extinguishing, detection and alarm systems and how they operate. This course does not include in-depth discussions of fire sprinkler and standpipe systems. 3 hrs./wk.

FIRE 140
RECOGNITION AND IDENTIFICATION OF HAZARDOUS MATERIALS (1CR)

This course is a study of the recognition of hazardous materials, incidents and methods of identification of the substances involved. 1 hr./wk.

FIRE 143
PROPERTIES AND CHARACTERISTICS OF HAZARDOUS MATERIALS (1CR)

Prerequisite: FIRE 140

This course is a study of the general properties and characteristics of hazardous materials. 1 hr./wk.

FIRE 145
FIRE DEPARTMENT INITIAL RESPONSE – HAZARDOUS MATERIALS (1CR)

Prerequisite: FIRE 143

This course is a study of the techniques and methods initially employed by the fire department to manage hazardous materials incidents. 1 hr./wk.

FIRE 150
INTRODUCTION TO FIRE SCIENCE (3CR)

Topics covered in this course will include career opportunities; history of fire protection; fire loss analysis; public, quasi-public and fire protection services; specific fire protection functions; and fire chemistry and physics. 3 hrs./wk.

FIRE 159
FIRE SERVICE HYDRAULICS (4CR)

This course will include a study of hydraulic principles and formulas. Hydraulic experiments will emphasize fire service applications. 4 hrs./wk.

FIRE 160
FIRE APPARATUS AND EQUIPMENT (3CR)

Fire apparatus design, specifications, capabilities and use in emergencies will be discussed. 3 hrs./wk.

FIRE 162
FIRE TACTICS AND STRATEGY (3CR)

Fire control through manpower, equipment and extinguishing agents will be explored. 3 hrs./wk.

FIRE 169
RESCUE TECHNIQUES (4CR)

This course offers a study of rescue techniques. Students will discuss and participate in simulated rescue situations. 5 hrs./wk.

FIRE 170
SPRINKLER AND STANDPIPE SYSTEMS (3CR)

This advanced course will explain the types of sprinkler and standpipe systems used in fire protection and how they operate. 3 hrs./wk.

FIRE 175
ESSENTIALS OF FIREFIGHTING (4CR)

This first-year class will explain basic firefighting skills with emphasis on the theory of fire protection and identifying and using equipment safely. This course meets NFPA 1001 minimum qualifications for Fire Fighter I certification. 6 hrs./wk.

FIRE 190
HAZARDOUS MATERIALS
CHEMICAL BEHAVIOR (3CR)

Prerequisite: FIRE 145 or H.M. First Responder Certificate

This course introduces properties and behavior of hazardous materials according to their chemical structures and constituents. Both inorganic and organic compounds will be studied, with specific attention to the hazards associated with particular functional groups and chemical classes. Principles of atomic and molecular structure, bonding, ionization and chemical nomenclature will be presented as they relate to the identification, containment and neutralization of hazardous chemicals in field settings. 3 hrs./wk.

FIRE 220
FIRE ADMINISTRATION (3CR)

Techniques and methods used in managing fire departments will be explored, including budgeting processes, administrative functions and types of political systems that affect a fire department. 3 hrs./wk.

FIRE 222
FIRE SCIENCE LAW (3CR)

The law as it pertains to the fire service will be explained, along with tort law and business law. 3 hrs./wk.

FIRE 224
INCIDENT COMMAND SYSTEMS (3CR)

This is a course in basic incident command. Disaster control, disaster management, communications for disaster management and types of disasters will be covered. 3 hrs./wk.

FIRE 250
FIRE SERVICE
INSTRUCTIONAL METHODS (3CR)

This course is designed to provide the instructional skills and knowledge necessary to develop, conduct and evaluate formal training programs in in-service and classroom formats. This course meets NFPA 1041, Standard for Fire Service Instructor.

FIRE 281
DIRECTED STUDIES FOR THE FIRE SERVICE (2CR)

Prerequisite: Program director approval

Students will conduct research and study in their individual areas of interest. The instructor and student will decide on a topic to be researched. The student will give the results of the research in a written report, reflecting the recognized form and style of writing. By arrangement.

Foreign Language

FL 116
ELEMENTARY LATIN I (3CR)

Students will have the opportunity to learn the basic vocabulary and structural patterns, or grammar, of Latin. Emphasis will be on fundamental grammar concepts, extensive word study for English vocabulary growth, and the lasting contributions Roman society made to Western civilization. 3 hrs./wk. Fall.

FL 117
ELEMENTARY LATIN II (3CR)

Prerequisite: FL 116

This course will complete the presentation of basic Latin vocabulary and grammar. Fundamental grammar concepts, extensive word study for English vocabulary growth, and the lasting contributions of Roman society to Western civilization will be emphasized. 3 hrs./wk. Spring.

FL 120
ELEMENTARY GERMAN I (5CR)

This course will present the sounds, vocabulary and basic structural patterns of German, focusing on the development of listening comprehension, speaking, reading and writing skills. Cultural material will be integrated into the course. 5 hrs./wk.

FL 121
ELEMENTARY GERMAN II (5CR)

Prerequisite: FL 120 or one year of high school German

This course will continue the presentation of the vocabulary and basic structural patterns begun in Elementary German I with continued emphasis on the development of listening comprehension, speaking, reading and writing skills. 5 hrs./wk.

FL 130
ELEMENTARY SPANISH I (5CR)

In this basic course, students will study Spanish grammar, conversation, composition and the culture of Spanish-speaking countries. 5 hrs./wk.

FL 131
ELEMENTARY SPANISH II (5CR)

Prerequisite: FL 130 or one year of high school Spanish

This course will continue the presentation of the material introduced in Elementary Spanish I. Graded reading selections will be added as a basis for conversation and composition in discussion periods. 5 hrs./wk.

FL 140
ELEMENTARY FRENCH I (5CR)

Areas covered in this basic course will include vocabulary building, grammar study, conversation and an introduction to French culture and civilization. The emphasis is on conversation. 5 hrs./wk.

FL 141
ELEMENTARY FRENCH II (5CR)

Prerequisite: FL 140 or one year of high school French

This course continues the presentation of the material introduced in Elementary French I. Graded reading selections will be used as the basis for conversation. 5 hrs./wk.

FL 150
ELEMENTARY RUSSIAN I (5CR)

In this course, students will study the sounds, vocabulary and basic structural patterns of Russian. The focus will be on listening comprehension, speaking, reading and writing skills. Cultural material will be included. 5 hrs./wk.

FL 151
ELEMENTARY RUSSIAN II (5CR)

Prerequisite: FL 150

This course will complete the presentation begun in Elementary Russian I with further practice and development of listening comprehension, speaking, reading and writing skills. 5 hrs./wk.

FL 160
ELEMENTARY ITALIAN I (5CR)

Students will be introduced to the sounds, vocabulary and basic structural patterns of Italian, with a primary focus on the development of listening comprehension and speaking, reading and writing skills. Integrated throughout the course will be an introduction to the culture of Italy. 5 hrs./wk.

FL 161
ELEMENTARY ITALIAN II (5CR)

Prerequisite: FL 160 or one year of high school Italian

A continuation of the presentation of the vocabulary and basic structural patterns of Italian, this course will emphasize the development of listening comprehension, speaking, reading and writing skills. Cultural material also will be integrated into the course. 7 hrs./wk.

FL 165
ELEMENTARY CHINESE I (5CR)

This course is an introduction to the sounds, vocabulary, grammar, usage, characters and reading of the Chinese language. The emphasis will be on developing basic conversational skills. Cultural materials will be included. 7 hrs./wk.

FL 166
ELEMENTARY CHINESE II (5CR)

Prerequisite: FL 165

This course offers a continuation of Elementary Chinese I, emphasizing the sounds, vocabulary, grammar, usage, characters and reading of the Chinese language. The emphasis will be on developing more advanced conversational skills and cultural understanding. 7 hrs./wk.

FL 170
ELEMENTARY JAPANESE I (5CR)

This course is an introduction to the sounds, vocabulary, grammar, usage and reading of the Japanese language. The emphasis will be on developing basic conversational skills. Cultural materials will be included. 7 hrs./wk.

FL 171
ELEMENTARY JAPANESE II (5CR)

Prerequisite: FL 170

A continuation of Elementary Japanese I, this course will emphasize the sounds, vocabulary, grammar, usage and reading of the Japanese language. The emphasis is on developing more advanced conversational skills and cultural understanding. 7 hrs./wk.

FL 178
INTERMEDIATE RUSSIAN I (3CR)

Prerequisite: FL 151

This course will emphasize vocabulary development and more advanced study of Russian grammar. It gives students practice in reading, listening comprehension, speaking and writing. 3 hrs./wk.

FL 179
INTERMEDIATE RUSSIAN II (3CR)

Prerequisite: FL 178

The emphasis will be on a study of the Russian language and culture that would prepare students to travel in a Russian-speaking country and engage in simple conversation with the citizens. 3 hrs./wk.

FL 190
INTERMEDIATE JAPANESE I (3CR)

Prerequisite: FL 171 or the equivalent

This course is a continuation of the study of Japanese language and culture, emphasizing the sounds, vocabulary, grammar, usage and reading of the Japanese language. The emphasis will be on developing further advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs./wk.

FL 191
INTERMEDIATE JAPANESE II (3CR)

Prerequisite: FL 190 or equivalent

This course is a continuation of the study of Japanese language and culture, emphasizing the sounds, vocabulary, grammar, usage and reading of the Japanese language. The emphasis will be on developing further advanced conversational skills by increasing vocabulary and variety of sentence patterns. Cultural understanding will also be stressed. 3 hrs./wk.

FL 220
INTERMEDIATE GERMAN I (3CR)

Prerequisite: FL 121 or two years of high school German

This class will emphasize vocabulary building and grammar review primarily through extensive reading of German texts. There will be additional practice in listening comprehension, speaking and writing. 3 hrs./wk.

FL 221
INTERMEDIATE GERMAN II (3CR)

Prerequisite: FL 220 or three years of high school German

This class will further expand the mastery of German vocabulary and structure through extensive reading of more advanced texts with additional practice in listening comprehension, speaking and writing. 3 hrs./wk.

FL 223
CONVERSATIONAL GERMAN (2CR)

Prerequisite: FL 220

This course is a continuation of the presentation of German vocabulary and structural patterns, with an emphasis on speaking and writing skills to build a spontaneous speaking ability and writing fluency. Topics concerning everyday life situations and current events will be discussed. 2 hrs./wk.

FL 230
INTERMEDIATE SPANISH I (3CR)

Prerequisite: FL 131 or two years of high school Spanish

This is a reading course designed to build vocabulary, increase understanding of Hispanic culture and increase speaking fluency. The course will include composition and conversation. 3 hrs./wk.

FL 231
INTERMEDIATE SPANISH II (3CR)

Prerequisite: FL 230 or three years of high school Spanish

Extensive study of Hispanic literature will be included in this class along with advanced reading and grammar review. 3 hrs./wk.

FL 234
CONVERSATIONAL SPANISH (2CR)

Prerequisite: FL 131

This course is designed to enhance the students' ability to express themselves orally in Spanish through vocabulary building and reiteration of essential grammatical structures. The vocabulary will stress everyday life situations and current events. 2 hrs./wk.

FL 240
INTERMEDIATE FRENCH I (3CR)

Prerequisite: FL 141 or two years of high school French

Students will work on building vocabulary and comprehension and increasing speaking ability. The emphasis will be on conversation and composition. A grammar review of Elementary French I and II also will be included. 3 hrs./wk.

FL 241
INTERMEDIATE FRENCH II (3CR)

Prerequisite: FL 240 or three years of high school French

Students will study newspaper articles from Match, Elle, and L'Express in this advanced reading course. A complete review of grammar, conversation and composition will be included. 3 hrs./wk.

FL 243
CONVERSATIONAL FRENCH (2CR)

Prerequisite: FL 141 or two years of high school French

This course is designed to build spontaneous speaking ability. Everyday situations and current events will be discussed in class. 2 hrs./wk.

FL 246
CONVERSATIONAL RUSSIAN (2CR)

Prerequisite: FL 151

This course is designed to enhance students' ability to express themselves orally in Russian through vocabulary building and reiteration of essential grammatical structures. The vocabulary will stress everyday situations and current events. 2 hrs./wk.

FL 298
FRENCH CULTURE AND CIVILIZATION (3CR)

This travel-for-credit course will take students to France, where they will experience French culture as they visit Paris and most of the sites and places of historical significance in France. Summer.

Grounds and Turf Management

KAGB 101
GENERAL BIOLOGY (5CR)

In this course, students will apply biological principles to selected groups of plants and animals. 7 hrs. lecture, 4 hrs. lab/wk.

KAGB 106
LANDSCAPE DESIGN AND MAINTENANCE (2CR)

This course examines the principles of planning, producing, setting out and maintaining trees, vines, groundcovers, perennials, turf and annuals. 3 hrs. lecture, 2 hrs. lab/wk.

KAGB 115
SOIL FERTILITY AND FERTILIZERS (3CR)

In this course, students will study different types of fertilizers for soils and crops. The components, formulation and application of fertilizers will be examined. 3 hrs./wk.

KAGB 129
TREES AND SHRUBS (3CR)

In this course, students will learn to identify trees and shrubs. They will also explore methods of growing trees and shrubs and their uses as ornamental plants. 4 hrs. lecture, 2 hrs. lab/wk.

KAGB 145
IRRIGATION AND INSTALLATION (3CR)

In this course, students will study the design, operations and maintenance of modern golf courses and landscape facilities, including water requirements, supply and distribution. 3 hrs./wk.

KAGB 200
OCCUPATIONAL INTERNSHIP (3CR)

In this course, student will get on-the-job training in grounds and turf management. 15 hrs./wk.

KAGB 202
ECOLOGY (5CR)

Prerequisite: KAGB 101, BIOL 125 or BIOL 127 with a minimum grade of "C"

This course will provide a study of forest, aquatic and grassland ecological systems. Various specimens from each of the three habitats will be collected and classified and their ecological relationships discussed. 7 hrs. lecture, 4 hours lab/wk.

KAGB 206
ADVANCED LANDSCAPE DESIGN AND MAINTENANCE (2CR)

Prerequisite: KAGB 106

In this course, students will explore planning and landscape design and the installation and maintenance of various plants. The commercial process of bidding and contracting will also be examined. 3 hrs. lecture, 2 hrs. lab/wk.

Health Information Technology

KMRT 151
MEDICAL TERMINOLOGY FOR MEDICAL RECORDS (3CR)

This course is a study of the professional language of medicine. Medical terms will be analyzed by learning word roots and combining forms. Disease processes and diagnostic and operative procedures will be studied as they apply to each system of the body. Selected medical specialties also will be presented. 3 hrs./wk.

KMRT 160
INTRODUCTION TO THE MEDICAL RECORD PROFESSION (2CR)

Prerequisite: Admission to the Health Information Technology Program

This course will offer an orientation to the medical record profession and the supporting professional organization. The history and evolution of health care delivery, health care facilities and practitioners will be examined. Supervisory functions of the medical record department also will be presented. 2 hrs./wk.

KMRT 161
HEALTH RECORD SYSTEMS, ANALYSIS AND CONTROL (3CR)

This course will be an in-depth study of the content, storage, retrieval, control and retention of medical records with special emphasis on hospital records. Forms design and control, microfilming and computer applications for medical record departments also will be included. 3 hrs./wk.

KMRT 162
HEALTH CARE STATISTICS (3CR)

Prerequisite: KMRT 161 or approval of PVCC

This course will cover vital and health statistics, their uses and values. Abstraction and analysis of data from medical records and collection from other sources will be studied as will the methods of presenting the data. 3 hrs./wk.

KMRT 163
CLASSIFICATION SYSTEMS, NOMENCLATURES, INDEXES AND REGISTERS I (3CR)

Prerequisites: KMRT 200

This course is a study of nomenclatures and classification systems used for coding and indexing diagnoses and procedures. 3 hrs./wk.

KMRT 164
QUALITY ASSURANCE (3CR)

Prerequisite: KMRT 169 or approval of the program co-ordinator

Quality assurance requirements of regulatory agencies will be emphasized as will methodology in assessing quality of care. 3 hrs./wk.

KMRT 166
DIRECTED PRACTICE I (2.5CR)

Prerequisite: KMRT 161 and BIOL 144

This course will offer a supervised learning experience in a medical record department. A one-hour seminar will be included for the supervised discussion of directed practices experiences. 1 hr./wk.

KMRT 167
DIRECTED PRACTICE II (2.5CR)

Prerequisite: KMRT 166

This course will offer a supervised learning experience in a medical record department. Students will gain experience in a variety of procedures including coding and abstracting health information, medical transcription and release of information. A one-hour seminar will be included for the supervised discussion of directed practices experiences. 5 hrs. lab/wk.

KMRT 168
DIRECTED PRACTICE III (2CR)

Prerequisite: KMRT 167

This course will provide supervised learning experiences in the medical record department of a specialized health care facility. A one-hour seminar will be included for the supervised discussion of directed practices experiences.

KMRT 169
LEGAL ASPECTS OF MEDICAL RECORDS (2CR)

Prerequisite: KMRT 161 or approval of the program co-ordinator

This course is a study of the principles of the legal system applied to the field of health care. Confidentiality of the medical record, informed consent, the medical record as a legal document, release of clinical information, response to subpoena and testimony will be studied. 2 hrs./wk.

KMRT 175
SPECIALIZED HEALTH RECORD SYSTEMS (2CR)

Prerequisite: KMRT 164 or approval of the program co-ordinator

This course will offer an overview of specialized health care systems with an emphasis on record maintenance, requirements of accrediting and regulating agencies and specialized health information registers. 2 hrs./wk.

KMRT 180
CLASSIFICATION SYSTEMS, NOMENCLATURES, INDEXES AND REGISTERS II (3CR)

Prerequisite: KMRT 163 or approval of the instructor

This course covers nomenclatures and classification systems for coding and indexing diagnoses and procedures. Coding systems for specialized health care facilities is also covered. 3 hrs./wk.

KMRT 184
MEDICAL TRANSCRIPTION (3CR)

Prerequisite: KMRT 151 or approval of the instructor

In this course, students will be introduced to the transcription of medical record reports using correct terminology, punctuation and format. 3 hrs. lab/wk.

KMRT 200
INTRODUCTION TO CLASSIFICATION SYSTEMS (1CR)

Prerequisites: BIOL 144 and KMRT 151

This course examines classification systems used to organize clinical data in health care. The ICD-9-CM classification system will be introduced. 1 hr./wk.

Health, Physical Education and Recreation

HPER 100
BASKETBALL (BEGINNING) (1CR)

Students will have an opportunity to learn fundamental basketball skills through demonstration and discussion of the strategies necessary for team play. Emphasis will be on individual participation. 2 hrs./wk.

HPER 101
BASKETBALL (INTERMEDIATE) (1CR)

Prerequisite: HPER 100

Students will have an opportunity to learn the advanced skills and strategies necessary for team play. 2 hrs./wk.

HPER 103
TOUCH/FLAG FOOTBALL (1CR)

An introduction to recreational football, this course will cover fundamental skills, techniques and strategies through both discussion and demonstration. 2 hrs./wk.

HPER 105
BOWLING (BEGINNING) (1CR)

The fundamentals of bowling will be introduced along with the history of the sport and the selection, care and proper use of equipment. 2 hrs./wk.

HPER 107
BOWLING (INTERMEDIATE) (1CR)

Prerequisite: HPER 105

Advanced skills of league bowling will be introduced and terminology, etiquette and scoring reviewed. 2 hrs./wk.

HPER 110
RACQUETBALL (BEGINNING) (1CR)

A brief history of rules and terminology will be followed by instruction and actual practice of the fundamentals. 2 hrs./wk.

HPER 112
RACQUETBALL (INTERMEDIATE) (1CR)

Prerequisite: HPER 110

Advanced skills, strategy and patterns of plays will be introduced. 2 hrs./wk.

HPER 115
SOCCER (1CR)

The basics, some advanced skills and tactics of the game will be introduced. 2 hrs./wk.

HPER 117
POWER VOLLEYBALL (BEGINNING) (1CR)

The basic skills of volleyball will be taught, including the forearm pass, overhead set, serve and spike. Elementary offense and defense will be covered. 2 hrs./wk.

HPER 118
POWER VOLLEYBALL (INTERMEDIATE) (1CR)

Prerequisite: HPER 117

Intermediate and advanced skills of power volleyball will be the focus of this class. Emphasis will be on refinement of skills. Multiple offenses and advanced defenses will be explained. 2 hrs./wk.

HPER 122
WHEELCHAIR BASKETBALL (2CR)

Specifically designed for students in wheelchairs, this course will cover the fundamental skills, rules and strategies of wheelchair basketball. Emphasis will be on developing the basic skills of dribbling, passing, shooting and team play. 3 hrs./wk.

HPER 123
BASIC STRENGTH FITNESS PRINCIPLES (2CR)

The fundamental skills necessary to plan, implement and maintain a program for lifelong fitness will be taught. Topics will include general fitness planning, strength training, proper use of equipment, general human anatomy, and injury prevention and rehabilitation. 3 hrs./wk.

HPER 126
BASEBALL (BEGINNING) (1CR)

Students will learn the basic skills, techniques and strategies fundamental to individual and team play. 2 hrs./wk.

HPER 128
BASEBALL (INTERMEDIATE) (1CR)

Prerequisite: HPER 126

Students will have an opportunity to learn techniques of hitting and throwing a baseball through detailed analysis that emphasizes the identification and correction of mistakes and poor habits. 2 hrs./wk.

HPER 130
RUNNING AWARENESS AND EXERCISE (1CR)

Cardiovascular fitness can be improved in this course. Topics will include the proper mechanics of running and training, exercise benefits, fitness programs, warm-ups and cool-downs. 2 hrs./wk.

HPER 133
WEIGHTLIFTING – THEORY AND PRACTICE (2CR)

An introduction to the theory and practice of weight training, weightlifting and sports conditioning, this course will cover the history of weightlifting, the biomechanics of correct lifting techniques, the physiological aspects of lifting weights, planification, the various free-weight methods to develop power, recovery exercise methods and nutrition. Relevant principles of kinesiology, biomechanics and psychology will be included. 2 hrs. lecture/wk.

HPER 134
WEIGHT TRAINING (BEGINNING) (1CR)

Muscular strength and endurance will be developed in this class. A directed workout program will be implemented, and the muscular system and basic terminology and theory will be addressed. 2 hrs./wk.

HPER 135
WEIGHT TRAINING (INTERMEDIATE) (1CR)

Prerequisite: HPER 134

This is a continuation and expansion of HPER 134, Weight Training (Beginning). Individual workout programs will be designed, and basic physiology of muscular activity will be addressed. 2 hrs./wk.

HPER 137
TENNIS (BEGINNING) (1CR)

Students will get individualized instruction in this course on the rules, fundamentals and history of tennis. 2 hrs./wk.

HPER 138
TENNIS (INTERMEDIATE) (1CR)

Prerequisite: HPER 137

Students will work on the fundamentals of the game and various patterns of play. 2 hrs./wk.

HPER 140
MODERN DANCE (BEGINNING) (1CR)

This is a planned, progressive fitness program designed to improve muscle tone, body contour and flexibility through modern dance. 2 hrs./wk.

HPER 142
MODERN DANCE (INTERMEDIATE) (1CR)

Prerequisite: HPER 140

In this course, students will concentrate on longer and more difficult dance combinations as they work on muscular control and strength. 2 hrs./wk.

HPER 150
AEROBICS (BEGINNING) (1CR)

Motor skills, jogging and dance steps are combined in this exercise program designed to improve muscle tone and cardiovascular fitness. 2 hrs./wk.

HPER 152
AEROBICS (INTERMEDIATE) (1CR)

Prerequisite: HPER 150

Motor skills, jogging and dance steps will be performed at a faster pace for a longer period of time than in Aerobics (Beginning). 2 hrs./wk.

HPER 155
BALLET (BEGINNING) (1CR)

The fundamentals of ballet will be introduced as will terminology and skills. 2 hrs./wk.

HPER 157
BALLET (INTERMEDIATE) (1CR)

Prerequisite: HPER 155

In this continuation of Beginning Ballet, students will work on advanced skills, terminology and participation. 2 hrs./wk.

HPER 158
JAZZ DANCE (1CR)

This course is an introduction to the concepts and motor skills involved in jazz dancing. Basic body position will be introduced, as well as kinetic awareness, movement combinations, isolations, polycentrics, jazz elements, proper technique, rhythm, various styles, terminology, history of jazz, improvisation and choreography. 2 hrs./wk. Course fee: $3.

HPER 160
ICE SKATING (BEGINNING) (1CR)

Students will study the fundamental skills and techniques of ice skating. 2 hrs./wk.

HPER 162
TEACHING ELEMENTARY DANCE (2CR)

Upon completion of this course, students will be able to organize and develop a dance program within a primary level physical education curriculum. Class formation, body position, kinetic awareness, count sequences and movement combinations are some of the topics covered. 3 hrs./wk.

HPER 163
BALLROOM DANCE (BEGINNING) (1CR)

This is an introduction to ballroom dance with emphasis on basic patterns and fundamental steps of the waltz, fox trot, swing, polka and cha-cha. Common rules of dance courtesy and a brief overview of ballroom dance history will be included. Music or dance background is not necessary. 2 hrs./wk.

HPER 165
KARATE I (1CR)

The fundamentals of karate will be introduced as well as its history, basic punches, blocks, kicks and self-defense techniques. 2 hrs./wk.

HPER 166
KARATE II (1CR)

Prerequisite: HPER 165

Students will put the techniques of karate in practice in this class, which also will cover combination and defense techniques. 2 hrs./wk.

HPER 167
KARATE III (1CR)
Prerequisite: HPER 166

Students will have the opportunity to achieve higher levels of proficiency on Kata (forms), Kumite (sport/free fighting) and self-defense. 2 hrs./wk.

HPER 168
KARATE IV (1CR)
Prerequisite: HPER 167 (Beginning Japanese is a suggested prerequisite)

Students in this course will have the opportunity to achieve the advanced level of Taiso (exercise), Kata (forms), Kumite (sport/free fighting) and self-defense application. 2 hrs./wk.

HPER 170
WRESTLING (1CR)

This class will offer individualized instruction in the rules, fundamentals and history of wrestling. The practice area is scheduled by arrangement. 2 hrs./wk.

HPER 172
TRACK AND FIELD (BEGINNING) (1CR)

In this introduction to track and field activities, students will have an opportunity to learn the fundamental skills, techniques and strategies necessary for participation in such events. Emphasis will be on both discussion and demonstration. 2 hrs./wk.

HPER 174
COACHING AND OFFICIATING OF TRACK AND FIELD (2CR)

Students will have the opportunity to learn the fundamentals of coaching and officiating track and field events. Upon successful completion of the course, students will be prepared for TAC Level 1 certification. 2 hrs./wk.

HPER 175
FENCING (1CR)

This class will offer individualized instruction in the rules, fundamentals and history of fencing. 2 hrs./wk.

HPER 182
SWIMMING (BEGINNING) (1CR)

This course is intended for students who have had little or no previous swimming experience. Students will practice beginning swimming strokes and have the opportunity to learn basic safety skills. 1 hr./wk.

HPER 183
SWIMMING (INTERMEDIATE) (1CR)
Prerequisite: HPER 182 or the equivalent

This course is designed to improve a student's skill, knowledge and endurance in swimming. A student who completes this course successfully will be able to swim continuously using a variety of strokes. 1hr./wk.

HPER 185
ARCHERY (1CR)

Students will get individualized instruction in the rules, fundamentals and history of archery. A survey of the origin of archery and the selection and care of equipment also will be included. 2 hrs./wk.

HPER 190
GOLF (1CR)

Students will get individualized instruction in the rules, fundamentals and history of the sport. Proper use of clubs and courtesies of the game also will be covered. 2 hrs./wk.

HPER 194
SPORTS CONDITIONING (BEGINNING) (1CR)

Plyometrics, a set of training drills used to produce an overload on muscle tissue, develops the eccentric (stretching) phase of muscle contraction. A variation of different types of jumping, stretching and speed drill movements will help develop and improve the reaction ability in nerve-muscle coordination, bridging the gap between strength and producible power so that acceleration can be gathered more quickly after the body mass has been placed in motion. 2 hrs./wk.

HPER 197
SPORTS CONDITIONING (INTERMEDIATE) (1CR)
Prerequisite: HPER 194

This is a continuation of the study of plyometrics with emphasis not only on exercise performance but also on developing the ability to design drills for specific sports activities and to interpret results. 3 hrs. lecture/wk.

HPER 199
PLYOMETRICS – THEORY AND PRACTICE (2CR)
Prerequisite: HPER 133

This course is an introduction to the theory and practice of plyometrics and has been designed to serve the needs of coaches, athletes and nonathletes. Topics will include analogies between the structural elements of the human body and the mechanics of support systems. The efficiency of flexibility, muscle strength and power, muscle contraction and relaxation, workload amounts and speed of acceleration will be analyzed. The terminologies of drills and the use of various exercises for specific sports will be covered. Principles of athletic training, training movements and methods, and testing procedures also will be covered. 2 hrs. lecture/wk.

HPER 200
FIRST AID/CPR (2CR)

This class will cover the cause, prevention and first aid care of common emergencies. American Red Cross certification may be earned in standard first aid and personal safety and in cardiopulmonary resuscitation. 2 hrs./wk.

HPER 202
PERSONAL AND COMMUNITY HEALTH (3CR)

Students will discuss the maintenance of good health. Discussion topics will include exercise and fitness, drug abuse, emotional health, proper nutrition, alcohol, tobacco, chronic and communicable disease, human sexuality and consumer health. The relationship between the individual and community health will be emphasized. 3 hrs./wk.

HPER 204
CARE AND PREVENTION OF ATHLETIC INJURY (3CR)

Corequisite: HPER 200 or BIOL 140

This introduction to athletic training techniques is for student athletic trainers and coaches and athletes at all levels. The course will cover prevention of sports injuries, rehabilitation and taping techniques, and proper nutrition. 3 hrs./wk.

HPER 205
INDIVIDUAL LIFETIME SPORTS (2CR)

In a group, students will participate in badminton, racquetball, golf, tennis and bowling. History, rules and strategy will be presented for each lifetime sport. 3 hrs./wk.

HPER 208
PHYSIOLOGY OF LIFETIME FITNESS (3CR)

In this introduction to the physiological approach to fitness and health, the physiology of aerobic exercise, muscular exercise and exercise metabolism will be studied with an emphasis on preparing students to successfully prescribe individual exercise programs. 3 hrs./wk.

HPER 210
FUNDAMENTALS OF ATHLETICS (2CR)

The importance of sports in society, career opportunities and other sports issues will be discussed. 3 hrs./wk.

HPER 212
BASIC LEGAL ASPECTS OF SPORT (2CR)

This course is an introduction to the various legal aspects of sport. The roles of those involved in athletics and their responsibilities for prevention of and protection against potential injury will be discussed in terms of legal liabilities. Actual court cases will be discussed, as will forecasts of future legal developments in the field. 2 hrs./wk.

HPER 217
COACHING AND OFFICIATING
OF BASKETBALL (2CR)

With an emphasis on the rules governing basketball and the mechanics of officiating, students will have the opportunity to learn how to organize and plan daily practice sessions. 2 hrs./wk.

HPER 218
COACHING AND UMPIRING OF BASEBALL (2CR)

With an emphasis on the rules governing baseball and the mechanics of officiating, students will have the opportunity to learn how to organize and plan daily practice sessions. 2 hrs./wk.

HPER 220
SPORTS OFFICIATING (3CR)

The rules and practical applications of sports officiating for volleyball, softball, basketball and baseball will be covered. 3 hrs./wk.

HPER 222
INTRODUCTION TO RECREATIONAL SERVICES (3CR)

The historical and philosophical foundations of leisure and recreational activities will be explored. Emphasis will be on socioeconomic movements, the economic importance of recreation, and social institutions that provide recreational services. 3 hrs./wk.

HPER 224
OUTDOOR RECREATION (3CR)

The history and development of trends in outdoor recreation will be discussed. The course also will contain outdoor field study. 3 hrs./wk.

HPER 228
RECREATION LEADERSHIP AND SUPERVISION (3CR)

Prerequisite: HPER 222

This course is concerned with the process and techniques of leadership and supervision. Emphasis will be on the common and distinguishing features of recreation leadership. Students will develop principles for leadership from their philosophies for living and for recreation. 3 hrs./wk.

HPER 230
RECREATIONAL FIELD STUDY (3CR)

In this class, students will work as recreation leaders in a local agency, hospital or institution. 1 hr. class, a minimum of 15 hrs. supervised laboratory by arrangement/wk.

HPER 234
RECREATION PROGRAMMING (3CR)
Prerequisite: HPER 222

This course is concerned with recreational programming in various types of settings. This will include planning areas and facilities, personnel management, recreational financing and leadership. 3 hrs./wk.

HPER 240
LIFETIME FITNESS I (1CR)

The various components of total lifetime fitness and the implications of lifelong health and fitness will be studied. Lectures and laboratory sessions will center on practical knowledge and experiences designed to help each person incorporate various types of physical activity into his or her lifestyle for both health and recreation. The topics discussed will include exercise and the heart, exercise and weight control, tension and relaxation, fads and fallacies in physical fitness, and aerobics. 2 hrs./wk.

HPER 241
LIFETIME FITNESS II (1CR)
Prerequisite: HPER 240

This course is a continuation and expansion of Lifetime Fitness I. Students will receive additional beneficial information. 2 hrs. lecture, lab/wk.

HPER 242
LIFETIME FITNESS III (1CR)
Prerequisite: HPER 241

This course is a continuation and expansion of Lifetime Fitness II. 2 hrs. lecture, lab/wk.

HPER 243
LIFETIME FITNESS IV (1CR)
Prerequisite: HPER 242

This course is a continuation and expansion of Lifetime Fitness III. The goal of this process is to develop in each student the desire and challenge to continue a daily fitness plan. 2 hrs. lecture, lab/wk.

HPER 245
ELEMENTARY PHYSICAL EDUCATION (3CR)

This course is designed to meet the needs of students who wish to become teachers of physical education at the elementary level. This course will provide both physical education majors and elementary education majors the knowledge and background to plan, organize, direct and instruct an elementary physical education class. 3 hrs./wk.

HPER 255
INTRODUCTION TO PHYSICAL EDUCATION (3CR)

Here is an introduction to physical education, its history, philosophy, theory and practice. 3 hrs./wk.

Hearing Impaired

HRIM 100
BASIC ENGLISH
FOR HEARING-IMPAIRED PERSONS (HIP) I (3CR)

Students will work on basic skills in written communication including sentence structure and the system of language, its characteristics and functions. Vocabulary and the effect of words will be emphasized. 5 hrs./wk.

HRIM 101
BASIC ENGLISH FOR HIP II (3CR)
Prerequisite: HRIM 100

In this continuation of HRIM 100, the emphasis will be on clear, written communication: grammar, organization, idiomatic usage, spelling and vocabulary. 5 hrs./wk.

HRIM 102
BASIC ENGLISH FOR HIP III (3CR)
Prerequisite: HRIM 101

Students will practice expression through writing compositions. Emphasis will be on organization, clarity of expression and style. 5 hrs./wk.

HRIM 105
ADJUSTMENTS INTO ADULT LIVING (HIP) (3CR)

This class teaches the daily living skills that students need to become part of the mainstream in college, including study habits, money management and employer-employee relationships. Also included is an introduction to college facilities and support services, career exploration and clarification of personal values. 3 hrs./wk.

HRIM 110
DEVELOPMENTAL READING
FOR THE HEARING IMPAIRED I (2CR)

The hearing-impaired student can work on reading skills in these small group sessions. The course will emphasize reading comprehension and vocabulary development through selected readings, current affairs readings, discussion and vocabulary building. 3 hrs./wk.

HRIM 111
DEVELOPMENTAL READING
FOR THE HEARING IMPAIRED II (3CR)
Prerequisite: HRIM 110

The hearing-impaired student can continue to develop reading skills in these group sessions. Emphasis will be on reading comprehension and vocabulary development through selected readings, Line 21 decoder, discussion and vocabulary building. 3 hrs./wk.

HRIM 121
BASIC MANUAL COMMUNICATIONS (3CR)

In this course on Basic American Sign Language and Pidgin Signed English, students will work on developing visual perception, body language skills and basic ASL/PSE communication skills. 3 hrs./wk.

HRIM 123
INTERMEDIATE MANUAL COMMUNICATIONS (3CR)

Prerequisite: HRIM 121

This continued study of American Sign Language and Pidgin Signed English will emphasize signed vocabulary in context, body and facial grammatical markers, and facial expressions. 3 hrs./wk.

Heating, Ventilation and Air Conditioning Technology

HVAC 108
HVAC TECHNICAL SERVICE I (2CR)

Upon successful completion of this course, the student should be able to identify refrigeration and heating, electric diagram symbols, three-phase wye and Delta, transformer phasing, Ohms Law, series-parallel circuits, voltage imbalance, compressors and compressor failures. Also included will be gas furnace controls, capacity control condensors and evaporators, aluminum coil repair, properties of gas, metering devices, gas combustion, gas burners, ventilation and combustion air. 2 hrs./wk.

HVAC 111
INTRODUCTION TO HVAC I (6CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

Upon successful completion of this course, the student should be able to identify the function of the basic components of an air conditioning system. Topics will include heat laws, refrigerants, oils and refrigeration cycles of residential and light commercial systems. Other technologies that will be discussed are wind energy, photoelectric energy, nuclear, hydroelectric, biomass, alternate fuel vehicles and others. Students will understand the advantages of using various alternate energy technologies, the impact or byproducts of each and the problems that might be encountered. Student research will be included in the context of the course. Other competencies will include brazing, wiring, evacuating and charging a system. 5 hrs. lecture, 5 hrs. lab wk. (AVTS)

HVAC 114
INTRODUCTION TO HVAC II (6CR)

Prerequisite: HVAC 111

Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques. The materials in this course will prove useful to service technicians whose background in electricity is limited. The course includes material from basic electrical theory to troubleshooting complex electrical circuits. This course will provide practice in application of electrical theory as well as in the interconnection of components of air conditioning and refrigeration systems. Other topics covered are blueprints used in industrial plants. Machine parts and drawings will be discussed, and hydraulic, pneumatic, piping and plumbing, electrical, air conditioning and refrigeration drawings will be examined. Sketches used in industrial plants will be introduced. The ladder logic portion of the course will cover the basics of ladder logic, such as types and uses, and various components such as input, output and logic diagrams. The structure of ladder logic diagrams, terminology and symbols for diagram components will also be introduced. Logic or decision-making functions will be presented along with practice in creating ladder logic diagrams. 5 hrs. lecture, 5 hrs. lab/wk. (AVTS)

HVAC 121
BASIC PRINCIPLES OF HVAC (4CR)

Upon successful completion of this course, the student should be able to identify the function of the basic components of an air conditioning system. Topics will include heat laws, refrigerants, oils and refrigeration cycles of residential and light commercial systems. In the lab, students will design, assemble and operate a working refrigeration system. Competencies will include brazing, wiring, evacuating and charging a system. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 123
ELECTROMECHANICAL SYSTEMS (4CR)

Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques. The materials in this course will prove useful to service technicians whose background in electricity is limited. The course includes material from basic electrical theory to troubleshooting complex electrical circuits. This course will provide practice in application of electrical theory as well as the interconnection of components of air conditioning and refrigeration systems. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 124
EQUIPMENT SELECTION AND DUCT DESIGN (4CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify techniques and procedures used in the residential construction industry to determine proper sizing of HVAC equipment and ducts to meet the requirements for a high-quality, comfortable climate in terms of heating, cooling, humidifying, dehumidifying, ventilation and air cleaning or filtering. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 125
ENERGY ALTERNATIVES (2CR)

Upon successful completion of this course, the student should be able to identify diverse methods of alternate energy production. Some of the technologies that will be discussed are wind energy, photoelectric energy, nuclear energy, hydroelectric energy, biomass, alternate fuel vehicles and others. Students will understand the advantages of using various alternate energy technologies, the impact or byproducts of each and the problems that might be encountered. Some student research will be included in the context of the course. Emphasis will be on the most promising or effective alternate energy technologies available. 2 hrs. lecture/wk.

HVAC 126
RESIDENTIAL HVAC SYSTEMS AND SERVICE (4CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify the major components and accessories and their relation to the functions of the total heating and cooling systems. Topics covered will be electric, fossil fuel, heat pumps and central air conditioning systems in the residential market. The emphasis of this course will be practical instruction in procedures and techniques for the installation, maintenance and repair of these systems. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 128
INSTRUMENT AND CONTROL DEVICES (3CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to identify and maintain various controls for HVAC systems such as flow switches, thermostats, motor controls, float valves, oil heating controls, gas heating controls, electric heat controls, cooling controls and electronic controls. Students will be exposed to diagnostic problems of various types of controls. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 130
PASSIVE SOLAR FUNDAMENTALS (3CR)

Upon successful completion of this course, the student should be able to identify the passive solar technologies available today. This course will deal with architectural treatments of existing structures, including greenhouses, solariums, sun spaces, trombe walls, direct and indirect solar gain and other solar options. Calculation of expected heat input of various passive solar additions is included. Students will work in the latter part of the semester designing a new passive solar home using as many applications as necessary and practical. 3 hrs./wk.

HVAC 143
READING BLUEPRINTS
AND LADDER DIAGRAMS (2CR)

Upon successful completion of this course, the student should be able to identify all types of industrial plant blueprints. Included will be discussion of machine parts and drawings, as well as hydraulic, pneumatic, piping and plumbing, electrical, air conditioning and refrigeration drawings. Sketching used in industrial plants will be covered. A portion of the course will cover the types and uses of ladder logic and its various components such as input, output and diagrams. The structure, symbols and terminology of ladder logic diagrams will be introduced. Logic or decision-making functions will be presented along with practice in creating ladder logic diagrams. 2 hrs./wk.

HVAC 145
SERVICING HVAC EQUIPMENT (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify basic components and know the basic fundamentals of the refrigeration and heating cycle. The student should be able to recognize correct air conditioning service and maintenance procedures. 1.5 hrs. lecture, 1 hr. lab/wk.

HVAC 167
SHEET METAL LAYOUT AND FABRICATION (3CR)

Upon successful completion of this course, the student should be able to identify the components, equipment and operation for sheet metal layout and fabrication. Practice problems are included at the end of each unit in order to provide the student with an opportunity to apply the methods attained by sheet metal layout. Shop facilities are available. The patterns will be fabricated and joined into a line of fittings. This gives the most complete test of pattern accuracy and also provides the experience needed by a competent layout person. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 205
PNEUMATIC CONTROL SYSTEMS (2CR)

Prerequisites: HVAC 123 or the equivalent

Upon successful completion of this course, the student should be able to identify the components and theory of operation of pneumatic control systems as applied to HVAC equipment. The student will be able to identify components, wiring diagrams and sequence of operation. Laboratory competencies include using sequencing controls, PE switches, calibration, setup of pneumatic equipment and receiver controllers. 1.5 hrs. lecture, 1.5 hrs. lab/wk.

HVAC 218
ELECTRONIC CONTROL SYSTEMS (2CR)

Prerequisites: HVAC 123 or the equivalent

Upon successful completion of this course, the student should be able to identify the components in an electronic control system applied to HVAC systems. Components, wiring diagrams and sequence of operations will be covered. Laboratory competencies include using modular control motors, sequencing controls, analog to digital converters and electronic controllers. 1.5 hrs. lecture, 1.5 hrs. lab/wk.

HVAC 221
COMMERCIAL SYSTEMS: AIR CONDITIONING (4CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student will be able to identify large cooling systems used in commercial, institutional and industrial applications. Types of equipment include reciprocating and centrifugal chillers, absorption systems, cooling towers, fans and air handlers. Topics also include psychrometrics, pressure-enthalpy diagrams and commercial load calculations. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 223
COMMERCIAL SYSTEMS: HEATING (4CR)

Prerequisite: HVAC 123

Upon successful completion of this course, the student should be able to identify large heating systems used in commercial, institutional and industrial applications. Types of equipment include hot water, low-pressure and high-pressure steam boilers; auxiliary, safety and flame safeguard controls; steam traps; condensate return; and water treatment systems. 3 hrs. lecture, 3 hrs. lab/wk.

HVAC 224
DIAGNOSIS AND SERVICE PROCEDURES (3CR)

Prerequisites: HVAC 121 and HVAC 123

Upon successful completion of this course, the student should be able to systematically maintain, diagnose and repair all types of heating, ventilation and air conditioning systems. Students will review basic servicing skills such as evacuating, charging and start-up procedures. Advanced electrical troubleshooting skills on control circuits, reading ladder schematics, diagnosing malfunctions with testing equipment and correcting the malfunctions on all types of HVAC equipment will be taught. 2 hrs. lecture, 3 hrs. lab/wk.

HVAC 228
DDC AND MICROPROCESSOR-BASED CONTROLS (2CR)

Prerequisite: HVAC 123 or the equivalent

Upon successful completion of this course, the student should be able to identify the components and theory of operation of DDC and microprocessor-based control systems as applied to HVAC systems. Components, blueprints and wiring diagrams will be covered. Laboratory competencies include programming three different energy management systems. 1.5 hrs. lecture, 1.5 hrs. lab/wk.

HVAC 271
HVAC INTERNSHIP I (3CR)

Prerequisite: Approval of the division administrator

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. min./wk.

HVAC 272
HVAC INTERNSHIP II (3CR)

Prerequisite: HVAC 271 and division administrator approval

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. The internship will provide advanced students on-the-job experience under the supervision of professionals in the industry. The work will be developed cooperatively with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals. 1 hr. lecture, 15 hrs. min./wk.

History

HIST 120
LOCAL AND KANSAS HISTORY (3CR)

This course will trace the development of local community life from trailhead and frontier days in the 19th century to the formation of our current major regional metropolis. Suburbanization and the growth of Johnson County will be a major theme. Also examined will be how Kansas City area communities grew and how they reflected national trends. 3 hrs./wk.

HIST 124
COMMUNITY LIFE AND VALUES (3CR)

This class is a study of the cultural values that are associated with classical Rome, Renaissance Florence and baroque Rome. Architecture, literature, the visual arts and philosophy of the three periods will be examined. The values revealed will be compared to those of a modern community/city. 3 hrs./wk.

HIST 125
WESTERN CIVILIZATION:
READINGS AND DISCUSSION I (3CR)

Students will study the ideas that shaped Western civilization from its inception in the ancient Greek and Judeo-Christian world to the 1600s. The course is discussion-centered, and students will be assigned major readings they will discuss in small groups.

HIST 126
WESTERN CIVILIZATION:
READINGS AND DISCUSSION II (3CR)

Students will study selected works by significant writers from the 1600s to the modern period. The course is discussion-centered, and students will be assigned major readings they will discuss in small groups.

HIST 130
EUROPEAN HISTORY FROM 1750 (3CR)

Significant trends in Europe from the period of the Industrial Revolution through today will be examined. Topics will include industrialization, nationalism and World Wars I and II. 3 hrs./wk.

HIST 135
EASTERN CIVILIZATION (3CR)

This course is an introduction to the societies and cultures of Asia. Through lectures, readings and discussions, the course will focus on aspects of the history, politics, art, literature and economics of China, Japan and India. The major traditional themes and concepts of these civilizations will be stressed. 3 hrs./wk.

HIST 140
U.S. HISTORY TO 1877 (3CR)

This survey course in U.S. history will emphasize developments and trends in American society from the early period of discovery and settlement through Reconstruction. Topics will include the Colonial era, the Revolutionary period, the Federalist era, expansion of the Republic during the mid-19th century and the Civil War and Reconstruction. The emphasis will be on analysis and interpretation of these developments. 3 hrs./wk.

HIST 141
U.S. HISTORY SINCE 1877 (3CR)

This survey course will emphasize developments and trends in American society from the 1870s to the late 20th century. Topics will include the Reconstruction era, industrialization, immigration, reform movements, World Wars I and II, social and cultural trends, and foreign policy. Emphasis will be on analysis and interpretation of these developments. 3 hrs./wk.

HIST 151
WORLD HISTORY I :
THE TRADITIONAL WORLD (3CR)

This course will provide students an introduction to the history of the major world civilizations to approximately the year 1500. It will include the Neolithic revolution, the ancient Near East, Greece, Rome, medieval Europe, India, China, Japan, the Islamic Middle East, Africa and pre-Columbian America. It will emphasize the basic social, economic, political and cultural characteristics of these societies and long-term developments within them. 3 hrs. lecture/wk.

HIST 152
WORLD HISTORY II:
THE MODERN WORLD (3CR)

Prerequisite: None (HIST 151 is recommended)

This course will examine the history of the world since approximately the year 1500. It will begin with the development of the phenomenon of modernism in Europe, including the scientific revolution, secularism, industrialization and the rise of new political ideologies. It will then trace the expansion of modernism in both the Western and non-Western worlds and the response to modernism in the major non-Western countries.
3 hrs. lecture/wk.

HIST 160
MODERN RUSSIAN HISTORY (3CR)

This course will focus on the social, economic, political and cultural forces that have shaped this important world power since the reign of Peter the Great. 3 hrs./wk.

HIST 162
MODERN LATIN AMERICA (3CR)

This course is an examination of the economic, social, political and cultural history of Latin America since independence. Regional identities, such as Central America, and independent national stories – Cuba and Mexico – are explored. Literary and intellectual trends together with contemporary popular culture are featured in the course. 3hrs./wk.

HIST 164
THE CHANGING TRADITION (3CR)

This self-paced course explores Japanese history, politics and economics from the early days of the Tokugawa regime from 1500 to the present.

Home Economics

HMEC 131
FAMILY COMMUNICATIONS (3CR)

Strategies for coping with stressful situations, the adult and family life cycle and current issues involving families such as drugs, violence and divorce will be examined. 3 hrs./wk.

HMEC 142
HOME MANAGEMENT (3CR)

A systems approach to management, especially of the dual-career family, will be examined. Topics will include goal setting, planning, decision making and the management of time, energy and money. 3 hrs./wk.

HMEC 151
NUTRITION AND MEAL PLANNING (3CR)

Upon successful completion of this course, the student should be able to identify basic food groups, their use in meal planning, their functions and their nutritional values. In addition, the student should be able to describe the current trends in eating, diet and exercise, as well as fad diets and life-cycle nutritional needs. The student should also be able to describe the effects of nutrient intake on growth and development. 3 hrs./wk.

Honors Program

HON 250
HONORS FORUM: IN SEARCH OF SOLUTIONS (3CR)

This course will focus on a current issue that affects the local, national and global communities. It will emphasize both specific content and skill development in interaction, analysis, synthesis and conflict resolution. As points of view concerning the issue are developed, students will be required to articulate and defend those points as they are challenged by others, thereby making judgments between alternative options. 3 hrs./wk in addition to attending scheduled forum presentations.

Horticulture

HORT 115
HOME HORTICULTURE (2CR)

This is an introduction to the management of a home lawn, garden and trees. Students will review the horticulture industry, look at career opportunities and practice the lab techniques studied in class. 1 hr. lecture, 2 hrs. lab/wk.

HORT 125
HORTICULTURE I (5CR)

Prerequisite: BIOL 125

Students will examine the classification, taxonomy, nomenclature and growth of horticultural plants. 3 hrs. lecture, 4 hrs. lab/wk.

Hospitality Management (Chef Apprenticeship)

HMGT 121
HOSPITALITY MANAGEMENT FUNDAMENTALS (3CR)

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, the positions of the industries in the American economic system and the functions and limitations of these types of establishments. 3 hrs./wk.

HMGT 123
BASIC FOOD PREPARATION (3CR)

Upon successful completion of this course, 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. 3 hrs./wk.

HMGT 126
FOOD MANAGEMENT (4CR)

Prerequisites: HMGT 123, HMGT 223, HMGT 230, HMGT 277 and admission to the Hospitality Management Program

Upon successful completion of this course, the student should be able to explain the components of menu planning and the styles of food service used for various occasions – buffet service and French, Russian and American service. The student will take part in the operation of the campus restaurant and will be involved in sales promotion, purchasing and costing. 6 hrs./wk.

HMGT 128
SUPERVISORY MANAGEMENT (3CR)

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. 3 hrs./wk.

HMGT 130
HOSPITALITY LAW (3CR)

This course offers an overview of product and dram shop liability as well as of the various areas of federal and state legislation that regulate the hospitality industry. Emphasis will be on familiarizing the hospitality manager with ways to avoid costly and time-consuming lawsuits. A manager's or owner's legal rights and responsibilities will also be discussed. Upon successful completion of this course, the student should be able to recognize potential legal problems. 1 hr./wk.

HMGT 219
HOTEL-MOTEL OPERATIONS (3CR)

The management of public lodging establishments will be the focus of this course. Upon successful completion of this course, the student should be able to demonstrate an understanding of front office procedures, rental of rooms, reception of guests, handling reservations, guest requests and complaints, convention and meeting procedures, guest records, mail and other routine procedures. 3 hrs./wk.

HMGT 221
DESIGN TECHNIQUES (3CR)

Prerequisites: HMGT 123 and HMGT 271

This course includes detailed information about food service design that covers layout, design and equipment specifications. Upon successful completion of this course, the student should be able to understand and develop a food service design concept, including the menu, the location and the type of clientele expected. 3 hrs./wk.

HMGT 223
FUNDAMENTALS OF BAKING (3CR)

Upon successful completion of this course, the student should be able to demonstrate an understanding of bake shop production as it relates to the basic principles of ingredients, measurements, mixing, proofing, baking and final presentation. In addition, the student will be able to identify the various types of baking equipment used in the preparation of bake shop products. The class includes lecture and participation. 3 hrs./wk.

HMGT 226
FOOD SPECIALTIES – GARDE-MANGER (3CR)

Prerequisite: HMGT 123

Upon successful completion of the course, students should be able to prepare force meats such as pates, terrines, galantines, ballotines, pate en croute, hors d'oeuvres and canapes. In addition, the student should be able to produce vegetable carvings, ice carvings, platter layout and design as well as cold sauces such as aspics and chaud-froid sauces. 3 hrs./wk.

HMGT 228
ADVANCED HOSPITALITY MANAGEMENT (3CR)

Prerequisites: HMGT 121, HMGT 123, HMGT 128 and HMGT 273

Upon successful completion of this course, the student should be able to explain the various components of menu planning, food service, supervision, design and beverage control. In addition, the student should be able to demonstrate an understanding of the external factors affecting the hotel-restaurant industry. The student should also be able to describe the skills necessary to secure a position in management within the hospitality industry. 3 hrs./wk.

HMGT 230
INTERMEDIATE FOOD PREPARATION (3CR)
Prerequisite: HMGT 123

This course is designed to help the student's transition from basic to intermediate food skills. Upon successful completion of this course, the student should be able to demonstrate the skills necessary to prepare secondary sauces as well as a range of American regional cuisines. This course consists of lecture, demonstration and participation in food preparation. 3 hrs./wk.

HMGT 231
ADVANCED FOOD PREPARATION (4CR)
Prerequisite: HMGT 230

Upon successful completion of this course, the student should be able to demonstrate an understanding of the advanced skills necessary for preparing international cuisine. 4 hrs./wk.

HMGT 240
ADVANCED BAKING (4CR)
Prerequisites: HMGT 123 and HMGT 223

Upon successful completion of this course, the student should be able to demonstrate a working knowledge of the preparation of specialty bakery products. This course will focus on lecture-demonstrations and student participation in advanced baking procedures. Student lab projects will cover specialty yeast and rich dough products as well as baked and chilled desserts. 4 hrs. lecture, lab/wk.

HMGT 248
CONFECTIONERY ARTS (3CR)

Upon successful completion of this course, the student should be able to demonstrate skills in preparing molten sugar in a safe and economical manner. Also, the student should be able to cast, blow and pull sugar, developing decorative pieces. 4.5 hrs. lecture, lab/wk.

HMGT 265
ADVANCED FRONT OFFICE MANAGEMENT (3CR)

Upon successful completion of this course, the student should be able to understand the flow of business through a hotel, beginning with the reservation process and ending with check-out and settlement. The student should be able to understand the various elements of effective front office management, procedures and the role of the front office in the operation of a hotel. 3 hrs./wk.

HMGT 271
SEMINAR IN HOSPITALITY MANAGEMENT: PURCHASING (3CR)
Prerequisite: Admission to the Hospitality Management Program

Upon successful completion of this course, the student should be able to define purchasing techniques and specification writing for items used in the industry. In addition, the student should be able to demonstrate decision-making skills in the areas of quality, quantity, specifications and general value analysis. Two hours in class and a minimum of 15 hours a week are required in a supervised work situation in an approved area of the hospitality industry. Work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 273
SEMINAR IN HOSPITALITY MANAGEMENT: ACCOUNTING (3CR)
Prerequisites: Admission to the Hospitality Management Program and MATH 120

Upon successful completion of this course, the student should be able to prepare operation statements for food service operators, inventories and control systems. Areas of concentration will be food cost and controls, labor cost controls and profit production. While enrolled in this class, a student must work a minimum of 15 hours a week in the hospitality industry. The work experience is concurrent but does not necessarily concentrate on the subject being taught in the course.

HMGT 275
SEMINAR IN HOSPITALITY MANAGEMENT INTERNSHIP (3CR)
Prerequisite: Admission to the Hospitality Management Program

Upon successful completion of this course, the student should be able to demonstrate an understanding of an actual hospitality industry operation and identify and explain operational problems. In addition, the student should be able to construct and contrast solutions to these problems. While enrolled in this course, a student must work a minimum of 320 hours in an approved position in the hospitality industry. By arrangement.

HMGT 277
SEMINAR IN MENU PLANNING (3CR)
Prerequisite: HMGT 123

Upon successful completion of this course, the student should be able to explain the components of menu planning for every type of service and facility. In addition, the student should be able to demonstrate an understanding of menu layout, selection and development, price 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 the course.

HMGT 279
BEVERAGE CONTROL (3CR)

Upon successful completion of this course, the student should be able to demonstrate an understanding of beverage control and how it is used in all types of operations. This course covers the history of wines and their use and storage procedures. The student will take part in an in-depth study of spirits, internal control systems and local and state alcoholic beverage control laws. 3 hrs./wk.

HMGT 281
CULINARY ARTS PRACTICUM I (2CR)

Prerequisite: Acceptance into the American Culinary Federation Chef Apprenticeship Training Program

A qualified American Culinary Federation chef 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.

HMGT 282
CULINARY ARTS PRACTICUM II (2CR)

Prerequisite: HMGT 281

This is a continuation of Culinary Arts Practicum I.

HMGT 285
CULINARY ARTS PRACTICUM III (2CR)

Prerequisite: HMGT 282

This is a continuation of Culinary Arts Practicum II.

HMGT 286
CULINARY ARTS PRACTICUM IV (2CR)

Prerequisite: HMGT 285

This is a continuation of Culinary Arts Practicum III.

HMGT 287
CULINARY ARTS PRACTICUM V (2CR)

Prerequisite: HMGT 286

This is a continuation of Culinary Arts Practicum IV.

HMGT 288
CULINARY ARTS PRACTICUM VI (2CR)

Prerequisite: HMGT 287

This is a continuation of Culinary Arts Practicum V.

Humanities

HUM 122
INTRODUCTION TO THE HUMANITIES (3CR)

This interdisciplinary study will begin with a look at artistic and technical elements of several art forms including painting, music and drama. The major themes expressed in these art forms also will be examined. 3 hrs./wk.

HUM 133
COMPARATIVE CULTURES (3CR)

This course will trace the development of the humanities in classical Greece, medieval Europe and a selected Asian culture. 3 hrs./wk.

HUM 136
THE HUMAN EXPERIENCE (3CR)

The themes of freedom and personal identity will be traced in the arts and sciences from the classical period of the 18th century through the romanticism of revolution in politics and the arts and finally in more modern idioms. The course will conclude with a consideration of each student's personal identity through family language. 3 hrs./wk.

HUM 155
CLASSICAL MYTHOLOGY (3CR)

This is a systematic examination of the origins and cycles of myths and their survival and metamorphosis in Roman, medieval, Renaissance, baroque and modern cultures. Sources studied will include both literature and the visual arts. 3 hrs./wk.

HUM 164
CIVILISATION (3CR)

This course, based upon the Time-Life television series of the same name and narrated by the art historian Kenneth Clark, covers the major ideas and events that have shaped Western civilization from the fall of the Roman Empire to the 20th century. By arrangement.

HUM 297
CLASSICAL GREECE (3CR)

In this travel-for-credit study of classical Greek culture and its beginnings in the Minoan and Mycenaean period, students will spend 15 hours in the classroom exploring the architectural and artistic treasures of ancient Greece. Students will visit important archaeological sites and museums in Greece. 1 hr. lecture/wk. and 15 travel days.

Industrial Technology

INDT 125
INDUSTRIAL SAFETY (1CR)

Upon successful completion of this course, the student should be able to identify various industrial safety and health considerations, list basic safety rules and regulations, identify the proper personal protective equipment needed for common industrial tasks and recognize the need for an ongoing safety program. 1 hrs. lecture/wk.

INDT 140
QUALITY IMPROVEMENT USING SPC (2CR)

Prerequisites: Background in manufacturing processes and/or basic math

Upon successful completion of this course, the student should be able to describe the concepts of quality improvement. This course will examine the application of the "Transformation of America" concept to American businesses. Statistical process control will be introduced as a tool to improve quality. W. Edwards Deming's 14 points and the management changes required to implement quality improvement also will be covered. 2 hrs./wk.

Information/Word Processing

(See Office Systems Technology, page 201.)

Interdisciplinary Studies

IDSP 120
LEADERSHIP DEVELOPMENT SEMINAR (3CR)

This seminar course is designed for individuals who are interested in exploring the concepts of leadership using discussion, film, exercises, computer programs and works of classic literature. The course will lead to the development of a personal leadership philosophy and plan of action. 3 hrs./wk.

IDSP 175
GLOBAL RESOURCES FROM GEOLOGIC AND ECONOMIC VIEWPOINTS (3CR)

This interdisciplinary course will examine the interdependence of geology and economics in the development, production and use of the world's geologic resources. Land, water, mineral and energy resources form a structure that students can use to gain a perspective on the interrelationships between resources and economics to synthesize their knowledge into intelligent and logical conclusions about past, present and future resource problems. 3 hrs./wk.

Interior Merchandising

ITMD 121
INTERIOR DESIGN I (3CR)

Upon successful completion of this course, the student should be able to demonstrate logical and usable arrangement of furniture in a house plan; use correct scale and symbols in creating a floor plan; develop a color wheel and color schemes; and develop a complete floor plan and decorative scheme for that plan. 3 hrs./wk.

ITMD 122
INTERIOR DESIGN II (3CR)

Prerequisites: ITMD 121 and DRAF 261

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; and demonstrate the ability to coordinate fabrics, colors, texture, patterns and finishes in a complete floor plan for a residential unit. 3 hrs./wk.

ITMD 125
INTERIOR TEXTILES (3CR)

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. This course will cover properties and characteristics of natural and man-made fibers, construction methods and various finishing processes such as weaving, knitting, felting, printing and dying. The course will concentrate on textiles designed for interior applications. 2 hrs. lecture, 2 hrs. lab/wk.

ITMD 132
INTERIOR PRODUCTS (3CR)

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 construction techniques used in products; use correct terminology to describe the various types of interior products; and compare design, use, durability and cost of products. 3 hrs./wk.

ITMD 133
FURNITURE AND ORNAMENTATION/ ANTIQUITY TO RENAISSANCE (3CR)

Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles of historical periods from antiquity to the Renaissance. Additionally, the student should be able to define the religious, political

and social influences on the ornamentation and 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 use correct vocabulary related to each era. 3 hrs./wk.

ITMD 140
DRAPERIES, TREATMENTS AND CONSTRUCTION (1CR)

Prerequisites: ITMD 121 and ITMD 125
Corequisite: ITMD 275

Upon successful completion of this course, the student should be able to demonstrate the use of correct vocabulary relating to drapery and window treatments; explain the use of equipment in the drapery industry; identify appropriate textiles and fabrics for specific window treatments; measure for window treatments; and describe and select the proper suspension system for specific window treatments. 1 hr./wk.

ITMD 145
UPHOLSTERY CONSTRUCTION (1CR)

Prerequisites: ITMD 121 and ITMD 125
Corequisite: ITMD 275

Upon successful completion of this course, the student should be able to demonstrate the use of correct vocabulary relating to upholstery construction; explain the use of equipment in the upholstery industry; identify appropriate textiles and fabrics for specific upholstery uses; and describe the various suspension systems used in bench-constructed and mass-produced furniture. 1 hr./wk.

ITMD 147
LIGHTING DESIGN AND PLANNING (1CR)

Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to define and use vocabulary relating to lighting design and planning. Additionally, the student should be able to recognize and explain the use of fixtures and other related equipment necessary to the lighting industry, identify and describe proper fixtures and equipment for lighting applications, and demonstrate skills in selecting proper lighting designs for specific applications. 1 hr./wk.

ITMD 148
FURNITURE AND ORNAMENTATION/ORIENTAL (3CR)

Upon successful completion of this course, the student should be able to analyze and compare furniture, ornamentation, design motifs and textiles of the Near and Far East during historical periods from antiquity to modern times. 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 period and demonstrate the use of correct vocabulary related to each era. 3 hrs./wk.

ITMD 223
CONTRACT DESIGN (3CR)

Prerequisites: ITMD 122 and DRAF 264

Upon successful completion of this course, the student should be able to explain the differences between residential and contract design; demonstrate the use of interior design skills to convert, redesign and create contract design space; explain the concept of open office planners; and compare and analyze the costs and benefits of open planning vs. closed planning. 1 hr. lecture, 3 hrs. lab/wk.

ITMD 231
FURNITURE AND ORNAMENTATION/ RENAISSANCE TO 20TH CENTURY (3CR)

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 social, religious and political influences on the ornamentation of each period. The student should also be able to identify the craftsmanship and materials used in the furniture of each period and use correct vocabulary related to each era. 3 hrs./wk.

ITMD 234
KITCHEN AND BATH: PLANNING AND DESIGN (3CR)

Prerequisites: DRAF 261 and DRAF 264 and ITMD 122

Upon successful completion of this course, the student should be able to define and use vocabulary related to kitchen and bath design and construction; identify and use proper architectural symbols common to kitchen and bath floor plans and elevations; state the space relationships required for proper kitchen and bath usage; and draw kitchen and bath floor plans and elevations. Additionally, the student should be able to identify and explain the work triangle, structural detail, cabinetry and appliances in kitchen design and wet walls, cabinetry, structural detail and plumbing in bath planning. 2 hrs. lecture, 1 hr. lab/wk.

ITMD 239
PORTFOLIO AND PRESENTATION FOR INTERIOR MERCHANDISING (1CR)

Prerequisites: ITMD 122 and ITMD 223

Upon successful completion of this course, the student should be able to select the proper format for a portfolio, rework the included material to maximum visual potential, and arrange the material in logical sequence. Additionally, the student should be able to select an appropriate type of

résumé; collect pertinent data; and compose, design and produce a résumé. The student should also be able to conduct a job search, determine and use appropriate interview techniques, and evaluate a potential job offer. 1 hr./wk.

ITMD 273
INTERIOR MERCHANDISING SEMINAR: PRACTICES AND PROCEDURES (2CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to demonstrate the use of proper interior design industry terminology and appropriate business forms and contracts; define the types of business legal structures; and solve business organizational and ethical problems through the use of case studies. 2 hrs./wk.

ITMD 275
INTERIOR MERCHANDISING SEMINAR: BUDGET AND ESTIMATING (2CR)
Prerequisite: ITMD 121

Upon successful completion of this course, the student should be able to describe methods of pricing interior design materials and services; measure accurately for materials; demonstrate the use of business math in interior merchandising applications; and compute cost in example cases. 2 hrs./wk.

ITMD 282
INTERIOR MERCHANDISING PRACTICUM I (1CR)
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 interior merchandising industry. A minimum of 15 hrs. on-the-job training/wk.

ITMD 284
INTERIOR MERCHANDISING PRACTICUM II (1CR)
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 interior merchandising industry. A minimum of 15 hrs. on-the-job training/wk.

ITMD 295
FIELD STUDY: DESIGN AND MERCHANDISING (3CR)
Prerequisites: ITMD 121 and approval of the program director

Upon successful completion of this course, the student should be able to compare, contrast and evaluate manufacturing processes and marketing techniques for interior products. This travel-for-credit course consists of visits to manufacturing plants, a market showroom and a merchandise mart in a major market city. Summer.

ITMD 296
INTERIOR DESIGN: THE ORIENT (3CR)

Upon successful completion of this course, the student should be able to recognize and identify Oriental 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 predeparture seminars, followed by a three-week field trip to Japan, Hong Kong and Thailand. Summer.

Interpreter Training

INTR 110
CONVERSATIONAL SIGNED ENGLISH I (2CR)

An introduction to signed English, this class will help students develop basic conversational skills. 4 hrs. lab/wk.

INTR 111
CONVERSATIONAL SIGNED ENGLISH II (2CR)
Prerequisite: INTR 110

This course will offer continued development of signed English skills, leading to the development of conversational skills. 4 hrs. lab/wk.

INTR 115
CONVERSATIONAL ASL I (2CR)

This is an introduction to American Sign Language, leading to the development of basic conversational skills. 4 hrs. lab/wk.

INTR 116
CONVERSATIONAL ASL II (2CR)
Prerequisite: INTR 115

This is an introduction to American Sign Language, leading to the development of intermediate conversational skills. 4 hrs. lab/wk.

INTR 125
AMERICAN SIGN LANGUAGE I (ASL) (5CR)

Prerequisite: Admission to the Interpreter Training Program

This class will focus on the development of beginning communication skills. Comprehension skills and linguistic features of the language taught in context will be emphasized. 1 hr. lecture, 9 hrs. lab/wk.

INTR 130
ORIENTATION TO INTERPRETING (3CR)

In this overview of interpreting as an occupation, topics will include interpersonal skills, professional ethics, parameters of the interpreter's responsibilities, community resources and legal ramifications. 3 hrs./wk.

INTR 132
AMERICAN SIGN LANGUAGE II (ASL) (5CR)

Prerequisite: INTR 125

Students will work on developing intermediate communication skills, concentrating on comprehension and production skills. Linguistic and cultural features will be presented in the context of language-learning experiences. 1 hr. lecture, 9 hrs. lab/wk.

INTR 135
THEORY OF AMERICAN SIGN LANGUAGE (ASL) (3CR)

Prerequisite: INTR 125

Students will examine the structural and grammatical principles of ASL in this introduction to linguistic problems of equivalency in English and ASL. 3 hrs./wk.

INTR 140
AMERICAN SIGN LANGUAGE III (ASL) (5CR)

Prerequisite: INTR 132

Students will continue to develop ASL skills in this class. Emphasis will be on comprehension and production skills. Linguistic and cultural features will be presented in the context of language-learning experiences. 1 hr. lecture, 9 hrs. lab/wk.

INTR 142
FINGERSPELLING I (3CR)

Students will work on developing beginning expressive and receptive fingerspelling skills based on word and phrase recognition principles. 2 hrs. lecture, 3 hrs. lab/wk.

INTR 145
DEAF CULTURE (3CR)

Corequisite: INTR 125

Students will compare middle-class American values, beliefs and institutions with those of the deaf community in the United States. 3 hrs./wk.

INTR 181
INTERPRETING PRACTICUM I (1CR)

Prerequisite: INTR 130

Students will observe skilled interpreters in various interpreting situations in a variety of settings during the semester. 2 hrs. lab, field work/wk.

INTR 225
PHYSICAL AND PSYCHOLOGICAL ASPECTS OF INTERPRETING (2CR)

Prerequisite: INTR 181
Corequisite: INTR 250

Discussion will focus on the physical and mental stress interpreting can bring about and on therapeutic exercises for preventing negative physical effects. 2 hrs./wk.

INTR 230
AMERICAN SIGN LANGUAGE IV (ASL) (4CR)

Prerequisite: INTR 140

Students will continue to develop ASL skills at an advanced level. Emphasis will be on comprehension and production skills. Additional linguistic and cultural features will be presented in the context of language-learning experiences. 1 hr. lecture, 7 hrs. lab/wk.

INTR 242
FINGERSPELLING II (2CR)

Prerequisite: INTR 142

This course will focus on continued development of expressive and receptive fingerspelling skills based on word and phrase recognition and expression. 1 hr. lecture, 2 hrs. lab/wk.

INTR 246
ENGLISH EQUIVALENTS FOR ASL (3CR)

Prerequisite: INTR 140 or permission of the division administrator and proficiency in ASL

Students will study the many English equivalents for ASL discourse, enhancing the written English skills of deaf students and the interpreting skills of hearing students. 3 hrs./wk.

INTR 250
INTERPRETING I (6CR)

Prerequisite: INTR 130
Corequisite: INTR 140

In this introduction to interpreting principles, emphasis will be on English-to-ASL and ASL-to-English skills. Students will participate in sequential drills and apply these skills in class. 2 hrs. lecture, 8 hrs. lab/wk.

INTR 255
INTERPRETING II (6CR)

Prerequisite: INTR 250

This is an advanced course concentrating on the continued development of English-to-ASL, ASL-to-English and transliteration skills. Students will have the opportunity to use these skills as they role-play employment situations. 2 hrs. lecture, 8 hrs. lab/wk.

INTR 261
SPECIAL TOPICS (3CR)

Prerequisite: Depends on topics

Current trends and topics in interpreting are the focus of this course. Topics may include medical/mental health interpreting, deaf-blind interpreting, oral interpreting, educational interpreting and trends in the field. These topics will be offered on an "as needed" basis, and the course may be repeated for up to eight credits. Lecture-lab hours vary from one to four hours depending on the topic and the number of lecture-lab hours needed.

INTR 281
INTERPRETING PRACTICUM II (3CR)

Prerequisite: INTR 181
Corequisite: INTR 255

Students will observe and interpret at assigned places as well as discuss current literature in the field. The field work totals 96 hours a semester. 6 hrs. lab, field work/wk.

Journalism and Media Communications

JOUR 120
MASS MEDIA AND SOCIETY (3CR)

This course examines the forms of mass media students are exposed to daily, including newspapers, magazines, radio, television, films, cable and video technologies. Students will be able to understand these various media, become better critics of media messages and understand the influence that the media has on their lives, decisions, goals and beliefs. 3 hrs./wk.

JOUR 122
INTRODUCTION TO NEWSWRITING (3CR)

Prerequisite: Basic typing skills or concurrent enrollment in SEC 110

This course is structured for students interested in writing news and gathering information, and especially for students who want to develop the basics of journalistic-style writing. Basic newswriting and news-style principles will be emphasized, with a focus on interviewing techniques. Practical experience will be gained through writing for the campus newspaper. 3 hrs./wk.

JOUR 125
FUNDAMENTALS OF ADVERTISING (3CR)

This course will introduce students to the basics of advertising principles by familiarizing them with the forms of advertising and the types of media available. The functions and roles that both print and broadcast advertising play in business and for consumers will be included. 3 hrs./wk.

JOUR 127
INTRODUCTION TO BROADCASTING (3CR)

This course serves as a general introduction to radio and television broadcasting and will include a study of the industry's development, program formats, personnel, equipment function, FCC codes and regulations, and cable. Classtime also will include discussion of current trends and issues in broadcasting so that students may develop a critical understanding of these media. 3 hrs./wk.

JOUR 130
PRINCIPLES OF PUBLIC RELATIONS (3CR)

This course will offer an overview of the function, purpose, procedures and practices of public relations; its roots in history; its role in society, business and government; and its potential as a career field. Primary emphasis will be on theory, practice and criticism, supplemented with written and verbal exercises in the application of public relations techniques. Discussion will center on the tools and media used in communicating with the public. 3 hrs./wk.

JOUR 202
BROADCAST PERFORMANCE (3CR)

Interviewing, commercial announcing, and radio and television news will be covered in this course. Students will learn how to improve their speaking voices and body language as they are taught techniques for communicating messages through basic announcing performances in the college's television studio. 3 hrs./wk.

JOUR 222
NEWS REPORTING (3CR)

Prerequisite: JOUR 122

This is an advanced news gathering and reporting course designed to sharpen writing skills. Practice in writing in-depth news features, editorials, profiles, and advance and follow-up stories will be included, with an emphasis on editing and newspaper layout. Students will gain experience writing for the campus newspaper. 3 hrs./wk.

JOUR 225
PROMOTIONAL WRITING (3CR)
Prerequisite: JOUR 125 or the equivalent

This course is for students who want to learn the elements of layout and copywriting for promotional purposes. It will emphasize how to determine advertising appeals, copy structure and copy style, and how to develop advertising campaigns. The importance of coordinating marketing goals, advertising goals and campaign strategy also will be stressed. 3 hrs./wk.

JOUR 271
JOURNALISM INTERNSHIP (3CR)
Prerequisite: Approval of the division administrator

This course permits a student to gain work experience at an approved training center under staff supervision. Emphasis will be on the application of writing techniques needed to produce print news, broadcast news, and/or advertising or public relations promotional copy or production. On-the-job training involves a minimum of 12 hours a week by arrangement.

Learning Strategies

LS 172
LECTURE NOTES STRATEGY (1CR)
Prerequisite: Concurrent enrollment in a lecture course to which the strategy can be applied

This course is designed to improve the skills required in taking effective notes. Through the use of specialized methodology, students can gain proficiency in taking lecture notes and using those notes to meet course objectives in lecture classes. 1 hr./wk.

LS 178
MEMORY STRATEGY (1CR)
Corequisite: Concurrent enrollment in another college course

Students will learn 12 techniques for acquiring, storing and recalling information. Each technique is presented and practiced in class and then applied to information from courses in which students are concurrently enrolled. Emphasis is on improving long-term memory as it is needed in an academic setting. 1 hr./wk.

LS 185
LEARNING STRATEGIES FOR MATH (1CR)
Corequisite: MATH 111 or MATH 115 or MATH 116

This course addresses feelings and attitudes that may block math learning, and offers strategies and techniques designed to overcome those feelings. The course also teaches thinking and study skills specifically geared toward the learning of math which include problem solving, test taking and cognitive skills. 1 hr./wk.

LS 190
TEXTBOOK LEARNING STRATEGIES (1CR)
Corequisite: Concurrent enrollment in a course requiring the use of a textbook

This course, through highly specialized instructional procedures, teaches students how to get the most from the reading and study of textbooks in college courses. 1 hr./wk.

LS 195
LEARNING STRATEGIES
FOR CAREER PROGRAMS (1CR)

This course is designed to help students enrolled in the various career programs at JCCC develop more efficient and effective learning plans for meeting the intensive cognitive demands of the two-year programs. Techniques and strategies for managing time, acquiring and reviewing information, test taking and analyzing test errors will be presented. 1 hr. lecture/wk.

LS 196
STRATEGIC LEARNING SYSTEM (1CR)
Corequisite: Concurrent enrollment in a college lecture course

Students will learn a series of strategies dealing with textbooks, lectures, studying and taking tests. These strategies should enable them to learn more efficiently and effectively in courses in which they are concurrently enrolled. Upon successful completion of this course, students should be able to adapt these learning strategies to any learning situation. 1 hr./wk.

LS 198
EXAM STRATEGIES (1CR)
Corequisite: Concurrent enrollment in at least one other college course

This is a second-level course in which students will investigate their individual learning styles, use critical thinking and problem-solving techniques to increase learning efficiency and create personalized strategies. 1 hr./wk.

LS 200
COLLEGE LEARNING METHODS (3CR)
Corequisite: Concurrent enrollment in at least one academic college course

This course is designed for students who want to understand how they learn and how they can improve their efficiency and effectiveness in learning. Students will be introduced to thinking and learning principles that they will practice in class. Students will apply the methods of inquiry to other courses in which they are concurrently enrolled. 3 hrs./wk.

Marketing Management

MKT 121
RETAIL MANAGEMENT (3CR)

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 and presentation. 3 hrs./wk.

MKT 133
SALESMANSHIP (3CR)

Upon successful completion of this course, the student should be able to define and contrast the three main areas of selling direct, wholesale and retail, and explain the selling process. In addition, the student should be able to define the steps of selling and identify their appropriate application. The student should also be able to demonstrate selling skills through role play and presentations. Students who have received credit for MKT 134 may not receive credit for MKT 133. 3 hrs./wk.

MKT 134
CREATIVE RETAIL SELLING (3CR)

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 their appropriate application. The student should also apply selling principles through role playing. Students who have received credit for MKT 133 may not receive credit for MKT 134. 3 hrs./wk.

MKT 202
CUSTOMER RELATIONS (3CR)

Prerequisite: MKT 133 or MKT 134

Upon successful completion of this course, the student should be able to demonstrate successful selling techniques for products and services. In addition, the student should be able to develop methods for listening effectively to customers; acquire product information; develop features and benefits to meet specific customer demands; refine personal selling style; develop customer follow-up techniques; create customer records of purchase; demonstrate an ability to handle difficult customers; and develop a product information book and a self-training program. 3 hrs./wk.

MKT 206
AUTOMOTIVE RETAILING SALES (3CR)

Prerequisite: MKT 133 or MKT 134

Upon successful completion of this course, the student should be able to demonstrate the skills necessary for competency in automotive retailing. Student awareness and understanding will be directed toward the following: an introduction to automotive retailing, past, present and future; professionalism in sales; the components of sales transactions; a structured sales program and product knowledge; customer satisfaction and follow-up; building a clientele; and success through self-improvement. 3 hrs./wk.

MKT 221
SALES MANAGEMENT (3CR)

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. 3 hrs./wk.

MKT 271
MARKETING AND MANAGEMENT SEMINAR: ORGANIZATIONAL BEHAVIOR (2CR)

Upon successful completion of this course, the student should be able to explain organizational structure and process and the principles of human behavior in organizations; describe core concepts of motivation, perception and communication in organizations; and analyze individual and team effectiveness in organizations 2 hrs./wk.

MKT 272
MARKETING AND MANAGEMENT SEMINAR: HUMAN RELATIONS (3CR)

Upon successful completion of this course, the student should be able to explain the importance of effective human relations in the workplace, define personality types, explain the way in which they interact, describe their impact in the work environment and demonstrate effective human relations skills in the workplace. This course consists of a minimum of 15 hours a week of supervised work experience in an approved training situation and two hours a week in the classroom.

MKT 273
MARKETING AND MANAGEMENT SEMINAR: MARKETING RESEARCH (2CR)

Upon successful completion of this course, the student should be able to explain market research design; collect, organize and analyze market research data; explain demographic and psychographic impacts on markets; and prepare and present a marketing research project. 2 hrs./wk.

MKT 284
MARKETING AND MANAGEMENT INTERNSHIP I (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hours a week on-the-job training is required.

MKT 286
MARKETING AND MANAGEMENT INTERNSHIP II (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hours a week on-the-job training is required.

MKT 288
MARKETING AND MANAGEMENT INTERNSHIP III (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hours a week on-the-job training is required.

MKT 289
MARKETING AND MANAGEMENT INTERNSHIP IV (1CR)

Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work situation. This course offers work experience under instructional supervision in an approved training situation designed to provide practical experience in marketing and management. A minimum of 15 hours a week on-the-job training is required.

Mathematics

DEVELOPMENTAL COURSES

MATH 111 and MATH 115 are designed to help students review and improve math concepts and develop math skills. MATH 111 and MATH 115 provide the mathematical foundation upon which subsequent studies in mathematics and other areas depend. These courses do not fulfill degree requirements.

MATH 111
FUNDAMENTALS OF MATH (3CR)

Prerequisite: Appropriate score on the math assessment test

This is a course in basic math skills and concepts for those who need to improve or review their math training. The course will include computation, numeration and mathematical applications of whole numbers, integers, fractions, decimals, percent, square roots, measurement, geometry and linear equations. 3 hrs./wk.

MATH 115
INTRODUCTION TO ALGEBRA (3CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

This course will cover simplifying numerical and algebraic expressions, including polynomials, rational expressions, exponential expressions and radical expressions; solving equations and inequalities, including linear equations, quadratic equations and equations containing rational expressions; and analysis and graphing of equations, including linear and nonlinear equations. 3 hrs./wk.

MATH 116
INTERMEDIATE ALGEBRA (3CR)

Prerequisite: MATH 115 or appropriate score on the math assessment test

Polynomials, rational expressions, exponents and radicals, equations and inequalities, graphing and systems of linear equations, logarithms and functions will be covered. 3 hrs./wk.

MATH 118
GEOMETRY (3CR)

Prerequisite or corequisite: MATH 115 or appropriate score on the math assessment test

This course is an intuitive approach to geometry. Topics will include lines, polygons, area, volume, circles, similarity, congruence and coordinate geometry. 3 hrs./wk.

MATH 120
BUSINESS MATH (3CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

This is a course for the student who needs specific skills in math to address business problems and applications in payroll, retailing, money management, depreciation and financial statements. Students will use business calculators and computers to solve various business problems. 3 hrs./wk.

MATH 122
MATHEMATICS IN OUR CULTURE (3CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

This is a course about the extent, power and history of many interesting areas of mathematics. Topics will include mathematical reasoning and recreation, calculator activities, computer literacy, mathematics in art and music, probability, statistics and topology. 3 hrs./wk.

MATH 125
MATH FOR MODERN LIVING (3CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

This television course surveys a variety of mathematical topics including logic, sets, equation solving, graphing, measurement, number sequences, probability statistics, calculators and computers. 3 hrs./wk.

MATH 133
TECHNICAL MATHEMATICS I (4CR)

Prerequisite: MATH 111 or appropriate score on the math assessment test

This course is the first of a two-semester sequence that will introduce the mathematical skills and concepts necessary in technical work. It will focus on the basics of algebra and trigonometry and their applications. Topics will include operations with polynomials, linear equations, systems of equations, right and oblique triangles, vectors and complex numbers. This course has computer-interactive video programs to complement the classroom instruction. 4 hrs./wk.

MATH 134
TECHNICAL MATHEMATICS II (5CR)

Prerequisite: MATH 133 or the equivalent

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. 5 hrs./wk.

MATH 165
FINITE MATH, A CULTURAL APPROACH (3CR)

Prerequisite: MATH 116 or appropriate score on the math assessment test

This course is designed to teach math concepts as well as quantitative skills. Topics will include inductive and deductive reasoning, mathematical patterns, topology, noneuclidian geometry, probability, statistics, matrices, exponential and logarithmic functions and math induction. The common themes throughout the course will be innovations in personal computers, related mathematical and cultural history and reasoning ability. 3 hrs./wk.

MATH 171
COLLEGE ALGEBRA (3CR)

Prerequisite: MATH 116 or appropriate score on the math assessment test

A student in this course will analyze and graph functions, including constant, linear, absolute value, square root, polynomial, rational, exponential and logarithmic functions and nonfunctions; solve equations and inequalities, including equations of variation, exponential equations, logarithmic equations, systems of linear and nonlinear equations and systems of linear inequalities; and analyze and create algebraic and numerical patterns. 3 or 5 hrs./wk.

MATH 172
TRIGONOMETRY (3CR)

Prerequisite: MATH 171 or appropriate score on the math assessment test

This is a study of trigonometric functions and their properties, identities, graphs, equations, inverse trigonometric functions, polar coordinates, complex numbers and applications. 3 hrs./wk.

MATH 173
PRECALCULUS (5CR)

Prerequisite: MATH 116 or appropriate score on the math assessment test

This course is a study of polynomial, rational, exponential, logarithmic, trigonometric and inverse trigonometric functions, theory of equations, systems of equations, determinants, sequences and series, the binomial theorem, identities and complex numbers. This course is intended for students planning to enroll in MATH 232 or MATH 241. 5 hrs. lecture/wk.

MATH 175
DISCRETE MATH AND ITS APPLICATIONS (3CR)

Prerequisite: MATH 171 or MATH 173

Students will study many of the puzzles that were solved by mathematicians of the 18th and 19th centuries and how these solutions are being used to find answers to

20th century problems. Some of the topics covered will be the structure of RNA using Eulerian paths, the analysis of voting power, the analysis of human behavior in conflict situations using game theory, and optimal allocation of resources using the simplex method. The emphasis of the course will be on exploration and understanding while learning to use computer software to do the calculations. 3 hrs./wk.

MATH 181
STATISTICS (3CR)

Prerequisite: MATH 171 MATH 173 or appropriate score on the math assessment test

This is a beginning course in statistical analysis. Topics will include descriptive statistics, probability, sampling, distributions, estimation, hypothesis testing, regression and correlation. Computer/calculator applications will be incorporated into course topics. 3 hrs./wk.

MATH 231
CALCULUS I (3CR)

Prerequisite: MATH 171 or MATH 173 or appropriate score on the math assessment test

This is the first course in a two-semester series on calculus. It will cover differentiation of algebraic, exponential and logarithmic functions used in business, biology and the social sciences along with an introduction to the integration of algebraic and exponential functions. Trigonometry (MATH 172) may be taken concurrently with MATH 231 for those students planning to enroll in MATH 232 in subsequent semesters. 3 hrs./wk.

MATH 232
CALCULUS II (3CR)

Prerequisites: MATH 231 and MATH 172, or MATH 173 or an equivalent course

This is the second course in a two-semester series on calculus. It will cover techniques of integration, differentiation and integration of trigonometric functions, differential equations, functions of several variables and a brief introduction to statistics. This information can be applied to business, statistics, biology and the social sciences. 3 hrs./wk.

MATH 241
ANALYTIC GEOMETRY – CALCULUS I (5CR)

Prerequisite: MATH 172 or MATH 173 or appropriate score on the math assessment test

This is the first course in a three-semester sequence on analytic geometry and calculus. Students will study and apply elements of plane analytic geometry and the differentiation and integration of algebraic and transcendental functions. 5 hrs./wk.

MATH 242
ANALYTIC GEOMETRY – CALCULUS II (5CR)

Prerequisite: MATH 241 or an equivalent course

This is the second in a three-semester sequence on analytic geometry and calculus. The emphasis will be on differentiation and integration of transcendental functions, polar coordinates, conics, vectors and applications. 5 hrs./wk.

MATH 243
ANALYTIC GEOMETRY – CALCULUS III (5CR)

Prerequisite: MATH 242 or an equivalent course

This is the third course in a three-semester sequence on analytic geometry and calculus. Topics will include vector-valued functions, functions of several variables, multiple integration, vector analysis, differential equations and matrices and linear algebra. 5 hrs./wk.

MATH 244
DIFFERENTIAL EQUATIONS (3CR)

Prerequisite: MATH 243 or an equivalent course

This course will cover standard types of ordinary equations, second and higher order linear equations, solutions by series, the Laplace transform numerical solutions, and applications. 3 hrs./wk.

Metal Fabrication

MFAB 121
INTRODUCTION TO WELDING (3CR)

Upon successful completion of this course, the student should be able to identify oxy-fuel cutting, oxy-fuel welding and brazing, and shielded metal arc welding (SMAW). The SMAW portion will cover all positions but will be limited to fillets welds. All welds will be tested according to industry standards. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 122
ELEMENTS OF WELDING (3CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to cut and weld using oxy-fuel (OFW, OFC) and shielded metal arc welding (SMAW). The OFW portion will cover puddling with and without filler metal; OFC will cover straight line cutting, beveling, piercing and gouging. The SMAW portion will cover flat position and will be limited to fillet welds. The student should be able to discuss electrical safety in SMAW, handle welding cables properly, understand eye hazards, list safe clothing requirements and discuss environmental safety. This knowledge will be evidenced by achieving the specified score on the unit test. 2 hrs. lecture, 3 hrs. lab/wk.

MFAB 123
BASIC WELDING (3CR)

Prerequisites: MFAB 122 or approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to use oxy-fuel cutting (OFC), shielded metal arc welding (SMAW) and air carbon arc cutting (AAC). The SMAW portion will cover 1G and will be limited to groove welds. Processes will be limited to flat and horizontal positions of fillet and groove welds. Testing of welds will be inspected according to industrial standards. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 125
ADVANCED GAS AND ARC WELDING (3CR)

Prerequisite: MFAB 121 or approval of the division administrator

Upon successful completion of this course, the student should be able to identify the theory and practice of out-of-position oxy-fuel brazing, shielded metal arc welding (SMAW) of v-butt plate in five positions, basic air-arc cutting and gouging, and certification requirements with root and face bend tests performed according to industry standards. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 127
WELDING PROCESSES (2CR)

Prerequisite: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify various welding processes used by railroads and industry. All standard shop and maintenance welding processes will be taught and demonstrated. Students will be required to participate. 1 hr. lecture, 1.5 hrs. lab/wk.

MFAB 130
MIG AND TIG I (3CR)

Prerequisite: MFAB 121 or approval of the division administrator

Upon successful completion of this course, the student should be able to identify the theory of gas metal arc welding (GMAW) and gas tungsten arc welding (GTAW), also known as MIG and TIG; GTAW on mild steel; GTAW on aluminum; and GMAW on steel. In the lab, the student will use welding symbols, read blueprints and test welds. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 132
THERMITE WELDING (3CR)

Prerequisite: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to produce, in a safe manner, high-quality, sound Thermite welds on standard rail and mismatched rail. This course is intended for people who are employed in the railroad industry. This will be specific, in-depth industrial training. Students will be required to make various rail alignments and grind various new and worn rail. The students also should be able to clean a used crucible, assemble a crucible and temper new and used crucibles. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 135
TRACK COMPONENT WELDING (3CR)

Prerequisites: MFAB 123 and approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify industrial welding of track components used by the Burlington Northern Railroad. The course will involve the study of different welding processes, metallurgy and the effects of heat on track components. Demonstrations on actual track components will be given with the lecture. The student will be required to experience all appropriate methods and processes of welding and straight edging for evaluation. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 137
STRUCTURAL WELDING SMAW (3CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student will be qualified to weld with SMAW according to AWS D1.5.88 code. All welds will be made in the vertical (3G) and overhead (4G) positions. Passing or failing will be determined by the student's ability to successfully produce welds according to the prescribed standards in AWS D1.5.88. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 138
STRUCTURAL WELDING FCAW (3CR)

Prerequisites: Approval of the Burlington Northern training director or the JCCC division administrator

Upon successful completion of this course, the student will be qualified to weld with FCAW according to AWS D1.5.88 code. All welding will be made in the vertical (3G) and overhead (4G) positions. Passing or failing will be determined by the student's ability to successfully produce welds according to prescribed standards in AWS D1.5.88. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 139
STRUCTURAL WELDING PIPE (3CR)

Prerequisites: MFAB 137 or approval of the Burlington Northern training director or the JCCC division administrator

Upon successful completion of this course, the student should be qualified to weld on pipe using the SMAW process according to Burlington Northern's standards. All welding will be made in the vertical uphill fixed position. Passing or failing the course will be determined by the student's ability to successfully produce test welds according to Burlington Northern's standards. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 143
THERMITE WELDING FOR SUPERVISORS (2CR)

Prerequisites: Approval of the Burlington Northern training director and JCCC division administrator

Upon successful completion of this course, the student should be able to produce, in a safe manner, high-quality sound thermite welds on standard rail and mismatched rail. This course is intended for people who are employed in the railroad industry. This will be specific, in-depth, industrial training. Students will be required to make various rail alignments and grind various new and worn rail. The student should also be able to clean a used crucible, assemble a crucible and temper new and used crucibles. 1.5 hrs. lecture, 1 hr. lab/wk.

MFAB 145
FROG WELDING (3CR)

Prerequisites: MFAB 135 and approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to repair a weld frog casting according to Burlington Northern standards. Students will be required to grind, straight edge, dye penetrant test and monitor heat input during the repair process. 1 hr. lecture, 4 hrs. lab/wk.

MFAB 147
COMPONENT WELDING FOR SUPERVISORS (2CR)

Prerequisite: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify industrial welding of track components used by Burlington Northern Railroad. This course will introduce the student to various types of welding processes used by Burlington Northern Railroad, metallurgy and the effects of heat on rail steel, and frog castings. Demonstration and experience will be given regarding grinding on rail steel and frog castings, air arc cutting (CAC-A), straight edging, temperature monitoring and dye penetrant on both rail steel and frog castings. 1.5 hrs. lecture, 1 hr. lab/wk.

MFAB 150
SWITCH POINT REPAIR (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to produce, in a safe manner, high-quality repairs of switch points, switch point protectors, adjacent railends and adjacent and associated rail components. This specific in-depth industrial training course is intended for people who are employed in the railroad industry. Students will be required to complete repairs of components with flux cored arc welding (FCAW), shielded metal arc welding (SMAW) and associated welding processes. Students will also be able to grind components before and after welding to meet current standards. Straight edging according to current standards will be required of all students. 1.5 hrs. lecture, 1 hr. lab/wk.

MFAB 152
MANUFACTURING MATERIALS AND PROCESSES (3CR)

Upon successful completion of this course, the student should be able to identify various manufacturing materials and processes currently used in industry. The capabilities and applications of machine tool, general fabrication, welding processes, robotics, cut-off equipment and other manufacturing processes and equipment will be studied. Lecture will be supplemented with demonstrations of various processes and equipment. 3 hrs. lecture/wk.

MFAB 155
RAILROAD WELDING REVIEW (2CR)

Prerequisites: Approval of the Burlington Northern training director and the JCCC division administrator

Upon successful completion of this course, the student should be able to identify currently used rail, frogs, switch points, crossings, Conley's and insulated joint plugs. The student should be able to locate operating procedures in an approved manual and apply them to the appropriate component. In addition, the student should be able to describe the proper application of OFC, OFW, heating, SMAW, FCAW, CAC-A and thermite welding procedures. 1.5 hrs. lecture, 1 hr. lab/wk.

MFAB 230
MIG AND TIG II (3CR)

Prerequisite: MFAB 130 or division administrator approval

Upon successful completion of this course, the student should be able to identify the theory of GMAW and GTAW, GMAW on aluminum and steel, GTAW on stainless steel and flux-cored arc welding (FCAW) on steel. 1 hr. lecture, 6 hrs. lab/wk.

MFAB 240
METALLURGY (1CR)

Upon successful completion of this course, the student should be able to identify the properties of ferrous metals, describe types and classifications of metals, heat treatment procedures and common steel manufacturing processes. 1 hr. lecture/wk.

Music

MUS 121
INTRODUCTION TO MUSIC LISTENING (3CR)

The emphasis will be on listening in this survey of the development of music. Students will hear recorded medieval, Renaissance, baroque, classical, romantic and contemporary music, including popular American forms. 3 hrs./wk.

MUS 123
INTRODUCTION TO MUSIC FUNDAMENTALS (2CR)

This class is for the elementary classroom teacher or music student without a background in theory. It will cover notation of melody, rhythm, meter and musical terminology, intervals, chords and very basic four-part writing. 2 hrs./wk.

MUS 125
INTRODUCTION TO JAZZ LISTENING (3CR)

Listening will be emphasized in this introduction to the history of jazz in America. The focus will be on trends, periods and styles. 3 hrs./wk.

MUS 131
SIGHT-SINGING AND EAR TRAINING I (2CR)

Students will combine aural and sight-reading skills in this course on the melodic, harmonic and rhythmic elements of music. 2 hrs./wk.

MUS 132
SIGHT-SINGING AND EAR TRAINING II (2CR)

Prerequisite: MUS 131

This is a continued study of the melodic, harmonic and rhythmic elements of music, integrating aural and sight-reading skills. 2 hrs./wk.

MUS 133
SIGHT-SINGING AND EAR TRAINING III (2CR)

Prerequisite: MUS 132

This is a continued advanced study of melodic, harmonic and rhythmic elements of music. 2 hrs./wk.

MUS 134
SIGHT-SINGING AND EAR TRAINING IV (2CR)

Prerequisite: MUS 133

In this advanced study, students will continue working on aural and sight-reading skills through melodic and harmonic dictation. 2 hrs./wk.

MUS 141
MUSIC THEORY: HARMONY I (3CR)

This is a basic study of the harmonic system used in music composed from 1650 to 1900 and still in use in certain areas of music composition. Students will both write and analyze music of the period as well as play simple chord progression on the piano. Students will gain further understanding of harmonic practices through selected software programs. 3 hrs./wk.

MUS 142
MUSIC THEORY: HARMONY II (3CR)

Prerequisite: MUS 141

This is a continuation of the study of the harmonic system used in music composed from 1650 to 1900 and still in use in certain areas of music composition. The course includes introduction and extensive use of nonharmonic tones, proper usage of the supertonic and dominant sevenths, correct use of the submediant and mediant triads, advanced melodic writing and introduction of secondary dominant chords leading to elementary modulation. Students will play simple chord progressions on the piano as well as write and analyze music of the period. Selected software programs will enhance student skills and understanding. 3 hrs./wk.

MUS 143
MUSIC THEORY: HARMONY III (3CR)

Prerequisite: MUS 142

This is a continuation of the study of the harmonic system used in music composed from 1650 to 1900 and still in use in certain areas of music composition. Important topics include devices of modulation, binary and ternary musical forms and application of part writing procedures to instrumental music. Particular attention will be paid to the nature and functions of diatonic seventh chords, borrowed chords and augmented sixth chords in both minor and major keys. Keyboard harmony exercises of increasing difficulty will be utilized by the student. Advanced software programs will aid student skills and harmonic understanding. 3 hrs./wk.

MUS 144
MUSIC THEORY: HARMONY IV (3CR)
Prerequisite: MUS 143
This course is a continuation of the study of music composed from 1650 to 1900 with particular emphasis on compositional and harmonic techniques of the 20th century. Primary topics include chords of the ninth, 11th and 13th; more chromatic harmonic progressions; harmonic practices of the Debussy and Impressionism; and an introduction to 20th century music. Particular emphasis will be on the theories and techniques of Arnold Schoenberg and serial composition. Techniques since 1950 will also be explored and students will compose short excerpts utilizing contemporary styles and techniques.

MUS 151
MIXED VOCAL ENSEMBLE I (1CR)
Open to both majors and nonmajors, this class involves rehearsal and performance of a wide range of vocal music. 3 hrs./wk.

MUS 152
MIXED VOCAL ENSEMBLE II (1CR)
Prerequisite: MUS 151
This is a continuation of Mixed Vocal Ensemble I. 3 hrs./wk.

MUS 153
MIXED VOCAL ENSEMBLE III (1CR)
Prerequisite: MUS 152
This is a continuation of Mixed Vocal Ensemble II. 3 hrs./wk.

MUS 154
MIXED VOCAL ENSEMBLE IV (1CR)
Prerequisite: MUS 153
This is a continuation of Mixed Vocal Ensemble III. 3 hrs./wk.

MUS 156
MIDI MUSIC COMPOSITION (3CR)
Prerequisite: MUS 142 or approval of the program director
This course will combine the study of harmony, rhythm and melody as used in music composition with electronic technology available with the MIDI music system. Students will be introduced to the computer and the compatible equipment and software available for the expressed purpose of stimulating and enhancing the student's musical creativity. 2 hrs. lecture, 2 hrs. lab/wk.

MUS 161
CHAMBER CHOIR I (1CR)
Prerequisite: Audition
Students will study and rehearse a variety of vocal music and perform at student and community activities. 3 hrs./wk.

MUS 162
CHAMBER CHOIR II (1CR)
Prerequisite: MUS 161
This is a continuation of Chamber Choir I. 3 hrs./wk.

MUS 163
CHAMBER CHOIR III (1CR)
Prerequisite: MUS 162
This is a continuation of Chamber Choir II. 3 hrs./wk.

MUS 164
CHAMBER CHOIR IV (1CR)
Prerequisite: MUS 163
This is a continuation of Chamber Choir III. 3 hrs./wk.

MUS 171
APPLIED VOICE I (Class) (1CR)
This class will offer instruction in singing from the beginning stages. 1 hr./wk.

MUS 172
APPLIED VOICE II (Class) (1CR)
Prerequisite: MUS 171
This is a continuation of Applied Voice I.

MUS 173
APPLIED VOICE III (Class) (1CR)
Prerequisite: MUS 172
This is a continuation of Applied Voice II.

MUS 174
APPLIED VOICE IV (Class) (1CR)
Prerequisite: MUS 173
This is a continuation of Applied Voice III.

MUS 176
EVENING JAZZ ENSEMBLE I (1CR)
The ensemble will perform jazz and popular music at festivals, public concerts and college functions. 3 hrs./wk.

MUS 177
EVENING JAZZ ENSEMBLE II (1CR)
This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 3 hrs./wk.

MUS 178
EVENING JAZZ ENSEMBLE III (1CR)

This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 3 hrs./wk.

MUS 179
EVENING JAZZ ENSEMBLE IV (1CR)

This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 3 hrs./wk.

MUS 181
STUDENT JAZZ ENSEMBLE I (2CR)
Prerequisite: Audition

The ensemble will perform jazz and popular music at festivals, public concerts and college functions. 6 hrs./wk.

MUS 182
STUDENT JAZZ ENSEMBLE II (2CR)
Prerequisite: MUS 176 or MUS 181

This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 6 hrs./wk.

MUS 183
STUDENT JAZZ ENSEMBLE III (2CR)
Prerequisite: MUS 177 or MUS 182

This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 6 hrs./wk.

MUS 184
STUDENT JAZZ ENSEMBLE IV (2CR)
Prerequisite: MUS 178 or MUS 183

This class will consist of continued performances of jazz and popular music at festivals, public concerts and college functions. 6 hrs./wk.

MUS 187
JAZZ IMPROVISATION I (2CR)
Prerequisite: High school playing experience

This is a fundamental approach to the rhythm and melodic lines involved in creative improvisation. Basic procedures for analyzing chords and chord structures will serve as an outline for organized spontaneous playing. 2 hrs./wk.

MUS 188
JAZZ IMPROVISATION II (2CR)
Prerequisite: MUS 187

This continuation of Jazz Improvisation I will focus on creative improvisation and procedures for analyzing chord structures as an outline for organized spontaneous playing. 2 hrs./wk.

MUS 191
BAND I (1CR)
Prerequisite: High school playing experience

Concert band repertoire – especially early works and original contemporary selections – will be the basis of these performances. 3 hrs./wk.

MUS 192
BAND II (1CR)
Prerequisite: MUS 191 or by permission

This is a continuation of Band I. 3 hrs./wk.

MUS 193
BAND III (1CR)
Prerequisite: MUS 192 or by permission

This is a continuation of Band II. 3 hrs./wk.

MUS 194
BAND IV (1CR)
Prerequisite: MUS 193 or by permission

This is a continuation of Band III. 3 hrs./wk.

MUS 201
CHAMBER ENSEMBLE I (1CR)
Prerequisite: High school playing or the equivalent

Students will study and perform standard literature for ensembles: brass, woodwind, jazz combo and percussion. 2 hrs./wk.

MUS 202
CHAMBER ENSEMBLE II (1CR)
Prerequisite: MUS 201

This is a continuation of Chamber Ensemble I. 2 hrs./wk.

MUS 203
CHAMBER ENSEMBLE III (1CR)
Prerequisite: MUS 202

This is a continuation of Chamber Ensemble II. 2 hrs./wk.

MUS 204
CHAMBER ENSEMBLE IV (1CR)
Prerequisite: MUS 203

This is a continuation of Chamber Ensemble III. 2 hrs./wk.

MUS 211
ORCHESTRA I (1CR)
Prerequisite: Audition

Students will rehearse and perform with the Overland Park Civic Orchestra. 2 hrs. (1 evening)/wk.

MUS 212
ORCHESTRA II (1CR)
Prerequisite: MUS 211 or audition
This is a continuation of Orchestra I. 2 hrs.(1 evening)/ wk.

MUS 213
ORCHESTRA III (1CR)
Prerequisite: MUS 212 or audition
This is a continuation of Orchestra II. 2 hrs.(1 evening)/ wk.

MUS 214
ORCHESTRA IV (1CR)
Prerequisite: MUS 213 or audition
This is a continuation of Orchestra III. 2 hrs. (1 evening)/ wk.

MUS 216
APPLIED WOODWIND I (Class) (1CR)
In this class, students will be instructed on the wind instrument of their choice. 1 hr./wk.

MUS 217
APPLIED WOODWIND II (Class) (1CR)
Prerequisite: MUS 216
This course will offer advanced instruction for those who have completed Applied Woodwind I. 1 hr./wk.

MUS 218
APPLIED WOODWIND III (Class) (1CR)
Prerequisite: MUS 217
This course will offer advanced instruction for those who have completed Applied Woodwind II. 1 hr./wk.

MUS 219
APPLIED WOODWIND IV (Class) (1CR)
Prerequisite: MUS 218
This course will offer advanced instruction for those who have completed Applied Woodwind III. 1 hr./wk.

MUS 221
APPLIED PIANO I (Class) (2CR)
This class will offer beginning group instruction in playing the piano. 2 hrs./wk.

MUS 222
APPLIED PIANO II (Class) (2CR)
Prerequisite: MUS 221
This course will provide advanced group instruction for those who have completed Applied Piano I. 2 hrs./wk.

MUS 223
APPLIED PIANO III (Class) (2CR)
Prerequisite: MUS 222
This course will provide advanced group instruction for those who have completed Applied Piano II. 2 hrs./wk.

MUS 224
APPLIED PIANO IV (Class) (2CR)
Prerequisite: MUS 223
This course will provide advanced group instruction for those who have completed Applied Piano III. 2 hrs./wk.

MUS 226
APPLIED GUITAR I (Class) (1CR)
This class will offer beginning instruction in playing the guitar. 1 hr./wk.

MUS 227
APPLIED GUITAR II (Class) (1CR)
Prerequisite: MUS 226
Advanced group instruction in playing the guitar will be offered in this course. 1 hr./wk.

MUS 228
APPLIED GUITAR III (Class) (1CR)
Prerequisite: MUS 227
This course will provide advanced group instruction in playing the guitar. 1 hr./wk.

MUS 229
APPLIED GUITAR IV (Class) (1CR)
Prerequisite: MUS 228
This course will offer advanced group instruction in playing the guitar. 1 hr./wk.

MUS 231
APPLIED VOICE I (Private) (1CR)
This course offers private instruction in vocal music, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 232
APPLIED VOICE II (Private) (1CR)
Prerequisite: MUS 231
This course will offer advanced private vocal music instruction.

MUS 233
APPLIED VOICE III (Private) (1CR)
Prerequisite: MUS 232
This course will offer advanced private vocal music instruction.

MUS 234
APPLIED VOICE IV (Private) (1CR)
Prerequisite: MUS 233
This course will offer advanced private vocal music instruction.

MUS 236
APPLIED PIANO I (Private) (1CR)
Students will be offered private instruction on the piano, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 237
APPLIED PIANO II (Private) (1CR)
Prerequisite: MUS 236
Advanced private instruction on playing the piano will be offered in this course.

MUS 238
APPLIED PIANO III (Private) (1CR)
Prerequisite: MUS 237
Advanced private instruction on playing the piano will be offered in this course.

MUS 239
APPLIED PIANO IV (Private) (1CR)
Prerequisite: MUS 238
This course will offer advanced private instruction on playing the piano.

MUS 241
APPLIED GUITAR I (Private) (1CR)
Students will be offered private instruction on the guitar, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 242
APPLIED GUITAR II (Private) (1CR)
Prerequisite: MUS 241
This course will offer advanced private instruction on playing the guitar.

MUS 243
APPLIED GUITAR III (Private) (1CR)
Prerequisite: MUS 242
This course will offer advanced private instruction on playing the guitar.

MUS 244
APPLIED GUITAR IV (Private) (1CR)
Prerequisite: MUS 243
This course will offer advanced private instruction on playing the guitar.

MUS 246
APPLIED CLASSICAL GUITAR I (Private) (1CR)
Students will be offered private instruction on the classical guitar, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 247
APPLIED CLASSICAL GUITAR II (Private) (1CR)
Prerequisite: MUS 246
This course will offer advanced private instruction on playing the classical guitar.

MUS 248
APPLIED CLASSICAL GUITAR III (Private) (1CR)
Prerequisite: MUS 247
This course will offer advanced private instruction on playing the classical guitar.

MUS 249
APPLIED CLASSICAL GUITAR IV (Private) (1CR)
Prerequisite: MUS 248
This course will offer advanced private instruction on playing the classical guitar.

MUS 251
APPLIED BRASS I (Private) (1CR)
Students will be offered private instruction on the brass instrument of their choice, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 252
APPLIED BRASS II (Private) (1CR)
Prerequisite: MUS 251
Students will be offered advanced private instruction on playing a brass instrument.

MUS 253
APPLIED BRASS III (Private) (1CR)
Prerequisite: MUS 252
This course will offer advanced private instruction on playing a brass instrument.

MUS 254
APPLIED BRASS IV (Private) (1CR)
Prerequisite: MUS 253
Advanced private instruction on playing a brass instrument will be offered in this course.

MUS 256
APPLIED PERCUSSION I (Private) (1CR)
Students will be offered private instruction on the percussion instrument of their choice, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 257
APPLIED PERCUSSION II (Private) (1CR)
Prerequisite: MUS 256
Advanced private instruction on playing a percussion instrument will be offered in this course.

MUS 258
APPLIED PERCUSSION III (Private) (1CR)
Prerequisite: MUS 257
This course will offer advanced private instruction on playing a percussion instrument.

MUS 259
APPLIED PERCUSSION IV (Private) (1CR)
Prerequisite: MUS 258
This course will offer advanced private instruction on playing a percussion instrument.

MUS 261
APPLIED WOODWIND I (Private) (1CR)
Students can choose their own woodwind instrument for advanced private instruction, 1/2 hr./wk. for 16 weeks by arrangement with an approved instructor.

MUS 262
APPLIED WOODWIND II (Private) (1CR)
Prerequisite: MUS 261
This course will offer advanced private instruction in playing a woodwind instrument.

MUS 263
APPLIED WOODWIND III (Private) (1CR)
Prerequisite: MUS 262
This course will offer advanced private instruction in playing a woodwind instrument.

MUS 264
APPLIED WOODWIND IV (Private) (1CR)
Prerequisite: MUS 263
This course will offer advanced private instruction in playing a woodwind instrument.

Nursing

NURS 121
NURSING CARE OF THE INDIVIDUAL: CONCEPTS OF HEALTH (8CR)
Prerequisite: Admission to the Nursing Program
Corequisites: BIOL 140 and PSYC 130
The first in a series of four courses, this introduction to nursing will emphasize the assessment and maintenance of health in individuals of various ages. This course also will examine the concepts and principles of basic nursing care, providing a foundation for subsequent nursing courses. Clinical laboratory experience will be an important part of this course. 4 hrs. class, 12 hrs. clinical lab/wk. Fall.

NURS 122
NURSING CARE OF THE INDIVIDUAL: ADAPTATION TO CHANGE (8CR)
Prerequisite: NURS 121
Corequisites: BIOL 225 and PSYC 218
The second in a series of four courses, this course will provide an opportunity for students to explore the impact of change on the individual and family and to apply the nursing process in meeting the needs of individuals. Clinical laboratory practice will be an integral part of this course. 4 hrs. class, 12 hrs. clinical lab/wk. Spring.

NURS 123
LPN-RN TRANSITION COURSE (6CR)
Prerequisites: Licensure as a vocational/practical nurse, minimum of six months' clinical nursing experience in a hospital or nursing home setting, and admission with advanced standing to the Nursing Program
This is an orientation to the philosophy of the associate degree nursing program for LPNs entering with advanced standing. Topics will include group process, relationships, the role of the associate degree graduate, communication skills, and the nursing process. Individual assessment and assistance will be emphasized. 18 hrs./wk. for 6 wks. Summer.

NURS 221
NURSING CARE OF THE INDIVIDUAL: SHORT-TERM HEALTH PROBLEMS (9CR)
Prerequisites: NURS 122, BIOL 225 and PSYC 218
The third in a sequence of four courses, this course will focus on the individual whose well-being has been altered by a temporary, acute, disruptive problem that requires implementation of the nursing process. Pathophysiology and the application of basic scientific principles in the problem-solving process will be stressed. The course will include an introduction to contemporary issues in nursing. Clinical laboratory experience in health care agencies will be an important part of the course. 4 hrs. class, 15 hrs. clinical lab/wk. Fall.

NURS 222
NURSING CARE OF THE INDIVIDUAL: LONG-TERM HEALTH PROBLEMS (9CR)

Prerequisite: NURS 221

The fourth in a sequence of four nursing courses, this course will focus on the individual whose well-being has been altered by chronic, progressive, disruptive problems that require implementation of the nursing process. Emphasis will be on rehabilitation, adaptation to a permanently-altered lifestyle and the development and/or re-establishment of independence. The role of the associate-degree graduate seeking employment in the community will be stressed. Clinical laboratory practice will be an integral part of this course. 4 hrs. class, 15 hrs. clinical lab/wk. Spring.

Occupational Therapy Assistant

KOT 100
FUNDAMENTALS OF OCCUPATIONAL THERAPY (5CR)

Prerequisite: Formal admission to the program

This course is an introduction to the fundamentals and contemporary issues in occupational therapy and the health care guidelines for documentation procedures. 5 hrs./wk.

KOT 101
LIFE SPAN I (4CR)

Prerequisites: KOT 100, KOT 105, KOT 106 and KOT 116, each with a minimum grade of "C"

Physical, perceptual, cognitive, social, intellectual and emotional development during normal growth from prenatal stages to later adolescence will be covered. 4 hrs./wk.

KOT 103
CLINICAL CONDITIONS I (3CR)

Prerequisites: KOT 100, KOT 106 and KOT 116, each with a minimum grade of "C"

This course will cover pediatric psychosocial dysfunctions commonly referred to and treated by occupational therapists. 3 hrs./wk.

KOT 105
LIFE SPAN II (3CR)

Prerequisite: KOT 107 with a minimum grade of "C"

The role of the occupational therapy assistant will be explored. Included will be physical and psychosocial aging, treatment approaches and service management. Physical, perceptual, cognitive, social, intellectual and emotional development of human beings during normal growth and development from later adolescence to death will be covered. 3 hrs./wk.

KOT 106
GENERAL TREATMENT PROCEDURES (1CR)

Prerequisites: Formal admission to the program and concurrent enrollment in KOT 116

From the general treatment procedures presented in this class, students will learn the use of adaptive equipment, adaptive techniques for home and work, and general treatment procedures that are used in clinical settings. 2 hrs. lab/wk.

KOT 107
KINESIOLOGY (3CR)

Prerequisites: BIOL 144, KOT 101, KOT 111 and KOT 203, each with a minimum grade of "C"

The study and analysis of movement as it pertains to the clinical practice of occupational therapy will be covered in this class. 1 hr. lecture, 4 hrs. lab/wk.

KOT 111
LEVEL I FIELDWORK – LIFE SPAN I (.5CR)

Prerequisites: KOT 100, KOT 106 and KOT 116, each with a minimum grade of "C"

This course is an introduction to the medical setting through observations and clinical experience for Life Span I. 1 hr./wk.

KOT 113
CLINICAL CONDITIONS III (2CR)

Prerequisites: KOT 100, KOT 103, KOT 106 and KOT 116, each with a minimum grade of "C"

This course covers musculoskeletal and neuromuscular dysfunctions commonly referred to and treated by occupational therapy. 2 hrs./wk.

KOT 116
LEVEL I FIELDWORK – ADL (.5CR)

Prerequisites: KOT 100 with a minimum grade of "C," formal admission to the program and concurrent enrollment in KOT 106

In this class, students will be introduced to the medical setting through observation and clinical experience.

KOT 201
OCCUPATIONAL THERAPY IN MENTAL HEALTH (4CR)

Prerequisites: PSYC 130, KOT 107 and KOT 151 with a minimum grade of "C" and concurrent enrollment in KOT 211

This is a study of occupational therapy in mental health settings. Discussion will cover assessment and treatment

techniques used by the occupational therapist in the psychiatric setting. 2 hrs. lecture, 6 hrs. lab/wk.

KOT 202
OCCUPATIONAL THERAPY
IN PHYSICAL DISABILITIES (3CR)

Prerequisites: KOT 107 with a minimum grade of "C" and concurrent enrollment in KOT 212

Areas covered will include occupational therapy treatment techniques and assessment used with the physically disabled. 3 hrs./wk.

KOT 203
SHOP PRACTICES/ORTHOTICS (1CR)

Prerequisites: KOT 100, KOT 103, KOT 106 and KOT 116 with a minimum grade of "C" and admission to the program

This course will include demonstrations in the use and care of power and hand tools in the fabrication of equipment or devices used in occupational therapy. 2 hrs./wk.

KOT 204
THERAPEUTIC MEDIA (3CR)

Prerequisite: KOT 107 with a minimum grade of "C"

Students will study the characteristics, adaptability and therapeutic use of activities employed in occupational therapy. Instruction in the performance of teaching techniques as they apply to special conditions also will be included. 1 hr. lecture, 4 hrs. lab/wk.

KOT 211
LEVEL I FIELDWORK/MENTAL HEALTH (1CR)

Corequisites: Concurrent enrollment in KOT 201

This class will introduce students to the mental health setting through observation and clinical experience. 3 hrs./wk.

KOT 212
LEVEL I FIELDWORK/PHYSICAL DISABILITIES (.5CR)

Prerequisites: KOT 100 with a minimum grade of "C," formal admission to the program and concurrent enrollment in KOT 202

This class will introduce students to the physical disability setting through observation and clinical experience.

KOT 221
LEVEL II FIELDWORK/MENTAL HEALTH (4CR)

Prerequisite: Successful completion of all Occupational Therapy Assistant courses except KOT 222

This course will offer directed occupational therapy fieldwork in the mental health specialty.

KOT 222
LEVEL II FIELDWORK/
PHYSICAL DISABILITIES (4CR)

Prerequisite: Successful completion of all Occupational Therapy Assistant courses except KOT 221

Directed occupational therapy fieldwork in the physical disability specialty will be presented in this class.

KOT 230
LEVEL II FIELDWORK/SPECIALTY AREA (2CR)

Prerequisite: Successful completion of all Occupational Therapy Assistant courses except KOT 221 and KOT 222

This class will offer directed occupational therapy fieldwork in a specialized area.

Office Systems Technology

OST 101
KEYBOARDING (1CR)

Upon successful completion of this course, the student should be able to operate a computer keyboard using the touch-typing system to enter data with speed and accuracy. 1 hr./wk.

OST 102
BUSINESS ENGLISH (3CR)

Upon successful completion of this course, the student should be able to develop business documents that demonstrate correct sentence and paragraph development and accurate English grammar and mechanics principles. Students should also apply standard formats for letters, memos and reports through the processes of composition, production and editing. Students should be able to proofread all of their written work using standard proofreading symbols. 3 hrs./wk.

OST 103
SHORTHAND I (3CR)

Prerequisite or corequisite: OST 105 or the equivalent

Upon successful completion of this course, the student should be able to learn the principles of Gregg shorthand theory; develop the ability to read and write brief forms and outline symbols; write simple unpreviewed material; and transcribe mailable copy by applying the skills of proofreading, error correction, letter placement, letter styles, word division, spelling and punctuation. 3 hrs./wk.

OST 104
SHORTHAND II (3CR)

Prerequisite: OST 103

The focus of this course will be on reading and writing Gregg shorthand symbols at a faster rate. Upon successful completion of this course, the student should be able to write unpreviewed dictated material at higher rates of speed, construct outlines for unfamiliar words during dictation, transcribe mailable correspondence and handle simple problems of office-style dictation. 3 hrs./wk.

OST 105
BEGINNING TYPING (3CR)

Upon successful completion of this course, the student should be able to develop speed and accuracy by learning to use the alphabetic, numeric and symbol keys by touch; identify and operate the basic machine parts and special purpose keys; and format and type personal correspondence and business documents. A basic word processing package will be used in this class. 3 hrs./wk.

OST 106
SPEEDWRITING I (3CR)

Prerequisite or corequisite: OST 105 or the equivalent

Upon successful completion of this course, the student should be able to develop fluency in reading and writing notes in abbreviated longhand; develop the ability to construct outlines and take dictation; improve English, spelling and punctuation skills; and transcribe notes into mailable copy. 3 hrs./wk.

OST 107
SPEEDWRITING II (3CR)

Prerequisite: OST 106

Upon successful completion of this course, the student should be able to increase speedwriting vocabulary, take dictation at higher speeds for sustained periods of time, increase accuracy and speed in reading, writing and transcribing speedwriting notes and produce mailable transcripts. Students will review speedwriting theory. 3 hrs./wk.

OST 110
TYPING IMPROVEMENT (1CR)

Upon successful completion of this course, the student should be able to use a diagnostic approach to develop typing speed and accuracy. Specific problems will be identified, and the student should be able to complete specialized drills and activities tailored to the student's own typing needs to improve or eliminate deficiencies. 1 hr./wk.

OST 115
ELECTRONIC CALCULATORS (1CR)

Upon successful completion of this course, the student should be able to review basic arithmetic, operate the electronic calculator by touch to build speed and accuracy, use basic calculator functions and operating controls, and solve application problems. 1 hr./wk.

OST 120
MACHINE TRANSCRIPTION (1CR)

Prerequisite: OST 105 or equivalent that includes WordPerfect experience

Upon successful completion of this course, the student should be proficient in transcribing a variety of business documents from machine transcription. Emphasis is placed on operation of transcription equipment; development of speed and accuracy in transcription; and developing English, proofreading and formatting skills. 1 hr./wk.

OST 125
INTERMEDIATE TYPING (3CR)

Prerequisite: OST 105 or equivalent that includes WordPerfect experience

Upon successful completion of this course, the student should be able to type business letters using standard letter styles (block, modified block and simplified); format letters with special features; center ruled or boxed tables, type memos, specialized reports and tables; create and complete forms; create and design letterhead stationery; and apply formatting skills in a simulated office environment. The student should also be able to use basic WordPerfect commands to complete the activities. The student should also be able to build speed and accuracy in keyboarding and production skills. 3 hrs./wk.

OST 130
OFFICE SYSTEMS CONCEPTS (3CR)

Upon successful completion of this course, the student should be able to understand and apply technological factors of contemporary office systems. Implementation of office automation concepts will be examined as they relate to people, technology and organizations. These concepts will be applied to organizational and strategic planning to enhance productivity in the office. 3 hrs./wk.

OST 150
RECORDS MANAGEMENT (3CR)

Upon successful completion of this course, the student should be able to complete the records cycle using both manual and electronic systems. Methods for developing and controlling an office records management program will be discussed. Selection of equipment will be covered along with procedures for document, card and special records; and records storage, retention and transfer. The course will cover the identification of evaluation methods and standards for both staff and programs in a records management department. 3 hrs./wk.

OST 155
WORD PROCESSING APPLICATIONS I (3CR)

Prerequisite: Average touch-typing skill

Upon successful completion of this course, the student should be able to demonstrate skill in using word processing features such as creating, saving, printing and editing documents. In addition, the student should be able to demonstrate knowledge of standard disk maintenance procedures. 3 hrs. lecture-demonstration/wk.

OST 160
LEGAL TRANSCRIPTION (3CR)

Prerequisite: OST 125 or equivalent that includes WordPerfect experience

This course is a systematic approach to learning legal vocabulary. Upon successful completion of this course, the student should be able to spell, define, pronounce and use in proper context 750 legal terms. The student should also be to learn to use legal reference sources and transcribe legal documents from shorthand notes or dictation using proper formats and typing rules. 3 hrs./wk. Spring semester only.

OST 165
MEDICAL TRANSCRIPTION (3CR)

Prerequisites: LC 130 and OST 125 or equivalent that includes WordPerfect experience

Upon successful completion of this course, the student should be able to spell, define, pronounce and use in proper context 1,000 medical terms. Also, the student should be able to use medical reference books and transcribe medical case studies using proper formats and typing rules. 3 hrs./wk. Spring semester only.

OST 255
WORD PROCESSING APPLICATIONS II (3CR)

Prerequisite(s): OST 155 or extensive experience using the same software with approval of the program facilitator

Upon successful completion of this course, the student should be able to demonstrate advanced word processing skills using a designated word processing package. Desktop publishing, macros and styles will also be introduced as part of the advanced features of word processing. 3 hrs. lecture-demonstration/wk.

OST 260
DESKTOP PUBLISHING FOR THE OFFICE (3CR)

Prerequisite: OST 155 or the equivalent

Upon successful completion of this course, the student should be able to use desktop publishing skills to produce publications such as fliers, newsletters, brochures, operating manuals, price lists and bulletins. 3 hrs. lecture-demonstration/wk.

OST 265
COMPUTERIZED OFFICE APPLICATIONS (3CR)

Prerequisites: OST 130 and OST 125

Upon successful completion of this course, the student should be able to use software to complete computerized administrative tasks performed by specialists in today's electronic office. The student will select an administrative, medical or legal specialty. 3 hrs./wk.

OST 270
OFFICE AUTOMATION IMPLEMENTATION (3CR)

Prerequisite(s): Program facilitator approval. This course is designed to be taken near the end of the degree or certificate program.

Upon successful completion of this capstone course for the Office Automation Technology degree or vocational certificate programs, the student should be able to evaluate, select and install office system hardware and software and identify appropriate sources of help when necessary. The student should also be able to propose and support desirable changes in office systems to a variety of audiences. 3 hrs. lecture-demonstration/wk.

OST 275
OFFICE INTERNSHIP I (1CR)

Prerequisite: Admission to the Office Systems Technology Program

Upon successful completion of this course, the student should be able to gain work experience in an approved training situation under instructional supervision. The course will provide practical experience in the use of skills acquired in Office Systems Technology courses. 180 hrs./semester.

Paralegal

PL 121
INTRODUCTION TO LAW (3CR)

Upon successful completion of this course, the student should be able to explain the major substantive and procedural aspects of law. This course is available to students with a general interest in the law, and is required for students seeking admission to the Paralegal Program. 3 hrs./wk.

PL 123
PARALEGAL PROFESSIONAL STUDIES (1CR)

Upon successful completion of this course, the student should be able to explain the legal assistant profession. Topics will include paralegal licensing, certification, education, employment and professional ethics. The course is required for students seeking admission to the Paralegal Program. 1 hr./wk.

PL 131
LEGAL RESEARCH (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to demonstrate a systematic method of researching legal questions. Topics covered are issue recognition, fact analysis and primary and secondary resources. Research results will be communicated in written form. 3 hrs./wk.

PL 132
LITIGATION (4CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain the Rules of Civil Procedure and the Rule of Evidence as they relate to litigation. The emphasis in the course will be on the role of the legal assistant in a civil litigation practice and will include drafting of pleadings. 4 hrs./wk.

PL 152
REAL ESTATE LAW (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to describe common types of real estate transactions and convoyances. The preparation of legal instruments, namely deeds, contracts, leases and mortgages, will be studied. 3 hrs./wk.

PL 155
SPECIAL TOPICS IN REAL ESTATE (1CR)

Prerequisite: PL 152 or division administrator approval

This course will focus on current developments in real estate law. Topics will include special areas of real estate practice such as zoning, financing, mechanics lien laws and environmental concerns.

PL 162
FAMILY LAW (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to describe the substantive and procedural principles of family law. Topics will include adoption and divorces, as well as child issues of custody support and visitation. 3 hrs./wk.

PL 165
SPECIAL TOPICS IN FAMILY LAW (2CR)

Prerequisite: PL 162 or division administrator approval

This course will focus on current developments in family law. Topics will include special areas of family law, such as finance, biological/medical advances and domestic violence.

PL 171
LAW OFFICE MANAGEMENT (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to describe the operational systems in a law office. Some topics addressed are billing systems, pleadings organization, docket control and law library maintenance. 3 hrs./wk.

PL 205
LEGAL WRITING (3CR)

Prerequisite: PL 131 or division administrator approval

Upon successful completion of this course, the student should be able to research complex legal problems, communicate the results of this research and other law-related information clearly and effectively, and analyze legal problems using the skills of logic and reasoning. 3 hrs./wk.

PL 212
BUSINESS ORGANIZATIONS (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to describe the various forms of business ownership, including corporations, partnerships and sole proprietorships. The emphasis in the course is on the role of the legal assistant in a business law practice and on the preparation of related documents. 3 hrs./wk.

PL 220
COMPUTER-ASSISTED LEGAL RESEARCH (2CR)

Prerequisite: PL 131 or division administrator approval
Corequisite: PL 205

Upon successful completion of this course, the student should develop computer research skills allowing the use of Lexis-Nexis and Westlaw-Dialog databases. By inputting a search request, the student should be able to retrieve relevant cases, statutes or other important documents. Furthermore, the student should be able to use on-line cite checking and Shepardizing in order to guarantee current information by means of legal computer services. 2 hrs./wk.

PL 223
COMPUTER APPLICATIONS IN THE LAW OFFICE (3CR)

Prerequisite: Admission to the Paralegal program or division administrator approval; PL 132 and three hours of either CPCA 108 (IBM-WP), 110 (IBM-Lotus 1-2-3) and 114 (dBase); or CPCA 128; or division administrator approval.

Upon successful completion of this course, the student should be able to evaluate and use specific legal software to perform customary law office procedures, including drafting and editing documents, document and file management, time keeping and billing, docket control, forms generation and electronic communications. 3 hrs. lecture/wk.

PL 241
WILLS, TRUSTS
AND PROBATE ADMINISTRATION (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to draft a will with testamentary powers. The use of trusts, probate procedures, techniques for fact gathering and mastery of estate tax principles are emphasized in the course. 3 hrs./wk.

PL 245
ELDER LAW (3CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain the legal aspects of aging. Topics include financial and estate planning, health care, personal planning and protection, taxation, housing and other legal matters affecting the elderly and people with special legal needs. 3 hrs. lecture/wk.

PL 261
EMPLOYEE BENEFITS LAW (2CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain the different types of retirement plans. Topics include qualification, establishment, funding, administration and termination of retirement plans. 2 hrs./wk.

PL 264
WORKERS' COMPENSATION (2CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain the basic principles of workers' compensation. Topics include administrative and adjudicative procedures, calculation of benefits and preparation of claims. 2 hrs./wk.

PL 268
BANKRUPTCY (2CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain the purpose and applicability of the Bankruptcy Code. This course will emphasize the role of the legal assistant in a bankruptcy practice. Topics will include bankruptcy court procedures and the preparation of bankruptcy forms and documents. 2 hrs./wk.

PL 271
LEGAL ETHICS, INTERVIEWING
AND INVESTIGATION (3CR)

Prerequisite: PL 132
Prerequisite or corequisite: PL 205 or division administrator approval

Upon successful completion of this course, the student should be able to explain ethical rules and standards governing the legal profession, interview clients and witnesses and perform factual investigation pursuant to legal proceedings. The emphasis will be on recognition of ethical problems commonly encountered by legal assistants, as well as the development of interviewing and investigating skills. 3 hrs./wk.

PL 275
PARALEGAL INTERNSHIP I (1CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain how a law office or legal-related office operates from practical experience. By arrangement.

PL 276
PARALEGAL INTERNSHIP II (1CR)

Prerequisite: Admission to the Paralegal Program or division administrator approval

Upon successful completion of this course, the student should be able to explain how a law office or legal-related office operates from practical experience. The student should also be able to successfully draft a job résumé and conduct a job interview. By arrangement.

Philosophy

PHIL 121
INTRODUCTION TO PHILOSOPHY (3CR)

Students will examine basic issues of philosophy including the nature of being, methods of acquiring knowledge and the foundation of moral, religious and political beliefs. Emphasis will be on the value of philosophical inquiry in today's society. 3 hrs./wk.

PHIL 124
LOGIC AND CRITICAL THINKING (3CR)

This course is an inquiry into techniques of persuasion and the standards for interpretation and assessment that a critical thinker should employ. Argumentative and non-argumentative forms of persuasion are examined, including propaganda, exaggeration, stereotyping, slanted news and common fallacies. In addition, the course offers standards for evidential warrants based on samples, probabilities and casual claims. Relations between categorical propositions and Venn diagrams are examined, and the course suggests strategies for fresh attacks on conceptual problems. 3 hrs./wk.

PHIL 138
BUSINESS ETHICS (1CR)

Upon successful completion of this course, the student should be able to analyze and explain classical and contemporary ethical theories by examining case studies of ethical problems in contemporary business. In addition, students should be able to identify methods of ethical analysis and examine their own moral convictions in the context of the theories and cases studied. 1 hr./wk.

PHIL 143
ETHICS (3CR)

The great problems of ethics, including free will and determinism, relativism and absolutism, and the relationship between individuals and society, will be examined. The instructor will explain traditional positions, helping students to understand contemporary social and moral issues. 3 hrs./wk.

PHIL 154
HISTORY OF ANCIENT PHILOSOPHY (3CR)

Greek and Roman thought ranging from speculation about the universe and theories of natural selection and atomism to treatises about the nature of individual existence and society will be examined. Selections from ancient texts will be used with commentaries where appropriate. 3 hrs./wk.

PHIL 161
ELEMENTARY SYMBOLIC LOGIC (3CR)

This course is a study of formal logic. The student will be introduced to strategies for symbolizing arguments, propositional logic, truth tables, formal proofs, quantification theory and other tests of formal validity. Attention will also be given to the historical development of formal logic. 3 hrs./wk.

PHIL 165
PHILOSOPHY OF CURRENT CIVILIZATION (3CR)

This is a systematic and critical analysis of selected current issues in American civilization and the philosophies presupposed by these issues. Students will refer to philosophical articles and the news media. 3 hrs./wk.

PHIL 176
PHILOSOPHY OF RELIGION (3CR)

This course is an inquiry into the nature of religion, religious thought and religious language. It addresses philosophical topics such as the nature of religious belief, the apparent need of some people for religion, differences between religion and science and between religious and scientific language, the special problems raised by religious language, and changes religion and philosophy of religion have made to accommodate a modern world view. All readings are from traditional and contemporary theological and philosophical sources. 3 hrs./wk.

PHIL 210
HISTORY OF MODERN PHILOSOPHY (3CR)

Prerequisite: PHIL 121 or PHIL 143 or HIST 125 or HIST 126

This course takes a historical approach to the development of modern philosophy, covering the period from the Renaissance up to the 20th century. The course covers the epistemological, metaphysical and relevant axiological issues of the major philosophers and philosophical movements of the period. The course also examines the influence of modern philosophy on contemporary thought. 3 hrs. lecture/wk.

Photography

PHOT 120
THE PHOTOGRAPHIC VISION:
ALL ABOUT PHOTOGRAPHY (3CR)

This is a television-based course for students with a general interest in photography as an art form. In this non-darkroom introduction to photography, 20 half-hour television programs will be combined with classroom instruction to provide an introduction to the basic mechanical skills of handling a camera; the nomenclature of tools and materials; the history of photography; and the technical, artistic and commercial dimensions of this craft. 3 hrs./wk.

PHOT 121
FUNDAMENTALS OF PHOTOGRAPHY (3CR)

This course covers basic processes and principles. The course treats the theory and practice of photography as essential tools of the visual communicator. Emphasis is on development of competence in the use of photographic equipment and materials. Topics include cameras, light meters, films, developing negatives, printing, filters, chemicals and presentation. Students must provide their own cameras with adjustable focus, shutter speeds and aperture. 3 hrs. lecture, 3 hrs. lab-demonstration/wk.

PHOT 122
FINE ART PHOTOGRAPHY (3CR)

Prerequisite: PHOT 121

An advanced course in black-and-white photography, Fine Art Photography is a continuation of Fundamentals of Photography topics and content. Emphasis will be on the development of professional standards of photographic technique and image quality and the advancement of students' abilities to think photographically. A working knowledge of camera and darkroom techniques is assumed. The course is primarily intended to advance the abilities of students interested in photography as a means of self-expression. 6 hrs./wk.

PHOT 123
COMMERCIAL PHOTOGRAPHY (3CR)

Prerequisite: PHOT 121

This advanced course treats the theory and practice of commercial photography. It is intended to satisfy requirements for students seeking commercial art degrees as well as serve as an introduction for prospective commerical photographers. 6 hrs./wk.

PHOT 125
PHOTOJOURNALISM (3CR)

Prerequisite: PHOT 121

This course is an introduction to the theory and practice of photojournalism. The student will become familiar with the issues and problems posed to the working photojournalist and will learn the techniques and methods photojournalists use to disseminate information. The course includes a practicum in which the students will observe and practice in professional news organizations. 3 hrs./wk.

PHOT 127
COLOR PHOTOGRAPHY (3CR)

Prerequisite: PHOT 121

This course is a practical and theoretical treatment of the materials, equipment and processes of color photography. Camera and darkroom techniques and controls necessary to produce effective and expressive color photographic images will be emphasized. 6 hrs. lecture, studio/wk.

PHOT 134
COLOR TRANSPARENCIES (3CR)

Prerequisite: PHOT 121

The materials, camera techniques, processing and various applications of color transparency film will be explained. Color transparencies used in audiovisual presentations, documentation, commercial illustration, travel photography and other communication will be emphasized. Each student must provide a 35mm camera with adjustable shutter, aperture and focus as well as film, slide mounts and carousel slide trays. 6 hrs./wk.

PHOT 140
HISTORY OF PHOTOGRAPHY (3CR)

In this survey of the history of photography from the 1830s through today, the technology and aesthetics of photography will be studied and related to art, culture and ideas. 3 hrs./wk.

PHOT 141
ISSUES IN CONTEMPORARY PHOTOGRAPHY (3CR)

Current photography will be surveyed along with important contemporary photographers, new color photography, recent criticism, and photography's relation to art. Photography will be viewed in relation to important aspects of modern culture and thought. 3 hrs./wk.

Physical Education

(Refer to Health/Physical Education and Recreation [HPER], page 168.)

Physical Science

PSCI 120
PHYSICAL SCIENCE (4CR)

This is a study of the fundamentals of physics, chemistry, astronomy and geology. Topics will include energy, electricity, magnetism, modern physics and chemical bonding. It includes audiovisual-tutorial, computer-tutorial and other multimedia aids. This course is intended for nonscience majors. 3 hrs. lecture, 3 hrs. lab/wk.

PSCI 122
ASTRONOMY (4CR)

This is a study of the universe, from the moon, planets and stars as seen in the night sky to the most distant galaxies. Topics will include quasars, black holes, the origin of the universe and the possibility of life on other planets. 3 hrs. lecture, 3 hrs. lab/wk., 5 night-time telescope sessions.

PSCI 130
GENERAL GEOLOGY (5CR)

This course will provide a survey of the earth and the processes that have shaped it. Lecture units will cover the solid earth, the atmosphere, the hydrosphere, resources and environmental geology. Laboratory units will include identification of rocks and minerals and reading and interpretation of topographic maps. 4 hrs. lecture, 3 hrs. lab/wk.

PSCI 132
HISTORICAL GEOLOGY (5CR)

Prerequisite: PSCI 130

This class will provide a survey of the geological development of North America and the processes, environments and tectonics that occurred during its formation. Topics will include the interrelationships of various rock strata, stratagraphic-geologic time, correlation and interpretation of geologic maps, and identification of fossils. 4 hrs. lecture, 3 hrs. lab/wk.

PSCI 140
PHYSICAL GEOGRAPHY (3CR)

This course is a survey of the physical and environmental topics of geography including the methods used to study them. The Earth, its atmosphere, hydrosphere and surface features will constitute the major units of study. Some additional topics will include mapping, weather, climate, weathering, soils, rivers, deserts, mountains, topography and landforms. 3 hrs./wk.

PSCI 141
PHYSICAL GEOGRAPHY LAB (2CR)

Corequisite: PSCI 140 or the equivalent

Students in this course will broaden their knowledge of geography through identification of earth materials and the reading and interpretation of various maps and remote sensing photographs. 4 hrs. lab/wk.

PSCI 295
OZARK GEOLOGY (3CR)

This course will survey the geology of the Ozark Mountain region through field and classroom study. Field observations will be made at numerous locations during two six-day field trips to study the stratigraphy, structure, hydrology, mineralogy, landforms and economic geology of the region. Five three-hour pretrip meetings will provide students with the geologic knowledge necessary to make field observations.

PSCI 297
GEOLOGY OF THE HAWAIIAN ISLANDS (3CR)

This course will survey the geology and natural history of the Hawaiian Islands through field and classroom study. Field observations of concepts presented in five three-hour pretrip seminars will be made during a two-week trip to the Hawaiian Islands. Topics to be studied and observed will include volcanism, oceanography, meteorology, sedimentology, hydrology and the structure of the Hawaiian Islands as well as important natural history sites.

Physical Therapist Assistant

KPT 100
MOLECULAR BASIS OF LIVING SYSTEMS (3CR)

This course will introduce students to the fundamental concepts of chemistry, physics, morphology and physiology as they apply to the cell and the human body in preparation for the study of physiology and microbiology. 3 hrs./wk.

KPT 102
BASIC EMERGENCY PATIENT CARE (1CR)

This course introduces current cardiopulmonary resuscitation skills, including adult, child and infant resuscitation according to American Heart Association standards. Medical and environmental emergencies are reviewed. Successful completion of the course qualifies the student for basic life support course C certification. 1 hr./wk.

KPT 151
INTRODUCTION TO PHYSICAL THERAPY (2CR)

This course will introduce the basic concepts of the function of a physical therapist and physical therapist assistant as members of the health care team and the interaction of other health disciplines in the care of the patient. Students learn medical terminology related to the specific discipline and spend four hours observing the practice of physical therapy in area hospitals. 2 hrs. lecture/wk.

KPT 152
FUNDAMENTALS OF MODALITIES I (3CR)

Prerequisite: BIOL 110 and KPT 151 with a minimum grade of "C" and acceptance into the program

This course will present basic medical terminology, documentation, modality and therapeutic measures used in the physical treatment of various injuries and diseases, as well as departmental organization and orientation to position duties. The course also includes field trips to an area hospital to gain exposure to the clinic and its modalities. 2 hrs. lecture, 2 hrs. lab./wk

KPT 153
KINESIOLOGY (4CR)

Prerequisites: BIOL 110 and KPT 151 with a minimum grade of "C" and acceptance into the program

Students will analyze muscles and their functions, the biomechanics of human motion, the activities of joints and the functions of the musculoskeletal system. 5 hrs./wk.

KPT 154
APPLIED NEUROLOGY (2CR)

Prerequisites: BIOL 110 and KPT 151 with a minimum grade of "C" and acceptance into the program

This course will present the student with the foundations of neuroscience necessary for practice as a P.T.A. The student will learn anatomy, physiology and function of the nervous system, as well as correlation of clinical problems with the pathology of the nervous system. 2 hrs./wk.

KPT 155
REHABILITATION (4CR)

Prerequisite: KPT 160, KPT 162 and KPT 164 with a minimum grade of "C"

The student will be introduced to the philosophy underlying rehabilitation theory and principles of treatment involved in normal and abnormal ambulation and mobility. Attention will be given to application of external supports and assistive devices and teaching activities of daily living with attention to description, demonstration and practice. Field trips are required. 2 hrs. lecture, 5 hrs. lab/wk.

KPT 158
THERAPEUTIC EXERCISE (4CR)

Prerequisite: KPT 160, KPT 162 and KPT 164 with a minimum grade of "C"

This course will introduce students to the theory and principles of application of therapeutic exercise including patient instruction, manual techniques and equipment commonly seen by the physical therapist assistant. Field trips are scheduled during the semester so students may learn various specialized techniques. 2 hrs. lecture, 6 hrs. lab/wk.

KPT 159
ORTHOPEDIC PATHOLOGY (2CR)

Prerequisite: BIOL 110 and KPT 151 with a minimum grade of "C" and acceptance into the program

Students will study general pathology with detailed emphasis on the study of diseases and disease processes. 2 hrs./wk.

KPT 160
MEDICAL DISEASES (2CR)

Prerequisites: KPT 152, KPT 153, KPT 154, KPT 159 and KPT 161 with a minimum grade of "C"

The student will be introduced medical diseases commonly seen in physical therapy practice, with emphasis on diagnosis, signs and symptoms, physiologic factors and treatment.. 2 hrs. lecture, 2 hrs. lab/wk.

KPT 161
FUNDAMENTALS OF MODALITIES II (4CR)

Prerequisites: KPT 151 with a minimum grade of "C"

The student will be introduced to the theory and practical application of electrotherapy, traction and therapeutic massage, including the indications and contraindications for use. The student also will observe the clinical practice of physical therapy at area clinical sites. 2.5 hrs. lecture, 3 hrs. lab/wk.

KPT 162
CLINICAL OBSERVATION (1CR)

Prerequisites: KPT 152, KPT 153, KPT 154, KPT 159 and KPT 161 with a minimum grade of "C"

The student will observe the practice of physical therapy in various settings, with emphasis on medical chart review, documentation and physical therapist-patient rapport. Correlation of patient condition and treatment regimens will be examined. 30 lab hrs.

KPT 164
PEDIATRICS AND GERONTOLOGY (2CR)

Prerequisites: KPT 152, KPT 153, KPT 154, KPT 159 and KPT 161 with a minimum grade of "C"

The student will be introduced to specialized information related to the treatment of pediatric and older adult populations. 2 hrs. lecture/wk.

KPT 170
CLINICAL EXPERIENCE I (3CR)

Prerequisite: KPT 160, KPT 162 and KPT 164 with a minimum grade of "C"
Corequisite: KPT 171

Students receive supervised clinical experience in the practical application of techniques and procedures covered in all previous KPT courses. Students assist physical therapists and physical therapist assistants in the treatment of patients in a variety of clinical settings in the Kansas City area. 14 hrs. clinic/wk.

KPT 171
CLINICAL SEMINAR (1CR)

Corequisite: KPT 170

Students will discuss their experiences in KPT 170, with emphasis on current issues regarding the practice of physical therapy, ethics, third-party payment, departmental organization, etc. 1 hr. lecture/wk.

KPT 172
CLINICAL EXPERIENCE II (8CR)

Prerequisites: Completion of all other required courses in the KPT program except KPT 175 with a minimum grade of "C"

The student will experience practical application of principles learned in all prior didactic course work. Students will rotate internships in selected hospitals and clinic sites throughout the United States under the guidance of a physical therapist or physical therapist assistant. 40 hrs. clinic/wk.

KPT 175
SPECIAL TOPICS (1CR)

Prerequisites: BIOL 210, KPT 155, KPT 158, KPT 170 and KPT 171 with a minimum grade of "C"

The student will be introducted to specialized topics in physical therapy and the administration of health care. 1 hr. lecture/wk.

Physics

PHYS 125
TECHNICAL PHYSICS I (4CR)

Prerequisite: MATH 133

This class is an applied study of the concepts of force, work, rate, resistance and power in mechanical, fluidal, thermal and electrical energy systems. 3 hrs. lecture, 3 hrs. lab/wk.

PHYS 126
TECHNICAL PHYSICS II (3CR)

Prerequisite: PHYS 125

This is a continuation of the applied study of concepts begun in Technical Physics I. Concepts studied will include energy, force transformers, energy converters, and vibrations and waves in mechanical, fluidal, electrical and thermal systems. 2 hrs. lecture, 3 hrs. lab/wk.

PHYS 130
GENERAL PHYSICS I (5CR)

Prerequisite: MATH 171

Selected topics in physics will be introduced: motion, energy, matter, thermodynamics and wave motion. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 131
GENERAL PHYSICS II (5CR)

Prerequisite: PHYS 130

In this continuation of General Physics I, topics will include electricity, magnetism, light, atomic and nuclear structure, quantum theory, relativity and particle physics. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 135
SPECIAL TOPICS IN TECHNICAL PHYSICS I (1CR)

Prerequisite: MATH 133 or MATH 171
Corequisite: PHYS 125

Students in this course will explore momentum as it operates in mechanical, fluidal and electromagnetic systems. Topics begun in PHYS 125 will be explored further. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 136
SPECIAL TOPICS IN TECHNICAL PHYSICS II (2CR)

Prerequisites: PHYS 125 and PHYS 135
Corequisite: PHYS 126

Students will explore concepts involved in developing exponential constants for linear systems, radiation and optics. Students will continue studies begun in PHYS 125, PHYS 126 and PHYS 135. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 220
ENGINEERING PHYSICS I (5CR)
Corequisite: MATH 242
This is an introduction to physics for engineering and science students. Included will be mathematical approaches to the study of mechanics, wave motion and thermodynamics. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 221
ENGINEERING PHYSICS II (5CR)
Prerequisite: PHYS 220
Electricity and magnetism, light, and topics in modern physics will be addressed. 4 hrs. lecture, 3 hrs. lab/wk.

Political Science

POLS 122
POLITICAL SCIENCE (3CR)
This course will explore the interaction between political and economic ideas and institutions in the world political arena and examine the role of communism, capitalism, fascism and democracy in political systems. 3 hrs./wk.

POLS 124
AMERICAN NATIONAL GOVERNMENT (3CR)
This class surveys the politics of national policy making. Students examine bureaucratic power, avenues of influence, political and economic assumptions, policy-making institutions, taxing and spending policies and the role individuals can play in national political policy. 3 hrs./wk.

POLS 126
STATE AND LOCAL GOVERNMENT (3CR)
This course offers a thorough look at the issues facing our state and local government and the institutions and processes designed to address them. Students meet state and local decision-makers and visit the governing bodies. Emphasis will be on how to participate effectively in the community. 3 hrs./wk.

POLS 130
POLITICAL ECONOMY: POWER IN SOCIETY (3CR)
This course examines the economic and political dimensions of social power as a vehicle for introducing students to the social sciences. The concept of power will be used to show commonalities and differences in the social sciences and to examine the language, methods, scope and insights of political and economic studies. Through examination of the manifestations of power through authority, force and influence, the significance of political economy will be revealed. 3 hrs./wk.

POLS 132
INTRODUCTION TO
COMPARATIVE GOVERNMENT (3CR)
This course studies the major world political systems. It will compare and contrast the resolution of key 20th-century political, social and economic issues. 3 hrs./wk.

POLS 135
INTERNATIONAL RELATIONS (3CR)
This course analyzes the conflict and cooperation among nation-states. Students will study contemporary problems and how they relate to power, war, terrorism, diplomacy, international organizations and the future of the nation-state system. 3 hrs./wk.

POLS 295
CONTEMPORARY CHINA (3CR)
This travel course to the People's Republic of China explores the social and political developments in China since 1949. Continuing changes in the economy, political leadership, sex roles, education, crime and health care will be the focus of student projects. Class meetings on campus will be supplemented by lectures and seminars while in China.

POLS 298
U.S. AND RUSSIA: TRAVEL FOR CREDIT (3CR)
By traveling to Russia, students compare and contrast the historical, political, social and cultural traditions of this major world power with those of the United States. 15 hrs. lecture, 160 hrs. travel.

Psychology

PSYC 121
APPLIED PSYCHOLOGY (3CR)
This course will examine how students can use psychological principles to better understand themselves and others. Topics will include popular approaches to psychological problems; problem-solving techniques; and the student's view of self, values and goals. The course also will show how psychology applies to other disciplines and social institutions. 3 hrs./wk.

PSYC 124
HUMAN POTENTIAL SEMINAR (3CR)

This is a structured group experience designed to increase self-affirmation, self-motivation, self-determination and empathetic regard for others. It will include analysis of achieving satisfaction and success, clarification of personal values, acknowledgment of personal strengths and long-range goal setting. Regular attendance is imperative. 3 hrs./wk.

PSYC 130
INTRODUCTION TO PSYCHOLOGY (3CR)

This is an introduction to general psychology. Topics will include the biological aspects of behavior, the brain, consciousness, sensation, perception, motivation, emotion, stress, maturation and development, learning and memory, normal and abnormal personality, and social psychology. This course is a prerequisite for other courses in psychology. 3 hrs./wk.

PSYC 210
METHODOLOGY IN THE SOCIAL SCIENCES (3CR)

Prerequisite: PSYC 130 or SOC 122 or ECON 230

This course will involve active participation in the application of research strategies to the social and behavioral sciences. A wide range of data collection methods will be studied. Students will be expected to do an independent research project. 3 hrs./wk.

PSYC 215
CHILD DEVELOPMENT (3CR)

Prerequisite: PSYC 130

This course is a comprehensive account of human development from conception through adolescence, integrating genetic, biological, physical and anthropological influences with psychological processes. 3 hrs./wk.

PSYC 218
HUMAN DEVELOPMENT (3CR)

Prerequisite: PSYC 130

This course is a comprehensive account of human psychological and physical development from conception through infancy, childhood, adolescence, adulthood and death. The course integrates genetic, biological, physiological and anthropological influences with the psychological process, and explores determinants of development from both hereditary and environmental perspectives. 3 hrs./wk.

PSYC 220
SOCIAL PSYCHOLOGY (3CR)

Prerequisite: PSYC 130

This class will seek to comprehend the nature and causes of individual behavior in social situations. It will identify those factors that shape our feelings, overt actions and thought in social situations. Topics will include social attitudes and prejudice, conformity, aggression and leadership. 3 hrs./wk.

PSYC 225
EDUCATIONAL PSYCHOLOGY (3CR)

Prerequisite: PSYC 130

The psychology of learning-teaching situations will be addressed. Areas covered will include behavior, skills, memory, generalization of learning, assessment and measurement of learning, and intelligence. A practicum in a structured setting will be required. 3 hrs./wk.

PSYC 230
PERSONALITY THEORY (3CR)

Prerequisite: PSYC 130

Three general viewpoints or paradigms in psychology will be studied with emphasis on each system's contribution to understanding human personality and its contribution to our response to everyday problems. 3 hrs./wk.

PSYC 235
TRANSPERSONAL PSYCHOLOGY (3CR)

Prerequisite: PSYC 130

Human potential and capacity beyond the usual state of consciousness will be explored in this class. Students will consider assumptions, consciousness, mystical experiences, spirit, interpersonal encounters, extrasensory phenomena, ultimate values and eternal meanings. 3 hrs./wk.

PSYC 250
HEALTH PSYCHOLOGY (3CR)

Prerequisite: PSYC 130

This course is intended to acquaint students with content, methods and theory regarding the interplay between psychological and biological determinants of health and illness, and to examine how these factors relate to students' own health status and that of others. The course will focus on the application of psychological methods and principles to the maintenance of health, prevention of disease and treatment of illness and to rehabilitation and recovery from impaired health, following an interdisciplinary approach to content and instruction. 3 hrs. lecture/wk.

Radiologic Technology

KRAD 160
INTRODUCTION TO RADIOLOGIC TECHNOLOGY (2CR)

Prerequisite: Admission to the program

Students will receive an orientation to the program and clinical responsibilities, with emphasis on body mechanics of patient transport, methods of radiation protection and types of radiographic equipment. Clinical observation is also included. 5 hrs./wk.

KRAD 162
IMAGE PROCESSING (2CR)

Prerequisite: KRAD 160

This course is intended for the student who is enrolled in the study of radiologic technology. The course content is intended to prepare the student for the processing of radiographs. 2.5 hrs./wk.

KRAD 170
RADIOLOGIC TECHNOLOGY (3CR)

Prerequisite: KRAD 174 and BIOL 144, each with a minimum grade of "C"

Radiation biology, radiation protection and monitoring, professional attitudes and ethics will be among the topics covered. 3 hrs./wk.

KRAD 171
RADIOGRAPHIC EXPOSURES I (3CR)

Prerequisite: Admission to the program

Radiographic image formation and the factors affecting or controlling it will be examined. Students will conduct related experiments. 4 hrs./wk.

KRAD 172
RADIOGRAPHIC POSITIONING I (3CR)

Prerequisite: Admission to the program

This is a study of anatomy and positioning for the abdomen, chest, upper and lower extremities, upper and lower gastrointestinal track, gall bladder/biliary track and kidneys. 4 hrs./wk.

KRAD 173
CLINICAL TRAINING I (3CR)

Prerequisite: Admission to the program and concurrent enrollment in KRAD 172

This class will offer training in basic radiographic procedures and related tasks that correlate with KRAD 172 course content. Training is under the supervision of a radiologic technologist. 16 hrs. clinic/wk.

KRAD 174
RADIOGRAPHIC EXPOSURES II (3CR)

Prerequisite: KRAD 162, KRAD 171, KRAD 172 and KRAD 173, each with a minimum grade of "C"

Topics will include analysis and quality control measures used for image-producing equipment including tests and calibration requirements. Computer-assisted image production will be studied in detail including the technology of computer-assisted tomography (C.A.T.) and magnetic resonance imaging (M.R.I.) scanners. 4 hrs./wk.

KRAD 175
CLINICAL TRAINING II (3CR)

Prerequisites: KRAD 162, KRAD 171, KRAD 172 and KRAD 173, each with a minimum grade of "C"

Corequisite: KRAD 176

This training will focus on the upper and lower extremities, cervical, thoracic and lumbar vertebrae, ribs, sternum, skull and mammographic examinations. The student must be able to perform eight additional unassisted examinations by the end of the term. 26 hrs. clinic/wk.

KRAD 176
RADIOGRAPHIC POSITIONING II (3CR)

Prerequisite: KRAD 162, KRAD 171, KRAD 172 and KRAD 173, each with a minimum grade of "C"

Corequisite: KRAD 175

This class will cover anatomy and positioning related to the upper and lower extremities, the vertebral column and thorax and will include mammography. 4 hrs./wk.

KRAD 178
CLINICAL TRAINING III (1CR)

Prerequisites: BIOL 144, KRAD 174, KRAD 175 and KRAD 176, each with a minimum grade of "C"

Students will continue to perform examinations they have previously proven competent in. Direct supervision and instruction will be provided until competence is attained for a minimum of three additional examinations not previously learned. Students will complete 10 evening shifts during the summer session. Average 24 hrs./wk.

KRAD 278
IMAGING MODALITIES AND PATHOLOGY (3CR)

Prerequisites: BIOL 144 and LC 130, each with a minimum grade of "C"

This course will study the disease processes of all organ systems, with an emphasis on pathology visualized on radiographs or through other image-producing modalities such as C.A.T. scans or ultrasound exams. 3 hrs./wk.

KRAD 280
CLINICAL TRAINING IV (4CR)

Prerequisite: KRAD 170 and KRAD 178, each with a minimum grade of "C"

Corequisite: KRAD 285

Training opportunities in portable radiography, emergency room techniques and supervised fluoroscopy will be provided. By the end of the term, students will be expected to perform with limited supervision all the exams they have previously shown competence in as well as new exams. 20 hrs./wk.

KRAD 281
PHYSICS OF X-RAY EQUIPMENT (3CR)

Prerequisites: PSCI 120 and KRAD 174, each with a minimum grade of "C"

Students will apply the principles of physics to the study of X-ray equipment and other diagnostic imaging devices used in the X-ray department. 5 hrs./wk.

KRAD 282
CLINICAL TRAINING V (4CR)

Prerequisites: KRAD 280 and KRAD 285, each with a minimum grade of "C"

Students will perform patient examinations in a clinical setting with the supervision of a radiologic technologist. 36 hrs./wk.

KRAD 283
FINAL SEMINAR (3CR)

Prerequisites: KRAD 278, KRAD 281, KRAD 282 and KRAD 285, each with a minimum grade of "C"

Students will prepare for the National Registry examination by using tests and materials designed to simulate ARRT examinations. Completion of this course and all radiologic technology courses with a "C" or better is required for qualification for the National Registry exam.

KRAD 284
CLINICAL TRAINING VI (2CR)

Prerequisites: KRAD 278, KRAD 281 and KRAD 282, each with a minimum grade of "C"

Students will perform patient examinations in a clinical setting with the supervision of a radiologic technologist. 14 hrs./wk.

KRAD 285
SPECIAL PROCEDURES (2CR)

Prerequisites: KRAD 170 and KRAD 178, each with a minimum grade of "C"

This course will cover anatomy, positioning, equipment and special tasks related to the circulatory, nervous and lymphatic systems. The role of the technologist will be stressed. 3 hrs./wk.

KRAD 288
SPECIALTY TRAINING (9CR)

Prerequisite: Approval of the director of the PVCC Radiography Program

This class will offer additional training in one of the following: nuclear medicine, ultrasound, radiation therapy or computer-assisted tomography. 1 hr. lecture, 16 hrs. lab/wk.

KRAD 289
MAMMOGRAPHY (3CR)

Prerequisite: Registry eligible or ARRT radiographer in good standing

This course will cover the principles of mammography, with practical application under the supervision of a radiologic technologist. 2 hrs. lecture, 8 hrs. clinic/wk.

Railroad Operations

RRT 120
HISTORY OF RAILROADING (3CR)

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 should be able to list and explain the significance of major events in North American railroading. 3 hrs. lecture/wk.

RRT 121
RAILROAD TECHNICAL CAREERS (3CR)

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 relationship 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. 3 hrs. lecture/wk.

RRT 150
RAILROAD OPERATIONS (3CR)

This course includes information about the industry, its major assets, structure and typical operations. Upon successful completion of this course, students should be able to define the current North American railroad industry characteristics, basic operations components and processes and industry structure and administrative processes. 3 hrs. lecture/wk.

RRT 165
RAILROAD SAFETY, QUALITY AND ENVIRONMENT (3CR)

This course covers the importance of safety, quality, personal health and environmental awareness to the railroad industry and emphasizes the basic tools and techniques for improving these conditions on the job. Upon successful completion of this course, students should be able to define and explain the needs for improved safety, quality, health and environmental awareness; describe their basic principles; explain the elements of successful programs; and apply these elements to typical tasks on the job. 3 hrs. lecture/wk.

RRTC 123
INTRODUCTION TO CONDUCTOR SERVICE (4CR)

Prerequisite: Admission to the JCCC's Railroad Conductor Training 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. 5 hrs. lecture, demonstration/wk.

RRTC 261
CONDUCTOR SERVICE (4CR)

Prerequisites: RRTC 123 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 the basic responsibilities of conductors. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively. 5 hrs. lecture, demonstration/wk.

RRTC 265
CONDUCTOR FIELD APPLICATION (10CR)

Prerequisites: Admission to JCCC's railroad conductor training program and completion of RRTC 261 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. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

RRTD 122
INTRODUCTION TO RAILROAD DISPATCHING (2CR)

Prerequisite: Admission to JCCC's Railroad Dispatcher Training 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 basic dispatching functions. 2.5 hrs. lecture/wk.

RRTD 271
APPRENTICE RAILROAD DISPATCHER TRAINING I (6CR)

Prerequisite: RRTD 122

Upon successful completion of this course, the student should demonstrate abilities to apply the General Code of Operating Rules, Maintenance of Way operating rules and the Train Dispatcher's Manual of policies and practices to safe and effective train movement and maintenance operations. This is an intensive course that prepares students to observe actual dispatching operations. 7.5 hrs. lecture/wk.

RRTD 272
APPRENTICE RAILROAD DISPATCHER TRAINING II (6CR)

Prerequisites: RRTD 122, RRTD 271 and RRTD 275

Upon successful completion of this course, the student should demonstrate the ability to use centralized traffic control equipment, computerized track warrant control equipment and management information systems that record and report train movement. Students also will identify and resolve traffic conflicts safely and effectively. This is an intensive course in which students observe, practice and demonstrate rail traffic dispatching functions in a laboratory setting. 4.5 hrs. lecture, 3 hrs. lab/wk.

RRTD 275
RAILROADDISPATCHING FIELD OBSERVATION (3CR)
Prerequisites: Admission to JCCC's railroad dispatcher training program and RRTD 122 with a grade of "C" or better

Upon successful completion of this course, the student will have observed actual dispatching operations and should be able to identify major job responsibilities. Students will observe operations under the supervision of experienced dispatcher mentors in actual dispatching offices. 1 hr. lecture, minimum 15 hrs. on-the-job training/wk.

RRTD 276
RAILROADDISPATCHING FIELD APPLICATION (5CR)
Prerequisites: Admission to the program and completion of RRTD 272 with a grade of "C" or better

Upon successful completion of this course, the student should be able to apply skills learned in classroom-based dispatching instruction to those operations. This course is offered for 10 weeks, and students will observe and practice operations under the supervision of experienced dispatcher mentors in actual dispatching offices. Minimum 15 hrs. on-the-job training/wk.

Respiratory Therapy

RT 125
BEGINNING PRINCIPLES OF RESPIRATORY THERAPY (4CR)
Prerequisite: Admission to the Respiratory Therapy Program

This is an introduction to respiratory therapy. Students will focus on basic anatomy, physiology, patho-physiology and respiratory therapy techniques needed in the care of pulmonary disease patients. Students will have contact with patients after two to three weeks of introductory material. Lab time also will be scheduled. 6 hrs. lecture, 16 hrs. lab/wk. Summer.

RT 130
RESPIRATORY THERAPY EQUIPMENT (4CR)
Prerequisite: Admission to the Respiratory Therapy Program

The equipment used in providing basic patient care will be introduced. Topics will include equipment for oxygen therapy, humidity and aerosol therapy and IPPB. Students will gain hands-on experience in the lab before actually treating patients. 6 hrs. lecture, 8 hrs. lab/wk. Summer.

RT 135
CARDIOPULMONARY MEDICINE I (1CR)
Prerequisite: Admission to the Respiratory Therapy Program

This is the first of three courses in which the medical director of the program will lecture. This course will be an introduction to the diagnostic procedures used by the pulmonary physician in evaluating patients with respiratory disease. The class also will provide information on the pathology of disease states the student will encounter. 2 hrs./wk. Summer.

RT 220
CLINICAL CARDIOPULMONARY PHYSIOLOGY (2CR)
Prerequisite: Successful completion of the summer sequence of respiratory therapy courses

This is a comprehensive study of the physiology and pathophysiology of the pulmonary, cardiovascular and renal systems as they relate to respiratory therapy. 2 hrs./wk. Fall.

RT 230
CLINIC TOPICS AND PROCEDURES I (4CR)
Prerequisite: Successful completion of the summer sequence of respiratory therapy courses

In this lecture and lab course, students will focus on basic and emergency care and be introduced to mechanical ventilators and critical care of the respiratory patient. 3 hrs. lecture, 3 hrs. lab/wk. Fall.

RT 231
CLINIC TOPICS AND PROCEDURES II (4CR)
Prerequisite: Successful completion of the fall sequence of respiratory therapy courses

Critical care and more sophisticated aspects of respiratory therapy will be emphasized in this lab/lecture course. Medical ethics and department management will be covered. 3 hrs. lecture, 3 hrs. lab/wk. Spring.

RT 233
RESPIRATORY CARE OF CHILDREN (2CR)
Prerequisite: RT 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 procedures, and equipment manipulation in acute, chronic, critical and emergency care settings. 2 hrs./wk. Spring.

RT 235
CARDIOPULMONARY MEDICINE II (2CR)

Prerequisite: Successful completion of the summer sequence of respiratory therapy courses

This is a continuation of the series taught by the program medical director emphasizing disease states of the cardiopulmonary system. Discussion will cover the pathology, diagnosis and treatment of various diseases and the role of the respiratory therapist in the medical management of these patients. 2 hrs./wk. Fall.

RT 236
CARDIOPULMONARY MEDICINE III (2CR)

Prerequisite: Successful completion of the fall sequence of respiratory therapy courses

This is a continuation of the medical director's discussion of pulmonary diseases, their pathology and their treatment. 2 hrs./wk. Spring.

RT 240
RESPIRATORY PHARMACOLOGY (2CR)

Prerequisite: Successful completion of the summer sequence of respiratory therapy courses

This class will present all the pharmacology that respiratory therapists provide. A general study of most of the drugs used in the care of patients with cardiopulmonary problems will be included. Drugs administered during a code blue also will be stressed. 2 hrs./wk. Fall.

RT 245
CRTT-RRT CLINIC TOPICS AND PROCEDURES (4CR)

Prerequisite: Admission to the Respiratory Therapy Program CRTT to RRT transition process

This course is a transition course for the certified respiratory therapy technician preparing for the registry respiratory care process. Assessment, monitoring and respiratory management of the adult critical care patient is the primary emphasis. 4 hrs./wk.

RT 271
CLINICAL PRACTICE I (4CR)

Prerequisite: Successful completion of the summer sequence of respiratory therapy courses

In the first eight-week period, students will give basic care to adults and children. In the second eight-week period, they will concentrate on critical care medicine, giving treatments in the intensive care unit. Also during the semester, students will learn to intubate under the guidance of anesthesia personnel, will go on rounds with the program medical director, and will learn to perform arterial punctures. 24 hrs. clinic/wk. Fall.

RT 272
CLINICAL PRACTICE II (4CR)

Prerequisite: Successful completion of the fall sequence of respiratory therapy courses

Two eight-week quarters will emphasize critical care of adults and newborns. Students will participate in rehabilitation, department management, intubations and medical rounds rotations. 24 hrs./wk. Spring.

RT 274
CRTT-RRT CLINICAL PRACTICE TRANSITION (4CR)

Prerequisites: RT 233 and RT 245

Students will assess and treat adult, pediatric and neonatal patients with respiratory and/or cardiac-related conditions using the basic respiratory therapy arsenal, as well as the critical care monitoring, mechanical ventilation and airway management techniques required for the more critically ill patient. Students will be exposed to cardiopulmonary diagnostic procedures, pulmonary rehabilitation and home care management of the respiratory patient. 4 hrs./wk.

Sociology

SOC 122
SOCIOLOGY (3CR)

This overview of social life will cover group structure and processes, social interaction and an examination of major institutions. Theories, methods of study and uses of social research will be examined. 3 hrs./wk.

SOC 125
SOCIAL PROBLEMS (3CR)

Selected social problems from crime to racism will be analyzed. The history and development of each problem will be examined from a variety of perspectives, as will possible solutions. 3 hrs./wk.

SOC 131
MARRIAGE AND THE FAMILY (3CR)

This is an examination of the institutions of marriage and the family. It will emphasize changing roles, family formation, socialization, domestic conflict, interaction among family members and marriage partners, and the role of marriage and the family in society. 3 hrs./wk.

SOC 146
SOCIAL WELFARE (3CR)

Social welfare and its relationship to other social systems in America will be introduced. The social, economic and political factors that foster inequality as well as social welfare as a response to social deprivation will be examined. 3 hrs./wk.

SOC 147
SOCIAL WORK AND SOCIAL SERVICES (3CR)

Students will study social work as a profession in this class. Origins, values, skills, fields of service and current issues in social work will be analyzed. 3 hrs./wk.

SOC 152
PERSPECTIVES ON AGING (3CR)

Social aspects of aging will be identified. Areas of special interest will include research themes and demographic trends; aging and its relationship to family, the economy, politics, religion and education; the effect of cultural values on behavior; and the future of the elderly. 3 hrs./wk.

SOC 160
SOCIAL POWER: MOTIVATION AND ACTION (3CR)

This course will concentrate on the socio-psychological aspects of power. Topics will include the development of personality, the role of social class and ideology, the mechanics of domination and subordination, discrimination, economic inequality, powerlessness and the search for community. Basic terminology and theoretical foundations of both sociology and psychology will be at the heart of the course. 3 hrs./wk.

SOC 165
CHINESE SOCIETY: PAST AND PRESENT (3CR)

This self-paced course is an introduction to Chinese society since 1949. The course examines Chinese society and culture in the 20th century and focuses on contemporary developments while tracing the historical roots of Chinese values and institutions. Issues such as socialization, economic development, political change, social organization and conflict are studied.

Speech

SPD 120
INTERPERSONAL COMMUNICATION (3CR)

In this basic speech course, students will study principles of effective communication in one-to-one relationships and in small groups. They will apply these principles in a variety of learning exercises and situations. Individualized talks may be given, but everyday communication will be stressed. 3 hrs./wk.

SPD 121
PUBLIC SPEAKING (3CR)

This fundamental speech course will emphasize speech organization, development of ideas, audience analysis and delivery. Students will deliver informative and persuasive speeches in the impromptu, extemporaneous and manuscript styles. 3 hrs./wk.

SPD 122
GROUP DISCUSSION (3CR)

Students will participate in small groups to study the principles of effective group dynamics and leadership skills and to practice these principles in class. 3 hrs./wk.

SPD 125
PERSONAL COMMUNICATION (3CR)

An integration of interpersonal communication and public speaking, this course will focus on communication theory, listening, self-concept, language and perception. It also will discuss types of speaking including impromptu, informative and persuasive speaking. Emphasis will be on the natural relationship that exists between one-to-one and public communication. 3 hrs./wk.

SPD 128
BUSINESS AND PROFESSIONAL SPEECH (3CR)

Students will improve their verbal communication skills both formally and informally by studying interviewing techniques, making effective presentations, working in groups, negotiating, studying listening techniques, and recognizing verbal and nonverbal messages. The course is designed for the student presently working in business or planning to pursue a business degree. 3 hrs./wk.

SPD 130
ELEMENTARY DEBATE (3CR)

Theories of argumentation and debate will be introduced. Students will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

SPD 132
INTERMEDIATE DEBATE I (3CR)

Prerequisite: SPD 130 or the equivalent

This is a continuation of argumentation and debate theories. Students will attend two to eight weekend intercollegiate debate tournaments a semester. 3 hrs./wk.

SPD 180
INTERCULTURAL COMMUNICATIONS (3CR)

This interdisciplinary course will draw on the disciplines of psychology, sociology, anthropology and communications to analyze how communication is influenced by culture. Students will explore the cultural basis of values, perceptions and behavior and learn how this affects communication across cultural lines. Specific topics will include the role of verbal and nonverbal symbols, cues, stereotypes, prejudice and ethnocentrism. Specific cultures will be studied, and role play and simulations will be used. 3 hrs. lecture/wk.

SPD 230
INTERMEDIATE DEBATE II (3CR)

Prerequisite: SPD 132 or the equivalent

Intercollegiate debates will be stressed in this review of argumentation and debate theories. Students will attend two to eight weekend debate tournaments each semester. 3 hrs./wk.

SPD 235
ADVANCED DEBATE (3CR)

Prerequisite: SPD 230 or the equivalent

Students will participate on the senior level in intercollegiate debate, attending two to eight debate tournaments a semester. 3 hrs./wk.

SPD 298
INTERCULTURAL COMMUNICATION: GREAT BRITAIN AND THE UNITED STATES (3CR)

In this travel-for-credit course, students will visit selected cities in Great Britain where they will compare British and U.S. languages, values and institutions. Offered periodically.

Theater

THEA 120
INTRODUCTION TO THEATER (3CR)

Students will be introduced to a variety of theatrical experiences, read great plays and see live theater presentations. They also will discuss theater practices, dramatic literature and the history of the theater. 3 hrs./wk.

THEA 123
IMPROVISATION FOR THEATER (1CR)

Prerequisite: THEA 130

Theater improvisation will be introduced in this class, which will emphasize creative stage activities not requiring a written script. 1 hr./wk.

THEA 125
THEATER FOR CHILDREN (3CR)

Students with no acting experience can explore children's theater in this class. They will study the difference between theater for and by children and the adaptation of various forms of children's literature. Performances will be held at area grade schools. 3 hrs./wk. plus rehearsals and performances.

THEA 130
ACTING I (3CR)

The fundamentals of acting will be studied in this class. Emphasis will be on discovering and expanding creative potential through exercises in self-awareness, posture, movement, voice and personality projection. Students will take part in a final acting project performance. 3 hrs./wk. plus rehearsals and performances.

THEA 133
TECHNICAL PRACTICUM I (1CR)

Students can gain practical experience in technical theater techniques in this class. 2 hrs. lab/wk.

THEA 134
PERFORMANCE PRACTICUM I (1CR)

This course will enable students to gain practical experience in performance-related aspects of college theater productions. Admission is by audition. 2 hrs. lab/wk.

THEA 135
MAKEUP (1CR)

Students will study and practice applying stage makeup. 2 hrs./wk.

THEA 140
BASIC STAGECRAFT (3CR)

This course will provide students with stagecraft theory as well as practical experience in building and painting stage scenery. 2 hrs. lecture, 2 hrs. lab/wk.

THEA 225
READER'S THEATER (3CR)

Students will combine acting, interpretation and rhetoric as they analyze and perform prose, poetry and dramatic literature and present public performances. 3 hrs./wk. plus rehearsals.

THEA 230
ACTING II (3CR)

Prerequisite: THEA 130

This continuation of Acting I will focus on more in-depth character analysis and development, emphasizing the actor's responsibility in creating the character. 3 hrs./wk. plus rehearsals and performances.

THEA 233
TECHNICAL PRACTICUM II (1CR)

Prerequisite: THEA 133

This class will provide additional practice in technical theater techniques. 4 hrs. lab/wk.

THEA 234
PERFORMANCE PRACTICUM II (1CR)

Prerequisite: THEA 134

This course will enable students to gain further practical experience in the performance-related aspects of college theater productions. Admission is by audition. 2 hrs. lab/wk.

THEA 240
COSTUMING (1CR)

Students will study designing and creating costumes for theatrical productions. 2 hrs./wk.

THEA 258
THE SHAKESPEARE PLAYS (3CR)

This course will introduce the plays of Shakespeare. Students will read and view on cable videotaped performances of selected plays. By arrangement.

THEA 298
BACKSTAGE ON BROADWAY (2CR)

In this travel-for-credit course, students will have a week of intensive study in professional New York theaters. The course will involve five one-hour sessions on campus and five full days of study on location in New York City. Sessions on campus will cover such topics as working in professional theaters, American theater history, writing theater criticism and initiating theater research. While in New York, time will be spent in daily class sessions, doing theater research at special performing arts archives, touring professional theater facilities, seeing professional theater productions and visiting with various guest lecturers. Spring.

Veterinary Technology

KSAH 100
INTRODUCTION TO
VETERINARY TECHNOLOGY (2CR)

This course is an orientation to career opportunities available in veterinary technology. Professional ethics, public relations, and the psychological adjustment of the student to the need for physical treatment and emotional involvement in the care of animals will be discussed. Client relations, vaccination programs, regulatory organizations, receptionist duties, breeds and breed characteristics, neutering, puppy care, diets and hospital management also will be covered. 2 hrs./wk.

KSAH 101
PRINCIPLES OF ANIMAL SCIENCE I (3CR)

This course will present the principles of handling, housing and managing animals; basic dietary and sanitation requirements; restraint and handling; administration of medications; bathing; skin scraping TPRs; and basic laboratory tests. The emphasis will be on animal physiology including the cell, muscle, nervous, respiratory and cardiovascular systems. An introduction to anesthesia and general animal nursing also will be included. 2 hrs. lecture, 2 hrs. lab./wk.

KSAH 108
CLINICAL MATH (1CR)

The metric system and conversion of units; apothecaries' equivalents and vocabulary; preparation of solutions – strengths, procedures and computations; and drug administration – calculating and measuring dosages – will be covered. 1 hr./wk.

KSAH 110
PRINCIPLES OF ANIMAL SCIENCE II (3CR)

Prerequisite: KSAH 101

This course is a continuation of Animal Science I. Specimen collection, urinary catheterization, blood collection, basic bandaging and an introduction to surgical preps and radiographic processing will be covered. Emphasis will be on anesthesia and the physiology of the digestive, urinary, endocrine and reproductive systems. 2 hrs. lecture, 2 hrs. lab./wk.

KSAH 111
SANITATION AND ANIMAL CARE (2CR)

This course is an introduction to micro-organisms, sanitation, disinfectants and sterilization. Zoonotic diseases and public health problems; parasitology and vermin control; specimen preservation, instrument identification, cleaning and sterilization; and anesthesia monitoring and patient care will be discussed. 1 hr. lecture, 2 hrs. lab/wk.

KSAH 120
CLINICAL PATHOLOGY TECHNIQUES I (4CR)

This course is an introduction to laboratory procedures including preparation of blood smears, cell identification, fecal analysis and parasitology. Urinalysis and urine sediment evaluation also will be covered. 1 hr. lecture, 6 hrs. lab/wk.

KSAH 182
VETERINARY OFFICE AND COMPUTER SKILLS (3CR)

Prerequisite: Ability to key or type

This specialized training course in veterinary office skills and computer applications will include computerized office management skills, bookkeeping and accounts management, records and supply control, telecommunication and client relation techniques. 2 hrs. lecture, 2 hrs. lab/wk.

KSAH 200
VETERINARY HOSPITAL TECHNOLOGY I (3CR)

This course will cover the administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparation and postoperative procedures. Parenteral fluid administration, intravenous hook-ups and an introduction to orthopedics, electrocardiography, bone marrow cytology and pharmacology also will be presented. 1 hr. lecture, 4 hrs. lab/wk.

KSAH 202
VETERINARY TECHNOLOGY ANATOMY (5CR)

This course will present the basic principles of anatomy using a systemic approach. Physiology as it relates to anatomy and applicable pathology involving the animal body systems will be covered, as will a comparison of the animal species using the cat for dissection. 3 hrs. lecture, 4 hrs. lab/wk.

KSAH 203
LABORATORY ANIMAL TECHNOLOGY (2CR)

Prerequisites: KSAH 101, KSAH 110 and KSAH 120

Restraint and handling of laboratory animals and birds, blood collection, physical examinations, medicating and anesthesia of various species will be covered. 1 hr. lecture, 2 hrs. lab/wk.

KSAH 209
EQUINE MEDICINE AND MANAGEMENT (3CR)

This course will cover breeds and types of horses and their use. Also presented will be 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, diseases and their prevention. 2 hrs. lecture, 2 hrs. lab/wk.

KSAH 210
VETERINARY HOSPITAL TECHNOLOGY II (3CR)

Prerequisite: KSAH 200

This course will cover the administration of anesthetics and surgical assisting, bandaging, casting, blood transfusions, surgical preparations and postoperative care. Parenteral fluid administration, emergency treatments, an introduction to ophthalmology and dermatology also will be covered. 1 hr. lecture, 4 hrs. lab/wk.

KSAH 211
CLINICAL PATHOLOGICAL TECHNIQUES II (5CR)

Prerequisite: KSAH 120

Theory and performance in hematology, urinalysis, clinical chemistry and parasitology will be covered. This course is an introduction to immunologic testing, blood coagulation tests and bone marrow evaluation. 2 hrs. lecture, 6 hrs. lab/wk.

KSAH 212
LARGE ANIMAL TECHNOLOGY (4CR)

Prerequisites: KSAH 101 and KSAH 110

Studied will be the techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Equine, bovine, porcine and ovine medicine and management, including restraint, blood collection, medicating and nursing techniques, will be covered. 2 hrs. lecture, 4 hrs. lab/wk.

KSAH 213
RADIOLOGY AND
ELECTRONIC PROCEDURES (2CR)

This course is an intensive study providing practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography and machine electronics. 1 hr. lecture, 2 hrs. lab/wk.

KSAH 214
VETERINARY TECHNICIAN INTERNSHIP (6CR)

Prerequisite: Two semesters of first-year animal health courses

Supervised intensive clinical study under the direction of a cooperating veterinarian will provide the student with actual work experience. 420 work hours.

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